



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>



1944

THOMAS
DUNN
ENGLISH

WILLIAM
ALLEN
BUTLER

PAUL
LEICESTER
FORD

EDWARD
EGGESTON

FRANCIS
RICHARD
STOCKTON

BRET
HARTE

1945

WILLIAM
ALLEN
BUTLER

THOMAS
DUNN
ENGLISH

EDWARD
EGGLESTON

PAUL
LEICESTER
FORD

BRET
HARTE

FRANCIS
RICHARD
STOCKTON

THE
ANNUAL CYCLOPÆDIA

AND REGISTER OF IMPORTANT EVENTS
OF THE YEAR

1902

EMBRACING POLITICAL, MILITARY, AND ECCLESIASTICAL AFFAIRS;
PUBLIC DOCUMENTS; BIOGRAPHY, STATISTICS, COMMERCE,
FINANCE, LITERATURE, SCIENCE, AGRICULTURE,
AND MECHANICAL INDUSTRY

NEW YORK
D. APPLETON AND COMPANY
436 FIFTH AVENUE
1903

AE
5
.A7
42d

COPYRIGHT, 1903,
BY D. APPLETON AND COMPANY.

Published March, 1903

5

PREFACE.

THE rapid growth of our country, which within a few years has definitely taken its place as one of the great powers of the earth, and is now universally recognized as such, presents every year a new and interesting chapter of history; and the most gratifying feature of it is the fact that so little of it is war history and so much is industrial and intellectual development. The American citizen who wishes to make himself familiar with these successive chapters, and realize to what a great republic he belongs, must read something that sums up, in a clear and concise form, the results of the various forces whose workings are seen only in a fragmentary way through the daily press.

To learn what our country accomplished in the year just closed, one should first read the article "United States," then look over the article "Congress," reading such portions as to him are most significant; then a careful reading of the "Financial Review" will enlighten him as to the great business movements, with their causes and consequences. Then, if he is inclined to ask "What is the use of all this wealth?" let him run through the article "Gifts and Bequests," and learn to what noble uses tens of millions of American dollars are devoted every year. The articles on the "Farmers' Congress" and the "National Grange," together with the paragraphs on the agricultural colleges in the State articles, will show what is done for the advancement of the business of agriculture. And a special article this year on "Ship-Building" gives much hope of the revival of that important industry, which has been almost a lost art with us for forty years. The progress in jurisprudence is shown in the passages recording decisions in the Supreme Court of the United States and in those of the several States. The growth of religious life, and the efforts to spread the Gospel in missionary fields, may be seen in the articles on the various religious denominations, which are full of significant facts and statistics.

For the year's movement in the progressive sciences, the reader may consult the articles "Astronomy," "Chemistry," "Medicine," "Metallurgy," "Physics," and "Physiology," all of which are subdivided and subheaded, so that any specific subject may be turned to at once. If he is interested in the work of the artists, he will find their record for the year under the title of "Fine Arts."

In the domain of invention and experiment, the most interesting results are set forth, with illustrations, in the articles "Aerial Navigation," "Submarine Boats," and "Wireless Telegraphy." To know what has been accomplished in exploration, the reader should turn to the articles "Archeology" and "Geographical Progress." The former has some very curious illustrations.

There is always something problematical and interesting in a country that has recently been the seat of war, and few readers will fail to be interested in the account of present conditions in Cuba, South Africa, and the Philippines. Of the agencies that make for peace among the nations, are the Bureau of American Republics, the International Conference, the Sanitary Conference, and the various international

treaties, all of which are duly recorded. The troublesome question of the Alaska boundary is on the way to a peaceful and satisfactory solution, as may be seen by a glance at the article "Alaska." The great cables that underlie the oceans and connect continent with continent, and with the isles of the sea, serve still further to prevent international misunderstandings and bring about speedy agreements. This volume contains an article on the projected American cable across the Pacific, and one on the completion of British cable connection all round the world, illustrated with a map. Still another agency of peace and good-fellowship is the international exposition. We present an account of that which closed recently in Charleston, beautifully illustrated, and a forecast of the Louisiana-Purchase Exposition.

The Carnegie Institution, just founded, which is the largest single transaction for advancement of education this year, is described; and the reader who wishes to trace the whole story of education in our country can do so by turning to the article "Libraries" and the various articles on the States.

Narratives of the great misfortunes of the year may be read under "Earthquakes and Volcanic Eruptions" and "Strike of the Coal-Miners."

The Canadian articles have been carefully prepared by an eminent Canadian author, and one of them, "Manitoba," includes the strange story of the Doukhobors.

The list of eminent persons, in various professions, who passed away in the year, and whose careers are recorded in the pages devoted to "Obituaries," is large. In our country it includes the actors Neil Bryant, Annie Clarke, Harry Eytinge, Ada Gray, Daniel H. Harkins, Edwin Knowles, Sol Smith Russell, William Henry West, and Eliza Young, with the musicians Camilla Urso and George William Warren; the artists Albert Bierstadt, Thomas Nast, and Lily Martin Spencer; the authors Charles Kendall Adams, Elbridge S. Brooks, Junius Henri Browne, William Allen Butler, Mary Hartwell Catherwood, Edward Eggleston, Thomas Dunn English, Paul Leicester Ford, Alfred Hudson Guernsey, Bret Harte, Frank Norris, Thomas E. Osmun, and Francis Richard Stockton; the clergymen Michael Augustine Corrigan and Eugene Augustus Hoffman; the educators John Henry Barrows, Thomas Gallandet, Alice Freeman Palmer, and Henry A. P. Torrey; the journalists Edwin Lawrence Godkin and George Hughes Hepworth; the jurists Noah Davis, David Ayres Depue, Horace Gray, and George Hoadly; the naval officers James Edward Jouett, Lewis A. Kimberly, William Thomas Sampson, and Thomas Oliver Selfridge; the physicians William Tod Helmuth and James Patterson Kimball; the scientists Alpheus Hyatt, Henry Morton, John Wesley Powell, and Ogden Nicholas Rood; the soldiers Wade Hampton, Francis J. Herron, Franz Sigel, and David Sloane Stanley; and the statesman Thomas Brackett Reed. The death losses of foreign countries included the artists Benjamin Constant, Thomas Sidney Cooper, Jules Dalou, and James Tissot; the authors Philip James Bailey, Aubrey De Vere, Alice Durand, Samuel Rawson Gardiner, Annie Hector, and Émile Zola; the clergymen Newman Hall, Joseph Parker, and Archbishop Temple; the scientists Frederick A. Abel, Alfred Cornu, Pierre Filhol, John Hall Gladstone, and Rudolph Virchow; the soldiers Christian Botha, Mariano Escobedo, and Lucas Meyer; the statesmen Marquis of Dufferin, Earl of Kimberley, Liu-Kun-Yi, Prince Münster, Lord Pauncefote, and Koloman Tisza; Emil Holub, the explorer; Fred Krupp, the industrialist; George Rawlinson, the Orientalist; and Cecil Rhodes, the politician and promoter.

The volume is illustrated somewhat more fully than usual, and it closes with a topical index.

NEW YORK, *February 18, 1903.*

CONTRIBUTORS.

Among the Contributors to this Volume of the Annual Cyclopædia are the following:

- Oscar Fay Adams,**
Author of A Dictionary of American Authors, etc.
- BAILEY, PHILIP JAMES,**
BROOKS, ELBRIDGE STREETER,
DE VERE, AUBREY THOMAS,
DUFFERIN AND AVA, Marquis of,
GARDINER, SAMUEL RAWSON,
HECTOR, ANNE,
TEMPLE, FREDERICK,
THOMPSON, HUGH MILLER,
and other articles.
- Milton E. Ailes,**
Assistant Secretary of the Treasury.
UNITED STATES, FINANCES OF THE.
- Marcus Benjamin, Ph. D.,**
Editor of the United States National Museum.
EXPOSITION, SOUTH CAROLINA INTERSTATE,
HYATT, ALPHEUS,
NEW YORK CITY,
NEW YORK STATE,
POWELL, JOHN WESLEY,
SAMPSON, WILLIAM THOMAS,
and other articles.
- J. H. A. Bone,**
Of the Cleveland Plain-Dealer.
OHIO.
- Arthur E. Bostwick, Ph. D.,**
Superintendent of Circulation, New York Public
Library.
PHYSICS.
- James C. Brogan,**
Author and Translator.
IDAHO,
NEW JERSEY,
RHODE ISLAND,
and other articles.
- William S. Burke,**
Of the Albuquerque Journal-Democrat.
NEW MEXICO.
- Kenyon L. Butterfield,**
GRANGE, NATIONAL.
- James P. Carey,**
Formerly Financial Editor of the Journal of Com-
merce.
FINANCIAL REVIEW OF 1902.
- John Denison Champlin,**
Editor of Cyclopædia of Painters and Paintings.
FINE ARTS IN 1902.
- Floyd S. Chapman,**
Of the Huntington, W. Va., Herald.
WEST VIRGINIA.
- John H. Clifford,**
PENNSYLVANIA,
STRIKE OF THE COAL-MINERS.
- Thomas R. Dawley,**
Traveler and Correspondent.
BUREAU OF AMERICAN REPUBLICS,
COFFEE,
EARTHQUAKES AND VOLCANIC ERUPTIONS,
SANITARY CONFERENCE, INTERNATIONAL,
and other articles.
- Samuel O. Dunn,**
Of the Kansas City Journal.
MISSOURI.
- Harry P. Gifford,**
Of the Carson City News.
NEVADA.
- Edgar Goodman,**
Of the Baltimore American.
MARYLAND.
- Rev. William Elliot Griffith, D. D., L. H. D.,**
Author of The Mikado's Empire and Korea the Her-
mit Nation.
JAPAN,
KOREA.
- George J. Hagar,**
Compiler and Statistician.
BARROWS, JOHN HENRY,
COLLIS, CHARLES H. T.
GALLAUDET, THOMAS,
GIFTS AND BEQUESTS,
GRANT, JULIA DENT,
JOUETT, JAMES EDWARD,
KIMBERLY, LEWIS ASHFIELD,
SPENCER, LILY MARTIN,
and other articles.
- J. Castell Hopkins, F. S. S., F. R. Hist. S.,**
Author of The Story of the Dominion.
BRITISH COLUMBIA,
CANADA, DOMINION OF,
NEWFOUNDLAND,
ONTARIO,
QUEBEC,
YUKON TERRITORY,
and other Canadian articles.

Frank Huntington,
Of the Standard Dictionary staff.

ARGENTINE REPUBLIC,
BELGIUM,
BULGARIA,
DENMARK,
EGYPT,
GERMANY,
RUSSIA,
SOUTH AFRICA,
VENEZUELA,
and other articles.

Abram S. Isaacs, Ph. D.,
Editor of the Jewish Messenger.
JEWS.

Edward A. Jenks,
Formerly of the Concord, N. H., Statesman.
NEW HAMPSHIRE.

Charles J. Kelly,
Of the Atlanta Constitution.
GEORGIA.

Frederick Allen King.
NEBRASKA,
OREGON,
PROTESTANT EPISCOPAL CHURCH,
VERMONT,
and other articles.

William H. Larrabee, LL. D.,
Formerly of the Popular Science Monthly.
ANGLICAN CHURCHES,
ARCHEOLOGY,
BAPTISTS,
CHEMISTRY,
CONGREGATIONALISTS,
FEDERATION OF CHURCHES,
METALLURGY,
PRESBYTERIANS,
PHYSIOLOGY,
and other articles.

Wilton G. McMurphy,
Of the St. Paul News.
MINNESOTA.

Frederic G. Mather,
Journalist and Correspondent.
MOORE, EDWARD MOTT.

Charles Ledyard Norton,
Author of Jack Benson's Log, Political Americanisms, etc.
SHIP-BUILDING IN 1902,
STORAGE DAM AT ASSOUAN (in article EGYPT),
YACHTING.

Solomon E. Ochsenford,
Professor in Muhlenberg College.
LUTHERANS.

Evangeline M. O'Connor,
Author and Translator.

ARKANSAS,
CONNECTICUT,
DELAWARE,
GEOGRAPHICAL PROGRESS,
IOWA,
LOUISIANA,
MASSACHUSETTS,
MONTANA,
NORTH CAROLINA,
SOUTH DAKOTA,
and other articles.

Eugene B. Palmer,
Of the Salt Lake City Herald.
UTAH.

Thomas B. Preston,
Of the New York Herald.
CORRIGAN, MICHAEL AUGUSTINE,
PARKER, JOSEPH,
ZOLA, EMILE,
and other articles.

Dora Knowlton Banous.
COLORADO,
ENGLISH, THOMAS DUNN,
FRENCH, THOMAS HENRY,
HARRISON, GABRIEL,
MUNSTERY, THOMAS HOYER MUNSTER,
OSMUN, THOMAS EMBLEY,
RUSSELL, SOL SMITH,
URSO, CAMILLA,
and other articles.

Corb M. Sarchet,
Of the Guthrie State Capitol.
OKLAHOMA.

John M. Stahl,
Secretary of the Farmers' Congress.
FARMERS' CONGRESS.

Charles Coleman Stoddard.
AERIAL NAVIGATION,
ALASKA,
SUBMARINE BOATS,
WIRELESS TELEGRAPHY,
and other articles.

Lewis Swift, Ph. D., F. R. A. S.,
Formerly Director of Lowe Observatory.
ASTRONOMICAL PROGRESS.

William B. Thompson,
Of the San Francisco Chronicle.
CALIFORNIA,
PACIFIC CABLE,
PACIFIC OCEAN COMMERCE.

James B. T. Tupper,
Chief of Law Division, office of Internal Revenue,
Washington.
SUPREME COURT DECISIONS (in article UNITED STATES).

George S. Walker,
Of the Cheyenne Journal.
WYOMING.

Michael Walsh, Ph. D., LL. D.,
Formerly Editor of the American Herald.
ROMAN CATHOLIC CHURCH.

Frances V. Warner,
Of Pearson's Magazine.
FLORIDA.

Frank Weitenkamp,
Of the New York Public Library.
CARNEGIE INSTITUTION,
LIBRARIES.

Robert H. Willson.
ILLINOIS.

Harmon D. Wilson,
Of the Topeka Capital.
KANSAS.

Vincent J. Youmans, M. D.,
Formerly of the Popular Science Monthly.
ABEL, FREDERICK AUGUSTUS,
MEDICINE, ADVANCES IN.
PYEVTSOFF, MIKHAIL VASILIEVICH,
SIMPSON, MAXWELL,
VIRCHOW, RUDOLF,
and other articles.

ILLUSTRATIONS.

FULL-PAGE PORTRAITS.

	FACING PAGE
WILLIAM ALLEN BUTLER,	
EDWARD EGGLESTON,	
THOMAS DUNN ENGLISH,	
PAUL LEICESTER FORD,	
BRET HARTE,	
FRANCIS RICHARD STOCKTON	. . . . . <i>Photogravure Frontispiece</i>
ANDREW CARNEGIE . . . . .	. . . . . <i>Photogravure</i> 96
RUDOLF VIRCHOW . . . . .	. . . . . <i>Photogravure</i> 520

PORTRAITS IN THE TEXT.

	PAGE		PAGE
FREDERICK AUGUSTUS ABEL	484	JOHN G. McCULLOUGH	810
ANTONIO LAZO ARIAGA	123	JOHN MICKEY	759
NAHUM J. BACHELDER	762	THOMAS JEFFERSON MORGAN	460
PHILIP JAMES BAILEY	486	HENRY MORTON	461
JOHN HENRY BARROWS	496	THOMAS EMBLEY OSMUN	464
JOHN L. BATES	743	PERCY B. O'SULLIVAN	122
BENJAMIN CONSTANT	491	JOSEPH PARKER	509
MICHAEL AUGUSTINE CORRIGAN	442	LORD PAUNCEFOTE	510
NOAH DAVIS	443	JOHN WESLEY POWELL	466
DAVID AYRES DEPUE	444	CECIL JOHN RHODES	512
MARQUIS OF DUFFERIN AND AVA	495	WILLIAM W. ROCKHILL	88
THOMAS GALLAUDET	447	OGDEN NICHOLAS ROOD	468
SAMUEL RAWSON GARDINER	498	WILLIAM THOMAS SAMFSON	470
LUCIUS F. C. GARVIN	793	FRANZ SIGEL	476
JULIA DENT GRANT	448	LILY MARTIN SPENCER	478
WADE HAMPTON	450	DAVID SLOANE STANLEY	478
DUNCAN C. HEYWARD	795	ELIZABETH CADY STANTON	479
ALPHEUS HYATT	454	FREDERICK TEMPLE	518
AARON JONES	304	LORD TENNYSON	41
JAMES EDWARD JOUETT	455	JOSEPH M. TERRELL	710
JAMES PATTERSON KIMBALL	456	JAMES TISSOT	519
EARL OF KIMBERLEY	502	HENRY AUGUSTUS PEARSON TORREY	481
FRIEDRICH ALFRED KRUPP	504	ÉMILE ZOLA	522
ADOLF LORENZ	381		

FULL-PAGE ILLUSTRATIONS.

COLORED PLATE:

PLAN OF SOUTH CAROLINA INTERSTATE EXPOSITION	642
ST. PIERRE, MARTINIQUE, BEFORE THE ERUPTION	218
THE NEW WING OF THE METROPOLITAN MUSEUM OF ART	422
SOUTH CAROLINA EXPOSITION:	
THE MUSIC-STAND AND A SECTION OF THE NORTH CAROLINA BUILDING	642
THE ADMINISTRATION BUILDING AND THE COTTON PALACE AND THE SUNKEN GARDEN	644

ILLUSTRATIONS IN THE TEXT.

	PAGE		PAGE
THE SANTOS-DUMONT CROSSING THE PORT OF		THE NEW ADMIRALTY HARBOR AT DOVER . . .	310
MONACO	4	DOUKHOBORS (husband and wife)	372
MR. SPENCER ABOVE THE CRYSTAL PALACE		DOUKHOBORS PLOWING	373
GROUNDS	5	DOUKHOBOR VILLAGE BLACKSMITH	374
THE OCELOT, OR TIGER	18	MONACO	405
ANCIENT MEXICAN IDOL	19	TANGIER, FROM THE EAST	408
STONE HEADS FROM EXCAVATION IN MEXICO .	19	GENERAL VIEW OF FEZ	409
FUNERAL URN FROM MONTE ALBAN RUINS .	20	DIAGRAM OF THE BATTLE OF SANTIAGO . .	474
ANCIENT STATUETTE	22	CLAYMONT	480
PREHISTORIC SKULL	24	BRIDGE AT ISPAHAN	532
MASKS DISCOVERED IN THE QUIRINAL . . .	24	AUDITORIUM (South Carolina Exposition) .	643
MARBLE BAS-RELIEF, DISCOVERED IN POMPEII	24	MANUFACTURES BUILDING (South Carolina	
HITTITE INSCRIPTION	29	Exposition)	645
GREAT METEORITE IN MEXICO	37	BUSHNELL'S SUBMARINE BOAT	651
HUNGARIAN HOUSES OF PARLIAMENT . . .	59	FULTON'S NAUTILUS	651
MAP SHOWING BRITISH TELEGRAPH CABLES .	81	THE FRENCH SUBMARINE MORSE	654
BROKEN STATUE IN CHILPANCINGO	218	SECTIONAL PLAN OF NEW SUBMARINES . .	656
RUINED CHURCH IN CHILPANCINGO	219	A NEW BRITISH SUBMARINE IN PORTSMOUTH	
RUINED RESIDENCE IN QUEZALTENANGO . .	220	HARBOR	658
RUINED BULL-RING IN QUEZALTENANGO . .	221	STATE LIBRARY, CONCORD, N. H. . . .	764
THE GREAT DAM AT ASSOUAN	231		

THE ANNUAL CYCLOPÆDIA.

A

ABYSSINIA, an empire in eastern Africa, known also as Ethiopia. The ruler, whose title is *Negus Negusti*, meaning King of Kings, is Menelek II, born in 1842, originally King of Shoa, who established himself on the throne, with the aid of arms furnished by the Italians, after his predecessor, Johannes II, had been slain in a battle with the dervishes of the Egyptian Mahdi. Menelek signed on May 2, 1889, the treaty of Ucciali under which Italy laid claim to a protectorate over the whole of Abyssinia, which claim was abandoned after the defeat of an Italian army at Adowa, and in the convention of Adis Abeba, signed Oct. 26, 1896, the independence of Abyssinia was recognized by Italy, and Abyssinia recognized as Italian territory the country north of the Mareb, Belesa, and Muna rivers and a strip of coast 180 miles broad in front of the Abyssinian tableland. The Government of Abyssinia is feudal, each *ras*, or governor, ruling his province and having his separate military force. The regular army, consisting of these contingents, numbers about 150,000 men, all of whom should be mounted, and many of whom now carry, instead of spear and shield, the Gras rifles surrendered by the Italians or imported magazine rifles. At Adis Abeba, his capital, the *Negus* Menelek has 7 batteries of field-artillery and revolving cannons which were captured at Adowa. The area of Abyssinia is estimated at 150,000 square miles, the population at 3,500,000. The people rear cattle, sheep, and goats and cultivate barley, dhurra, wheat, hops, and tobacco for their own consumption. Hides and skins, civet, coffee from wild shrubs, gum, wax, ivory from the Wallega and Galla countries, and some gold are exported. Iron is mined by the natives and forged into knives, axes, and spears. American cotton cloth is the largest article of import. The imports at Harar in 1900 were estimated at 3,822,650 and exports at 2,691,000 Maria Theresa dollars. The French have constructed a railroad from the port of Jiboutil to Harar, 186 miles. Harar is a town of about 30,000 inhabitants, mostly Mohammedan, situated on an exceedingly fertile plateau. The railroad is destined to draw all the trade of eastern Abyssinia to Jiboutil, depriving the British port of Zeila of the share it now has and taking away much of the trade of Aden. Before the railroad was finished an international syndicate, composed in part of English capitalists, obtained a large interest in its affairs. The French Government, jealous of foreign influence, determined to keep the control of the line in French hands and prevent the construction of a branch line to Zeila, as proposed by the British members

of the syndicate. Accordingly an arrangement was made on Feb. 6, 1902, whereby the colony of Jiboutil, with the approval of the French Government, agreed to guarantee interest on the company's capital to the amount of 500,000 francs per annum. To enable the colony to carry out this agreement the French Chamber voted to grant to Jiboutil an annual subvention of 200,000 francs for fifty years.

Eventually the French railroad will be built through to Adis Abeba, the Abyssinian capital. Jiboutil will be made a first-class naval station. Harar products sent over the railroad to Jiboutil are exempted from all duties excepting the tithe, which is levied on all crops. British concessionaires have obtained from Menelek the right to work gold-mines on the banks of the Baro river. The telegraph to connect Adis Abeba with Massowah was begun in the summer of 1902. In June Ras Makonen, the nephew of the *Negus* and his principal general, went to England with Col. Harrington, the British diplomatic representative in Abyssinia, and M. Ilg, Menelek's Swiss minister, to represent the *Negus* at the coronation of King Edward VII. Subsequently he paid a visit to the French capital. About the same time the Abyssinian metropolitan, Abuna Mateos, went to St. Petersburg to emphasize the connection between the Abyssinian and the Greek Orthodox Churches, and later to Constantinople to secure the recognition by the Sultan of the Abyssinian Church as an independent body. The adherents of the Abyssinian Church at Jerusalem have hitherto come under the Armenian Patriarch, since the Coptic creed is nearly allied to the Gregorian. In their claim for ecclesiastical independence they have been supported by Russia.

ADVENTISTS. I. Advent Christians.—The Advent Christian Association and General Conference of America in 1900 adopted a Declaration or Concise Statement of its Fundamental Principles, in which, after expressing its belief in God, Jesus Christ, and the Holy Spirit as held by the orthodox churches generally, it set forth its distinctive doctrine of "conditional immortality" to the effect that man, created for immortality, had forfeited this birthright by sin, in consequence of which death had passed upon all the world; and that men could become partakers of the divine nature and live forever only through faith in Jesus Christ; that death is a condition of unconsciousness to all, which will remain unchanged until the resurrection at Christ's second coming, when the righteous will receive everlasting life and the wicked will be punished with complete extinction; and that salvation is free to all who in this life and age will

accept the conditions imposed of turning from sin, repentance, faith in Christ, and a life of consecration—"thus excluding all hope of a future probation or of universal salvation." Belief in the visible and personal second coming of Christ to the earth, his reign here forever, and the renewal of the earth to be forever free from sin and death is further expressed. Christ, the approximate time of his coming being indicated in Bible prophecy, is believed to be near, and the proclamation of this truth to be the great duty of the hour. The statistics of the denomination have not been systematically compiled. A committee was appointed in 1900 to prepare an annual of denominational statistics. It secured returns from 32 out of the 60 conferences, and some local and scattered items in addition, and has published as the summary of the condition of these bodies the following totals: Number of ordained ministers, 716; of licensed ministers, 112; of churches, 646, with 23,590 members; of Sunday-schools, 341, with 11,870 enrolled members. Four publishing societies—the Advent Christian Publishing Society, Boston, Mass.; the Western Advent Christian Publishing Society, Mendota, Ill.; the Pacific Advent Christian Publication and Mission Society, Oakland, Cal.; and the Southern Advent Christian Publication Society, Lamar, S. C.—issue each a weekly religious newspaper, and a monthly periodical is published at Worcester, Mass., and quarterlies at Boston, Mass., and Sunday-school periodicals and helps as well as a considerable number of denominational books are published at the house in Boston.

The American Advent Mission Society was organized in 1865, primarily to labor among the freedmen in the South, but now includes foreign and domestic departments. In the foreign field it supports in whole or in part 8 laborers, with 15 native workers, and several free laborers at Nanking, Wuhu, and Han Shan Hsien, and several substations in China and in India, where a publishing house has been established at Bangalore, with a selling and lending library. Literature is printed at this establishment in 7 languages, and is distributed by agents in 15 centers "and other places." The work of the society in England has been of late years largely self-supporting. Portuguese missions are maintained in the Cape Verde Islands and in Taunton, Mass. Mission schools are sustained at Nanking and Wuhu, China, and Egmore and Renigunta, India. The society is also aiding 10 or more workers in the home field, besides assisting several conferences in their mission work. The home missions are largely in charge of the Western and Southern Home Mission Boards. A Church Extension fund is operated in connection with this society. The Advent Christian Helper's Union, organized in 1894, is a woman's society auxiliary to the mission society in its foreign work. The Woman's Home and Foreign Mission Society, organized in 1897, works through the mission societies, churches, etc., in home missions, but carries on foreign mission work on its own account, principally in India, where it supports several schools, 3 orphanages, 3 missionaries, and about 20 workers. It publishes the All Nations Monthly, Rockland, Me. The young people are organized into the Young People's Society of Loyal Workers, consisting of the general Eastern and the general Western societies, which have together 116 local societies with about 5,000 members. The educational institutions are Mendota College, Mendota, Ill., founded in 1893, for both sexes, with 4 departments and 6 courses of study, and

the Boston Bible School, established in 1897, and incorporated in 1902. The Loyal Workers' Institute is a course of reading to be pursued at home.

II. Life and Advent Union.—The distinctive doctrines of this branch of the Adventists include the extinction of the wicked at death and the resurrection of the just to everlasting life. It holds a general conference in each year, 4 camp-meetings—in Maine, Connecticut, and Virginia—and quarterly conferences in some places. The Life and Advent Mission Society and the Young People's Life and Advent Mission Society are organizations for carrying on home mission work exclusively. A considerable number of books, with the Herald of Life, the newspaper organ of the denomination, are issued from the publishing house at Springfield, Mass. Fifty-one ministers are registered on the rolls of the General Council, with about 24 churches; and there are other ministers whose names have not been enrolled. The number of members is not given in the reports of the body, but is estimated to be about 3,800.

III. Seventh-day Adventists.—At the Seventh-day Adventist General Conference of 1901 a new constitution was adopted and important changes were made in the organization of the Church. Among the more considerable of these changes was the grouping of the State conferences into union conferences, each representing a definite district or number of States, to take over a part of the work of the General Conference, and among which many of the functions and duties hitherto performed by it and its liabilities and assets were to be distributed according to their local relations and strength. Six of these union conferences were constituted in the United States, one in Canada, one in Europe, and one in Australasia. This change was accompanied with a readjustment of the affairs of the General Conference Association, the legal arm of the General Conference. Steps were taken late in 1901 to apportion the liabilities of this association to the union conferences according to the institutions within their borders and their ability to pay. The plan adopted contemplated the creation of a legal corporation within the territory of each union conference for the transaction of legal business and the transfer to such corporations by the General Conference Association of whatever institutions and church property it was holding in the several districts, with the assumption by them of the corresponding liabilities, in such a way that the General Conference Association should be relieved of a large share of its financial obligations and they should be assumed by those union conference organizations within whose borders the assets are located, whether in the form of church buildings, school properties, or otherwise. This arrangement was accepted by most of the union conferences. The General Conference Committee was likewise reorganized to meet the new conditions in February, 1892, with such recastings as seemed called for of the Mission Board, the trustees of the Foreign Mission Board (constituting the legal corporation), the educational department, the religious liberty department, the Sabbath-school department, the General Conference Association, the Auditing Committee, committees on German and on Scandinavian work in North America, and transportation agencies.

The European General Conference was organized July 23, 1901, and embraces two union conferences—the German and the Scandinavian—together with the British and Central European

Conferences and the Oriental mission field. Each of the union conferences includes three duly organized local conferences, besides unorganized mission territory. At last reports 60 ministers and about 100 other workers were employed within its territory, with about 7,500 Sabbath keepers, from whom a tithe of nearly \$50,000 a year was received. A missionary training-school, a health institute, a food factory, and an industrial school are located at Friedensau, Germany, where the conference was held; a health institute has been established in Denmark; and publishing houses are sustained in Norway and Sweden.

The summary of the statistics of the Church in all parts of the world for the year ending Dec. 31, 1901, includes footings from the union and State and local conferences and missions as follow: Atlantic Union (9 conferences and missions), 8,430 members; Canadian Union (4 conferences, etc.), 1,093 members; Southern Union (8 conferences, etc.), 2,500 members; Lake Union (5 conferences, etc., and the church at Battle Creek, Mich.), 19,689 members; Northwestern Union (5 conferences, etc.), 11,791 members; Southwestern Union (6 conferences, etc.), 10,144 members; Pacific Union (9 conferences, etc.), 9,884 members; German Union, 3,818 members; Scandinavian Union, 2,059 members; British Union, 992 members; Central European Union, 492 members; Oriental missions, 236 members; Australasian Union Conference (7 state conferences or missions), 2,533 members; and the conferences or missions in Mexico, the West Indies, Central and South America, India, Japan, China, South Africa, and the islands of the sea, of which 25 are enumerated, 4,537 members; total, 78,188 members, showing an increase of 2,429 from the previous year. Other footings of the table are: Whole number of laborers (553 ministers, 340 licentiates, 611 missionary licentiates), 1,591; of churches, 2,011, with 89,356 members; of companies, 356, with 5,239 members; of isolated Sabbath keepers, 3,593; amount of tithes, \$578,628, showing an increase for the year in this item of \$68,369. The Seventh-day Adventists have several publishing houses in the United States, including the one at Battle Creek, Mich.; other publishing houses in America, Europe, and Australia, issuing periodicals and books in several languages; a large sanitarium at Battle Creek, Mich., and other sanitariums in the United States and other countries; and a number of educational institutions in America and abroad.

IV. The Church of God.—This branch is the result of a separation from the Seventh-Day Adventist Church, which took place about 1865, on account of differences respecting certain points of doctrine and practise. The number of members is estimated at about 6,000. It has a sanitarium (controlled by a stock company) at White Cloud, Minn., and an orphan asylum at Renwood Park, Iowa. The meetings are mostly held in schoolhouses, so that the value of church property is estimated to be not more than \$2,000; while the cost of the sanitarium was about \$20,000. The General Conference was incorporated in 1899, and usually meets at Stanberry, Mo., where the denominational publishing house is situated, and where 3 periodicals and large editions of tracts are published. At the eighteenth annual Conference, held at Stanberry, Mo., in November, 1901, the treasurer reported receipts of \$2,865 and expenditures of \$2,900. Resolutions were adopted expressing belief "in the personal coming of Christ, the absolute mortality of man, his death and resurrection, Christ's future kingdom on earth and the perpetuity of God's

moral law, the Ten Commandments, including the fourth, which requires the observance of the seventh day of the week as the holy Sabbath of the Lord," as the truths which distinguish the denomination as a people, and directing that these subjects be made paramount in all the denominational publications and preaching. Another resolution declared that the purposes of the General Conference include works of benevolence and charity.

V. The Churches of God in Christ Jesus (or Age-to-Come Adventists as they are popularly known) are a group of churches that look for the final restitution of all things which God hath spoken and the actual establishment of the kingdom of God on the earth with Christ as king; and for the literal resurrection of the dead, with immortality to the righteous and the final destruction of the wicked. In the absence of officially published statistics, it is estimated that they have 182 organizations worshipping in their own buildings and nearly as many in other rooms, with Sunday-schools maintained wherever there is an organization, and about 5,000 members. The business is transacted by the State or district conferences.

AERIAL NAVIGATION. All the recent comparatively successful attempts at navigating the air have been by means of the development and improvement of dirigible balloons; little has been done to carry forward the splendid experiments of Maxim and Langley in mechanical flight (see Annual Cyclopædia for 1897, p. 4). The idea of a spindle-shaped balloon, sustaining passengers and machinery, and impelled by a wheel composed of vanes or fans of canvas at one or both of its extremities, is not new, and such an invention was mentioned in a letter written by Francis Hopkinson to Benjamin Franklin as early as May 24, 1784. Rufus Porter exhibited models of such a machine in New York and Washington in 1835-'40 which flew rapidly and were capable of sustaining themselves for a considerable length of time; but his large machine, its balloon 160 feet long and 16 feet in diameter, was a failure. He used steam as his motive power.

Giffard, Tissandier, Renard.—The first successful dirigible balloon was that of Henri Giffard, which was built in 1852, and used as a propelling power a high-pressure 3-horse-power steam-engine with a small boiler, together weighing about 500 pounds, actuating a screw with plane blades. His balloon was spindle-shaped, 3.66 diameters (144 feet) in length, and attained a maximum speed of 6.7 miles an hour. Twenty years later M. Depuy de Lôme employed man-power in the impulsion of a balloon 118 feet long and capable of carrying 10 or 15 men, 7 of whom furnished the power, and attained a speed of something more than 6 miles an hour. M. Gaston Tissandier adopted the electric storage-battery, coupled with a dynamo-electric machine, as a source of power. He constructed for the exhibition of 1881 a model, 11 feet long and 4 feet in diameter, filled with hydrogen, and drove it at the rate of about 10 feet per second (about 7 miles an hour), as a maximum. With his brother, M. Albert Tissandier, he built another, 91 feet long and 29 feet in diameter, fitted with a Siemens dynamo, driving a screw nearly 10 feet in diameter, and supplied with a current from an accumulator of their own invention weighing about 400 pounds. This machine, carrying the two inventors, made at various times from 7 to 9 miles an hour for an hour or two together. Messrs. Renard and Krebs, experimenting, like their rivals, in Paris, also constructed a some-

what similar machine, 165 feet long and 27½ feet in diameter, impelled by a battery invented by M. Renard, a dynamo, and a screw 7 feet in diameter. This apparatus at various times in 1884 went from 12 to 15 miles per hour. The motor gave out about 5 horse-power, and the machine was able to take any course desired in a calm, and even to contend against a light breeze. This balloon made a number of voyages, occasionally to distant points, sometimes returning to its point of departure. Its car and impelling machinery constituted one of the most interesting of the exhibits of the French Government at the Paris Exposition of 1889.

Count Zeppelin.—New interest was awakened in the summer of 1900 by the successful ascents made by Count Zeppelin at Lake Constance. He employed in these experiments an immense balloon, consisting of 17 cylindrical gas-bags confined in a cylindrical case with conical ends, 420 feet long and 39 feet in diameter. Beneath this was suspended a frame supporting 2 aluminum cars 20 feet in length, one forward and one aft,

ele, making noticeable headway and remaining in perfect control against a 7-mile wind. After completing its evolutions it alighted gracefully and gently to the surface of the lake where its balloon shed was placed.

Santos-Dumont.—In 1901 much attention was called to the experiments of M. Alberto Santos-Dumont, a young Brazilian resident in Paris; especially when on Oct. 19 he succeeded in winning the prize of 100,000 francs offered by M. Henri Deutché, one of the members of the Aero Club, in April, 1900, to the navigable balloon that, starting from the Aero Club Park, at St. Cloud, should steer around the Eiffel Tower and return to the point of departure in less than half an hour. Even before his arrival in Paris in 1897 Santos-Dumont had experimented with aeronautics, and on July 4, 1898, made a successful ascent from the Jardin d'Acclimation in the smallest spherical balloon that at that time ever had been made, 18 feet in diameter. At the same time he was constructing his first dirigible balloon, the Santos-Dumont No. 1. This

was in the form of a cylinder with conical terminations, 80 feet long and about 6 feet in diameter. The suspended basket carried a 3½-horse-power gasoline motor operating a screw propeller. The ascent of this balloon, from the Jardin d'Acclimation, Sept. 20, 1898, almost resulted in disaster. It rose to the height of 1,200 feet, showed itself to be absolutely dirigible, and delighted the spectators with its marvelous evolutions. Suddenly it was seen to collapse and the wreckage with the aeronaut came tumbling to the earth. The air-pump supplying the small interior air-balloon, designed to keep the outer envelope always swelled out, had proved insufficient, and under the weight the whole thing folded upon itself. Fortunately the mass of wreckage acted as a parachute, and M. Santos escaped unhurt.

THE SANTOS-DUMONT NO. 6 CROSSING THE PORT OF MONACO.

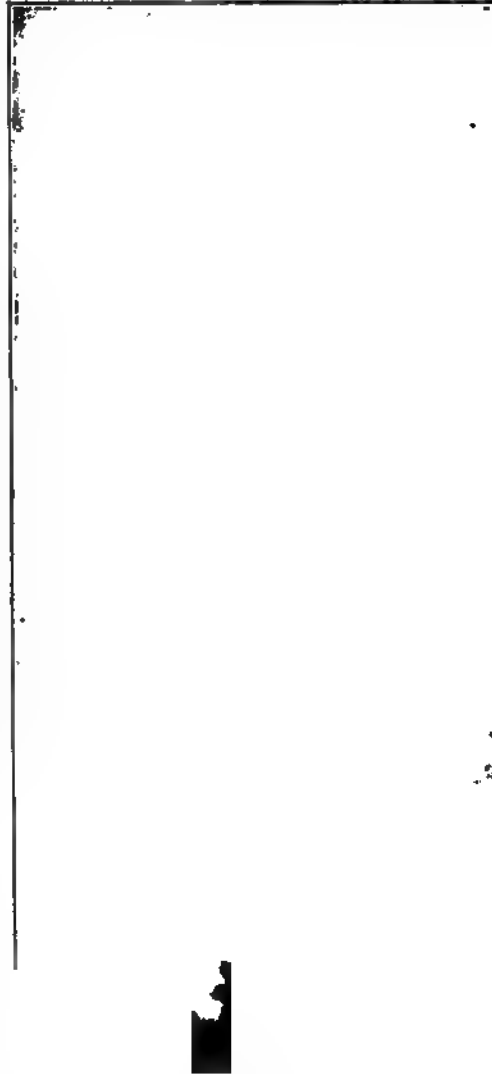
connected by speaking-tubes, for the crew and machinery. Two rudders, one forward and one aft, served to steer the craft, which was driven forward or backward by 4-bladed screw propellers 3½ feet in diameter, 2 geared to each motor. The power was furnished by 2 16-horse-power Daimler benzine engines, weighing 715 pounds each, and 1 placed in each car. The ship was made to travel in a horizontal or an inclined plane by means of a weight sliding along a cable beneath and parallel to the longest axis of the balloon shell. When it was desired to ascend the forward end of the balloon was thrown upward by sliding the weight aft; when a descent was to be made it was thrown downward by sliding the weight forward. When the weight was at the exact center the ship was in equilibrium and maintained a horizontal course. The first ascent was made July 2, 1900, with 5 persons in the cars. After rising 1,300 feet the ship traveled 3½ miles in seventeen minutes in a prescribed direction, and was then forced to descend on account of an accident to one of the rudders. On Oct. 17 the ship remained in the air for an hour at an average height of nearly 2,000 feet; it traveled the 6-mile circumference of a cir-

No. 2, built after the same plan, but much larger, and launched May 11, 1899, showed the same defects, and after an unsuccessful trial was abandoned, and work immediately begun on No. 3, which embodied many innovations. The inner air-balloon was dispensed with, although he has used it in No. 4 and the later models. It was cigar-shaped, 66 feet long and 11½ feet in greatest diameter. There was no netting about the silk tissue, but a strong belt was sewn into the lower part of the balloon on either side to which short pieces of wood were attached. From them was suspended the so-called "keel," a long bamboo pole which supported the basket and other apparatus. A 4½-horse-power petroleum motor worked a 5-foot propeller giving 2,500 revolutions a minute. A rudder of bamboo and silk with an area of about 25 square feet was used to guide the ship. At each end of the balloon was fastened 50 pounds of ballast controlled by guys. When the aeronaut wished to rise he let out the stern guy, and 50 pounds of ballast fell astern, throwing the bow end of the balloon upward at an angle of 25 or 30 degrees. To descend it was only necessary to let out the bow weight and draw in the stern weight. On Nov. 13, 1899, as-

ascending from Vaugirard he sailed to the Champs de Mars, and, after circling the Eiffel Tower several times, laid a straight course for Auteuil, and thence to the maneuver grounds at Bagatelle, where he safely landed. In No. 4 he improved on No. 3 by making his balloon less clumsy, 95 feet long and 9 feet in diameter, and by dispensing with the suspended basket. The 7-horse-power motor and the other mechanism was fastened directly to the keel, a long framework of bamboo strengthened by wires, and the inventor managed the machine from a bicycle seat fastened to the keel. The machine was completed in August, 1900, and made numerous short ascents during the Paris Exposition of 1900, notably on Sept. 19, in the Bois de Boulogne, in the presence of the International Aeronautic Congress. Balloon No. 5 was made by inserting into No. 4 a cylindrical piece sufficient to make its total length 109 feet. A 60-foot keel, framed of pine and piano-wire, supported a 16-horse-power motor with its appendages and a basket car for the aeronaut. With it, July 12, 1901, ascending from the Aero Club Park, he crossed the Seine to the Longchamps race-track, took the air-ship ten times around the track, and then sailed to the Trocadero, and after a slight delay, caused by an accident to the rudder, went round Eiffel Tower, back to Longchamps, and thence across the Seine to Aero Park. The following day was set for an attempt for the Deutsche prize. The start took place in the presence of the club members at nineteen minutes to seven in the morning. The Eiffel Tower was doubled at five minutes to seven, but a strong current of air caught the ship shortly after the turn, driving it toward Longchamps, where he landed in the gardens of Baron Rothschild. On Aug. 18 he made another attempt, but this time his balloon collapsed and the whole structure with its operator fell to the roof of the Trocadero Hotel. His new machine, No. 6, ellipsoidal in form and carrying a 20-horse-power motor, was built upon practically the same lines, and on Oct. 19, 1901, succeeded in capturing the coveted prize. The trip from St. Cloud to the tower was made in nine minutes, and the return trip, against the wind, in twenty minutes and thirty seconds. M. Deutsche's 100,000 francs were generously distributed by the victor among the poor of Paris and all the assistants who had contributed to his success. Soon after his success in Paris he was summoned to Monte Carlo by the Prince of Monaco, there to attempt the crossing of the Mediterranean Sea. He made a successful ascent on Jan. 23, 1902, taking with him his friend M. Aimé, and sailing about the bay and proceeding more than a mile seaward. On Feb. 14, while making his fifth trip across the bay the guide-rope caught in the screw. With the intention of freeing the entangled tackle, M. Santos threw his balloon into a perpendicular position, whereupon the petroleum began to escape from his motor. The aeronaut, fearing an explosion, pulled the emergency rope, tearing a great rent in the silk envelope, and the gas rapidly escaped, causing the balloon to descend into the sea. A steam-launch belonging to the Prince of Monaco's yacht picked up M. Santos with all possible speed; and the disabled balloon, which did not sink, was taken in tow and conveyed to land. This balloon, No. 6, with some slight alterations, was brought to the United States in July, 1902, and was used at Brighton Beach by Mr. Edward C. Boice in his ascent on Sept. 30, 1902.

Stanley Spencer.—On the afternoon of Sept. 19, 1902, ascending from the Crystal Palace in

London, Mr. Stanley Spencer steered a navigable balloon of his own invention over Dulwich, Herne Hill, Clapham Junction, Victoria Bridge, and the southwest of London to Ealing, and finally to Harrow—in all, a distance of about 30 miles, or about three times the longest distance



MR. SPENCER ABOVE THE CRYSTAL PALACE GROUNDS.

ever attained by Santos-Dumont. While in the neighborhood of Herne Hill, Mr. Spencer caused the air-ship to perform numerous evolutions—darting downward, as though falling to the earth; suddenly arresting the descent, and again rising. At Ealing, which was reached at five o'clock, an hour after the start, similar maneuvers were gone through over the principal thoroughfares. The course was then altered to north-east, and a safe landing was effected near Harrow. The machine was at all times under perfect control, and at the end of the trip alighted so lightly "that a child might have been under it without being hurt." This ship, built by the Messrs. Spencer, differs very radically in some respects from the Santos-Dumont type, and is de-

scribed as follows in a current number of the Illustrated London News: "The main point of difference lies in the wooden screw, constructed on the Hiram Maxim system, which is fixed in front of the body of the machine and pulls or sucks it forward through the air, instead of propelling it from the rear, as in the Brazilian's air-ship. The framework is entirely of bamboos, lashed and bolted to one another, and, with the exception, of course, of the motor and steering-board, there is practically no metal on the whole machine. The result of this is shown by the scales. The total weight, with everything fixed, is under 300 pounds, the frame accounting for 125 pounds of this. The car is novel, inasmuch as the place of the usual basketwork is taken by bamboo cross-bars and netting. The framework—which is 45 feet long—is in 3 parts, for convenience in transit. The driving-power is furnished by a Simms petroleum motor of 35 horse-power. The gas-bag is 75 feet in length, and is not covered with netting, it being found difficult to enclose properly a balloon of elongated shape. When the aeronauts—the vessel will carry two light-weights—desire to descend, air is pumped into the envelope from a hand machine in the car as the gas is allowed to escape, in order that the balloon may always remain taut. Automatic valves release gas should the pressure become too great. The envelope has received three coats of special varnish, one outside and two in. By this means it is believed that the fabric itself will be undamaged by either the gas within or the air without." On Oct. 20 Mr. Spencer made another successful trip of 26 miles, ascending at Blackpool, Lancashire, and descending near Preston. A strong breeze was blowing when he ascended. When he reached a height of about 1,000 feet he made several evolutions against the wind, and finally sailed away in the direction the wind was blowing.

Severo and De Bradskey.—Aside from many minor accidents to balloonists and some deaths in various parts of the world, two shocking accidents mark the year's experiments in Paris. Señor Augusto Severo, a member of the Brazilian Congress and an enthusiastic aeronaut, made an ascension May 12, 1902, from the aerodrome at Vaugirard in his huge ship *La Paix*, in the presence of his family and a large party of friends. All seemed to go well, the air-ship turned toward Issy, whence the party were to follow in automobiles to witness the descent. Fifteen minutes later, at an altitude of 1,500 feet above the Avenue du Maine, opposite the Rue de la Gaité, the balloon suddenly turned, was enveloped in a flash of flame, followed by a terrific explosion, and Severo and his machinist Sachet, who had ascended with him, were dashed with the car to the earth and instantly killed. The explosion was probably caused by the ignition of escaping hydrogen gas from the balloon at one of the motors, but the exact cause never will be known. In general appearance *La Paix* resembled the ships of Santos-Dumont. The gas-bag, 98½ feet long and 40 feet in diameter, had a capacity of 70,000 cubic feet. The frame of the car was of steel tubing and bamboo and carried two petroleum motors, one of 16 horse-power at the bow and one of 24 horse-power at the stern, of the Buchet type. There were 6 screw propellers, one at the stern of the balloon, another at the stem, and a third at the stern of the car, two others working laterally at the right and left and steering the ship, the latter having no helm in the ordinary sense of the word, and a sixth screw designed to aid in ascent or descent,

as might be required. The mechanical parts were carried very little below the lower surface of the gas-holder, and the motor at the stern was very near the automatic valve designed to let off the excess of hydrogen as the envelope expanded through the rarefaction.

On Oct. 13 Baron de Bradskey Laboun and his assistant, M. Morin, were killed at St. Cloud through the breaking of the wires that held the suspended car and motors to the gas-holder. The de Bradskey ship was cylindrical with conical terminations, 100 feet long and 20 feet in diameter at the thickest part. A light wooden framework running around the balloon supported on steel wires a frame 70 feet long of steel tubes. It carried a car 16 feet long, suspended 10 feet below the envelope of the balloon, which guarded it against risk of fire from the 16-horse-power petroleum motor. The frame weighed 300 pounds. The air-ship was propelled by a screw 12 feet in diameter, and had a vertical screw placed beneath the car to aid in ascending and to keep the ship afloat, as it was built to displace exactly with the aeronauts its own weight of air. The rudder had a surface of 5 square yards. A notable feature was a sail apparatus consisting of wings made of light canvas, 36 feet long and 5 feet wide, fixed to the right and left of the envelope, giving it the appearance of an enormous aeroplane and intended to enable the air-ship to sail about or descend slowly in case the motor stopped. M. Emmanuel Aimé, the expert, in describing the ascent and the cause of the accident, of which M. de Bradskey had been forewarned, writes as follows: "As the air-ship advanced slowly, at an altitude of 200 meters, turning round and round as it went, sometimes advancing, sometimes moving backward, swinging to port and to starboard, in spite of the rudder, of which M. Morin held the tiller, and, in spite of its propelling screw, which was under the direction of M. de Bradskey, it was only too easy for the spectators to perceive that it was drifting at the mercy of the wind. In reality, though the air-ship obeyed neither rudder nor propelling screw, it obeyed only too well the disastrous action of the ascensional screw, the perturbing influence of which would have sufficed to paralyze the effect of both the propelling screw and the rudder, even if the motor had been strong enough to resist the light breeze from the southwest. The ascensional screw turned vertically under the car at a rate of 500 revolutions per minute and made the air-ship swing round at a rate of about one turn per minute. Under these circumstances the propelling screw and rudder were powerless. What was necessary was a second vertical screw, turning in a contrary direction to the first, to neutralize the tendency to rotation. M. Bradskey, however, had to give up the idea of making these changes on account of the extra weight it would have entailed. In spite of the recent augmentation of volume of the balloon, its lifting power was still too feeble to allow of any addition to the motor. The ascensional screw provided another, and still more disastrous effect, which did not escape the attention of those versed in aeronautics. From the Place de l'Opéra it was plainly visible that under the influence of this screw the axis of the balloon, obliged to turn by the resistance of the air, ceased to be parallel to the axis of the car, and that, in consequence, the steel wires which fastened the car to the balloon underwent a tension which tested their solidity." It was this strain that finally tore the wires from their fastenings and caused the fatal termination of the ascension.

Stevens, Lebaudy, and Others.—Other experiments have been made in 1902 by Leo Stevens with a ship that he has christened *The Pegasus*. This has a gas-bag, cylindrical with conical ends, 22 feet in diameter and 86 feet long, with an inside air-bag 20 feet long. The framework suspended 12 feet below is 28 feet long and weighs with the naphtha motors 350 pounds. The propeller, consisting of 2 blades $7\frac{1}{2}$ feet long, is placed at the forward end of the ship. On either side of the gas-holder is what is called an aeroplane parachute 35 feet long, which is supposed to open out in descending and steady the ship.

Several private trials have been made of an air-ship built at Bonnières, near Nantes, by Pierre and Paul Lebaudy and an engineer named Julliot. On Nov. 13, 1902, it is said to have made a speed of 25 miles an hour against a light wind and to have answered its helm readily and promptly. The following details of its construction have been given to the press:

"The Lebaudy balloon is similar in appearance to, but twice the size of, those of M. Santos-Dumont. It is $64\frac{1}{2}$ yards long and 12 yards in diameter. The car is $5\frac{1}{2}$ yards long and can hold 3 persons. The propeller is driven by a motor of 40 horse-power."

The only ascents of dirigible balloons so far made in America were those of Leo Stevens's *Pegasus* and the Santos-Dumont No. 6 at Manhattan and Brighton Beaches, New York, respectively on the afternoon of Sept. 30, 1902. Mr. Edward C. Boice, in the Santos-Dumont, after rising gracefully to a height of 800 feet circled the Brighton Beach Hotel and then took a straight course for Sheepshead Bay, directly against an 8-mile breeze. He had complete control of his machine, and for about 3 miles kept a comparatively horizontal course, when a gust of wind blew a suspended rope against the propeller, with which it became entangled, and he was forced to descend. Mr. Stevens was less successful. His ship had previously made two unsuccessful attempts at flight, and was still unruly. After some evolutions he sailed $\frac{3}{4}$ of a mile in the direction of Coney Island. He lost the handle-bar with which he controlled the propeller and made a hasty descent, landing with his machine on the cross-bar of a telegraph-pole.

The managers of the Louisiana Purchase Exposition, to be held in St. Louis, Mo., in 1904, have offered a grand prize of \$100,000 and \$50,000 in minor prizes for competition in air-ship motors, air-ship races, kites, and gliding-machines, and have announced the following as the official rules for the contests: Speed is to be the sole condition for winning the grand prize. The successful aeronaut must sail his craft over the 10-mile course at least three times, at an average speed of not less than 20 miles an hour. Smaller prizes are offered for the next four fastest air-ships in this contest, though the speed must be at least 10 miles an hour to obtain any award. Time consumed in starting and landing again in the prescribed lines without serious injury to navigator or apparatus will be counted in computing speed. No allowance will be made for deviations from the course or for wind. A prize is offered for the flying-machine, not carrying an operator, that makes the quickest straightaway flight of a mile and return. Other prizes are offered for the best gliding-machines carrying an operator. Four prizes of \$5,000 each are offered for these contests, open to air-ships, flying-machines, balloons, or any other aerial craft, carrying at least one person, all starts to be made

from the exposition grounds: For the greatest altitude attained; for the longest time in air; for landing nearest the Washington Monument, Washington, D. C.; for the longest distance traveled in any direction in one night. M. Santos-Dumont, Sir Hiram Maxim, and many less-known inventors have expressed their intention of entering the contests.

The ordinary spherical balloon has been used with good effect by the armies both of the European countries and of the United States for scouting and signaling, and several interesting attempts have been made to navigate the air by merely utilizing the prevailing air currents. Notable among these was the fatal attempt of Andrée, in 1896, to drift over the north pole. Major Hirschauer of the Balloon Battalion at the camp of Châlons, France, during a heavy fog on Oct. 22, 1901, observed that the direction of the wind for 330 feet above the surface of the earth was northeast. Above this he found a layer, extending nearly to 3,300 feet elevation, in which the wind was from the south, and above this again the clouds were moving from the northwest. These facts induced him to order Lieut. le Comte to make a trial trip. After ten o'clock Lieut. le Comte made the ascent, moving at first in the direction of Eprenay, west-southwest from the Châlons camp, thence toward Reims—that is, utilizing the south wind, and back to camp on the northwest wind. At three o'clock he came in sight of camp and maneuvered the balloon by means of the drag ropes so as to reach the center of the camp ground, where he was lowered by the same detachment that assisted him in his ascent. Lieut. le Comte thus solved the same problem as Santos-Dumont, only at far greater distances, by utilizing favorable wind currents without a motor, and finally, by means of drag ropes, showing that even the spherical balloon, under favorable guidance, can reach predetermined places. In October, 1901, a Prussian officer, accompanied by two assistants, made a similar ascent. He ascended from the Tempelhof field, near Berlin, in foggy weather and little wind, and passed over the Stern hunting-lodge (near Drewitz), Potsdam, Döberitz (north of Potsdam), and back to the Tempelhof field. The filled balloon was left overnight in the balloon shed, and next day was again used by the same men, under similar meteorological conditions, the route being over Teltow, Potsdam, Lehnin (13 miles west of Potsdam), Döberitz and back to Teltow, where a landing was effected. Here on two successive days, with a change in the wind, practically the same course was covered, with one balloon filling, the balloon remaining in service for forty-one hours in all. On July 27, 1902, Capt. Eric Unge of the engineer corps of the Swedish army traveled more than 540 miles in a balloon in fourteen hours and a half, descending near Novgorod, Russia. On Sept. 19, while attempting, in the presence of King Oscar, at Stockholm, to cross the Baltic to Germany and the south of Europe, his balloon exploded, and he and his companion fell more than 2 miles. The wrecked balloon acted as a parachute and both escaped unhurt. On Sept. 22, 1902, Count de la Vaulx, accompanied by M. Castillon de Saint-Victor, M. Laignier, of the French navy, M. Hervé, the engineer whose patent "deviator" plays so prominent a part in the experiments, and Duhanot, the mechanic, started from the aerodrome at Palavas-les-Flots, near Montpellier, in his balloon *Méditerranéen II*, in a second attempt to cross the Mediterranean. The balloon, which was provisioned for several days, was escorted by the tor-

pedo-destroyer *Épée*, and was attached to a floating buoy or "deviator," which kept it at a uniform height of 100 feet above the water and, to a certain extent, made it possible to regulate the direction of the flight. Some 200 pigeons were used to keep up communication with the shore. At ten o'clock on the morning of Sept. 22 the balloon was sighted by the captain of an Italian vessel 25 miles southeast of Palavas. Eventually, however, a contrary wind caused the attempt to be abandoned, and the balloon was brought to earth at Marseilles, between Cette and Agde.

At the meeting of the French Academy of Medicine held in Paris in August, 1902, Dr. Naugier asserted that he had made experiments demonstrating that a balloon ascension acts on the human system as a powerful tonic, causing such a multiplication of the red corpuscles of the blood that the condition persists for many days after an ascension. He further stated that five such excursions, each of two hours' duration, would be more beneficial to an anemic or a consumptive than a sojourn of three months in the mountains, and that he should request the municipal council to provide a large balloon, capable of taking into the upper air daily 50 patients or children who are too poor to afford a change of climate.

AFGHANISTAN, a monarchy in central Asia, lying between Russian Turkestan and British India. The reigning Ameer is Habibullah Khan, born in 1872, who succeeded his father, Abdurrahman Khan, on Oct. 1, 1901. The area of the country is estimated at 215,400 square miles, the population at 4,000,000. The revenue is uncertain and fluctuating. Although the rule of Abdurrahman was more energetic and systematic than that of his predecessors, the *hakims*, or governors, and other officials practise extortion and peculation. The cultivators pay to the Government from a tenth to a third of the produce, according to the amount of irrigation. The Indian Government grants to the Ameer an annual subsidy of Rx 180,000. Abdurrahman formed a regular army on European models, consisting of 37,000 infantry, 7,000 cavalry, and 360 guns. In the arsenal at Kabul are manufactured magazine rifles, cartridges, and breech-loading cannons. Wheat, barley, and legumes are winter crops, and rice, millet, and corn are grown in summer. The land is cultivated by the owners or by tenants who pay rent in money or in kind or who hold it on the *métayer* system. Agricultural laborers are free-men who work for hire, or serfs. Asafetida is gathered in great quantities and exported to India. Castor-oil and madder are also exported, and preserved fruits, which are consumed largely in the country, as well as fresh fruits, in which Afghanistan abounds, including apples, pears, almonds, peaches, quinces, grapes, figs, plums, apricots, pomegranates, cherries, and mulberries. Silks, sheepskin coats, fabrics of camel's hair and cashmere, rugs, and rosaries are manufactured. The trade with Bokhara and Russian territories is growing, while that with India and with Persia shows no increase. Exports from India to Kabul in 1901 were valued at Rx 299,051, and imports into India from Kabul at Rx 187,550. The exports from British India to Candahar were Rx 214,316, and imports from Candahar into India Rx 353,281. The imports from India consist of cottons, indigo, sugar, and China tea. The exports from Afghanistan to India are fruits and nuts, wool, silk, hides, spices, grain, ghi, asafetida and other drugs, vegetables, tobacco,

cattle, and horses. The trade with Bokhara is about 4,000,000 rubles each way.

The internal peace of Afghanistan was threatened by a complication of intrigues in the months preceding the ceremonious installation of the Ameer Habibullah, on March 20, 1902. Mohammed Ismail, son of Ishak Khan, who contested the throne with Abdurrahman, was suspected of designs on Afghan Turkestan in co-operation with other exiles in Russian territory. Habibullah's cordiality toward the Haddah Mullah, whose influence nearly embroiled Afghanistan and India on the occasion of the frontier troubles in 1897, was one of the manifestations of a desire to conciliate the fanatical element and put forth prominently the spiritual attributes of Afghan sovereignty. Bibi Halima, the widow of the late Ameer and mother of Mohammed Umar Khan, was dissatisfied because Habibullah did not consult her in political affairs, as he was enjoined to do in his father's will. The new Ameer's younger brother, Nasrullah Khan, was at variance with him also. Mutinies occurred among troops that had not been paid. The Ameer appointed a council to assist him in the administration of the country. The coronation took place without serious disturbance. The Hadda Mullah went to Kabul, where a new code of laws to be promulgated by the Ameer was submitted to him for revision. The Ameer gave permission for political refugees to return to Kabul, but withdrew it in deference to the opinion of Umar Khan, Nasrullah Khan, and others. The Ameer's Council of State was composed of leading members of the various tribes. Another step in the direction of organized government was the appointment of a person learned in Afghan customs and Moslem law to assist each of the provincial governors in the administration of civil and criminal justice. Cases of importance are referred to the Ameer and the Council of State at Kabul. The soldiers received their pay, which was in arrears since the death of the late Ameer. A plan for the reform and reorganization of the army was adopted. The pay of men in active service was raised, and at the same time the strength of the regular army was increased. Two points on routes leading from India into eastern Afghanistan were fortified and permanent garrisons were stationed there.

ALABAMA. (See under UNITED STATES.)

ALASKA. (See under UNITED STATES.)

ANGLICAN CHURCHES. Statistics.

The statement of the voluntary offerings of the Church of England for the year ending Easter, 1901, reported for the Church of England Year-Book shows that the contributions for general purposes and for parochial purposes exceeded those of the preceding year by about £7,000, and reached a total of £7,728,134. The preceding year had shown an increase of £300,000; but reference was made in the statement to circumstances that might have justified the expectation of some falling off. An increase of £48,000 in the contributions for the maintenance of primary schools was perhaps the most noteworthy item, and was in fact six times the total increase for the year; so that on the whole there had been some falling off in other items. The contribution to foreign missions was £824,038; the local contributions to the support of the clergy had been £828,684; and £168,797 had been raised by the central and diocesan societies for the assistance of the clergy at home, £609,689 had been contributed for general home missions, £505,040 for philanthropic work, and £1,170,390 for elementary education. As a whole, the gifts for

parochial purposes were about two and a half times the size of those for general purposes—or £5,542,394, as against £2,235,741. Other contributions to general charities from Church sources, of which the tables in the Year-Book take no notice, were, it is represented in the Church Times, well maintained. No account is made in the tables either of contributions, such as those to the Bible Society, the London City Mission, etc., in which non-conformists cooperate. Of the various items in the budget, gain was shown in 7 and loss in 12.

The income of the Bishop of London's fund (to provide for the spiritual needs of the poorer parts) for the past year had amounted to £28,795, against £26,744 in the preceding twelve months. The bishop at the annual meeting in behalf of the fund named £50,000 a year as the sum required for the carrying out of the work undertaken by it.

The annual report of the Church Pastoral Aid Society for 1902 shows that during the year grants had been made in the total amount of £80,494 for 750 curates, 154 lay assistants, and 102 women workers in 695 parishes, containing an aggregate population of 6,086,367. The amount of contributions called forth locally had steadily risen, except in a single year, during the past ten years from £36,368 in 1893 to £53,785 in 1902. The committee had been able to extend the work of the society in two directions during the year, namely, in the application of a gift of £10,000 for the relief of impoverished clergy, partly, according to the donor's wishes, in augmenting poor benefices reasonably secured in evangelical patronage, and partly in relieving more immediate needs; and by the institution of an effort to train for the ministry men who appear to have all the needful qualifications except sufficient means. In the former branch of activity, by the help of local benefactions and aid from the ecclesiastical commissioners, increased endowment would be provided for 20 or 30 parishes. The balance of an educational fund formed in connection with the society's forward movement of 1894-'98 had been applied to training men at Cambridge who had gained an insight into parochial work while preparing for a degree at the university and for holy orders.

Church Missionary Society.—The annual meeting of the Church Missionary Society was held in London, May 6, Sir John Kennaway, Bart., M. P., presiding. The year's receipts for general purposes had been £327,000, an increase of £13,500. While legacies and interest were less than in the previous year, there had been an increase of about £20,000 from voluntary contributions. Expenditures had been reduced by £6,000, and had really been £15,000 less than the estimate; and the deficit of £27,000 was less than had been feared. The society's work could not be done on the present scale, without an increase of £50,000 a year in income, after making up the deficit. The Church in Japan had adopted a revision of its constitution, and had before it a revised translation of the Thirty-nine Articles; and its clergy and laymen sat in synod and voted with the English bishops and clergy. Native clergy preponderated in the synod of Ceylon, which was about to elect its own bishop, under the constitution granted in 1886—a power to be exercised for the first time by any modern Church body in which natives predominate. The Church in Uganda numbered 30,000 members, supported 27 pastors and 2,400 teachers and elders, put up its own church buildings, and sent its own missionaries into foreign parts. In New Zealand and

Canada, the society's work among the Maoris and red Indians was being transferred to the colonial churches. Some of the most interesting cases among the 9,586 adult and 11,007 juvenile baptisms of the past year were the first four converts in the Eskimo mission at Cumberland Sound and the first pygmy from the great African forest. The following declaration of the position of the society was embodied in the report: "The Church Missionary Society has its own distinct principles—the principles of the apostolic age of the English Reformation, of the evangelical revival—and on those principles it stands, and intends by the grace of God to stand. It maintains, and will maintain, its just independence—not independence of the Church or of its constituted authorities, but the reasonable independence of a body of loyal Churchmen banded together for the preaching of Christ in the world. At the same time, it declines to be turned aside by groundless and unworthy suspicions from the ancient practise of friendly intercourse with other societies, whether within the Church of England or within the wider range of Protestant Christendom; and it rejoices to see what its founders would have rejoiced to see—but died without the sight—the Church of England as a body, and its episcopate in particular, fostering the missionary enterprise."

The following approximate statistics of the missions for 1901-'02 were presented to the meeting: Number of stations, 558; of European missionaries, 1,305, including 421 ordained clergy, 146 laymen, and 738 women missionaries; of native clergy, 374; of native lay teachers, 7,927; of native Christian adherents, including catechumens, 290,225; of native communicants, 85,553; of baptisms, 20,617; of schools, 2,522, with 103,137 pupils; of hospital beds, 1,713; of in-patients, 13,871; of visits to out-patients, 786,642. Among the missionaries were 64 qualified doctors, 14 of whom were women.

The Centenary Volume of the society, published during the year, contains a history of its rise and progress together with particulars of its various missions. While from 1799 to 1815 the society received no attention from the bishops, its list of vice-presidents in 1899 included the names of 126 bishops. Thirty-seven of its missionaries, 3 of them Africans, were made bishops during the one hundred years. Bishop Hadfield, who went out in 1839, was the senior bishop on the list, and the sixth in order of consecration. Before 1841 the society sent out only 16 university men as missionaries. Since then 384 graduates had gone out, making the whole number 400. The development of the publications of the society and their currency was shown in the fact that while in 1849 they cost £2,500 a year, and returned only £150, the corresponding periodicals now cost £5,000 a year, and returned nearly the whole sum. During its first year the society received £2,461; during the last twelve years of its century (1887 to 1899) it met a total expenditure of £3,342,000. The missionaries who had served the society numbered 1,602 men, 584 women, and 623 native clergy. The first 7 missionaries, up to 1809, were German Lutherans. The first record of woman missionaries was in 1820. Of every pound sterling received 16s. 6d. were expended on the actual missions, 7d. for disabled missionaries, 8d. for the training of missionaries, and 2s. 3d. for home charges. The corresponding expenditure for home charges during the first half century was 2s. 11d.

Society for the Propagation of the Gospel.—The receipts for 1901 of the Society for the

Propagation of the Gospel in Foreign Parts aggregated £206,799, being £28,402 more than were received in 1900. The whole of the sum subscribed to the Bicentenary fund, £84,027, would be available for mission purposes, owing to the able financing of the money as it had come to hand. The sums had been temporarily invested or placed on deposit at once, and the entire expenses of the fund would have been met by the ensuing July out of the dividends. The number of ordained missionaries, including 11 bishops, on the society's list, was 753; of whom 251 were in Asia, 189 in Africa, 46 in Australia and the Pacific, 166 in North America, 54 in the West Indies and Central and South America, and 37 chaplains in Europe. Of these, 127 were natives laboring in Asia and 55 in Africa; and there were also in the various missions about 3,000 lay teachers, 3,200 students in the society's colleges, and 40,000 children in the mission schools in Asia and Africa. It was represented in the general introduction to the report that the bicentenary commemoration had drawn many people to help the society who had not hitherto done so.

A special meeting of the Standing Committee of the society was held March 21, to consider a request from the General Synod of the Episcopal Church in Ireland that it forbid the connection of any of its agents with party organizations, "as required even by its own rules." The reference in this last clause is to instructions issued in 1706, which are bound up with the report of each year's work. The Standing Committee responded to this request in the words of a minute adopted in 1900, that the society had no power over the opinions or convictions of the missionaries whom it maintained; that it did not select the clergy whom it employed, and so long as they held the license of their respective bishops, the society was bound not to remove them. "The only alternative would be that the society should assume a spiritual jurisdiction, to which it can justify no claim. The instructions given at the very foundation of the society to the missionaries to which the resolution of the synod refers represent the conviction of the society as to the ideal which all Christian people should aim at. The Standing Committee assure the synod that in its work both at home and abroad the society knows nothing of party distinctions. They sincerely hope that it may enable the friends of the society in Ireland to convince the Church that the Society for the Propagation of the Gospel is not a party society. But the Standing Committee assure the synod that they will be most careful to bring under the notice of missionaries placed on the list the instructions of the year 1706."

The Women's Mission Association for the Promotion of Female Education among the Heathen, in connection with the Society for the Propagation of the Gospel, had received £11,583, showing an increase of £911. The balances had risen from £4,904 to £5,673. A steadily growing demand for missionaries, and especially for qualified teachers, was observed in India. A large increase of work was expected in the dioceses of Bombay and Madras. In Burma the standard of education was rising and the demand for it increasing. The association also appealed for offers of service to meet the needs of Japan, South Africa, and Madagascar.

The Melanesian Mission.—The work of the Melanesian Mission had been carried on at the time of its anniversary meeting in November, 1901, for fifty years with steady and growing success, with the aid of sailing and steam vessels

plying from island to island. The general fund for the past year had been the highest on record, and the subscriptions to the fund for the provision of a more suitable vessel, which was greatly needed, had reached £13,000, a sum which was, however, not at all adequate. It was shown that in the fifty years of its operation the mission had worked a complete revolution in the region. When Bishop Selwyn began his work Melanesia was entirely heathen, whereas there were now 12,000 baptized Christians in the islands.

Voluntary Societies.—The object of the National Protestant Church Union is defined in its annual report for 1902 as being "to promote the principles of the Reformation as set forth in the Prayer-Book and Articles of the Church of England." The president is Mr. W. D. Cruddas; Prebendary Webb-Peploe is the chairman; and among the vice-presidents are the Bishop of Durham, the Bishop of Sodor and Man, and Bishops Perowne, Ingham, Marsden, and Royston. The work of the union is largely educational in its character, and as a part of it a steady growth in the number of lectures and general meetings is recorded as having taken place during the year. The intention of the council is announced to publish a History of the Church of England, by the Rev. Charles Hole, and a reissue of Dr. Vogan's True Doctrine of the Eucharist; and a Manual of Christian Doctrine is in hand. A number of recent appointments by his Majesty's Government are cited as showing that the increased activity among Protestant Churchmen has not been without effect in the selection of men for ecclesiastical preferment.

At a meeting of the union held Dec. 3, 1901, a resolution was adopted expressing the opinion that in view of the continuance in the Church of practises and doctrines which are both illegal and contrary to the spirit of the Reformation, "further legislation is urgently required in order to secure a reasonable conformity to the law of the Church and the realm."

An address issued by the Church Association in July, in answer to an appeal in behalf of the ritualists, bore the heading, "Now that the war is over, the Protestant question must come first." Representing that the union had already a political organization in 225 out of 443 English constituencies, with 6,000 enrolling agents, it asked for 1,000 more volunteers to gather the names of those who were determined to put Protestantism before party and prevent the complete "capture of the Church of England" by the "disloyal and Romanizing clergy."

The forty-third annual meeting of the English Church Union was held in London in June, the occasion being preceded by special communion services held in the morning in 1,232 churches throughout the kingdom. In his presidential address Lord Halifax said that the battle begun by Mr. Keble had been won; that the substantial of Catholic doctrine and ritual and the essential liberties of the Church were secure; and the question now to be faced was that of the general relation of national churches to the Church universal, which rested on the wider question of what was the ultimate authority in matters of belief. The act of supremacy was responsible for an Erastian view which had produced a great deal of mischief—largely so for the conception of the Church of England as an independent self-governing body with no obligations to the rest of Christendom. The Church Union had been accused of disloyalty for ignoring Anglican tradition; but if there was any Anglican

tradition which went to make the eucharist an occasional and exceptional service, it was not to be followed. Loyal English Churchmen were bound not to forego celebration because there might happen to be none to communicate with the priest. They should rejoice at the desire for a greater unity now showing itself on all sides. As one step toward union the adoption of a single catechism by the non-conformist bodies was to be welcomed, and similar hopes were encouraged by signs among the members of the Established Church of Scotland. The Church of England was but two provinces of the Western Church, isolated, unhappily, by circumstances for which it was by no means solely responsible, but whose members could not consistently relieve themselves of the obligations which the part owed to the whole. If the authorities of the Church would but acknowledge that the act of uniformity was dead and buried, and take on their own initiative such steps as the Church required, they would be far wiser than if they waited till Parliament was willing by a definite act to sanction their action. The number of enrolled associates of the union was now 12,493, 2,137 new members and associates having joined during the past year. Of these, 77 were clergymen. Three American bishops had become members. Satisfaction was expressed in the annual report with the result of the Fulham Conference, "which can hardly fail to remove existing misconceptions as to the exercise of the sacrament of penance and to promote the cause of peace."

At the annual meeting of the Church Reform League, June 10, the Bishop of Worcester presided and spoke of the manner in which he had been impressed by his experiences as a bishop with the importance of the movement which the league sought to promote. At every point, he said, the same necessity of constitutionalizing the Church was met. There was a clear need that in the Church of England there should be less arbitrary power in the hands of individuals. The required change could not, however, be carried out unless each order—the bishops, the benefited clergy, and the laity—realized that they must concede some limitation of their powers. By due recognition of the authority of the bishops, clergy, and laity they would be brought to the ideal of episcopal government in those ages of the Church to which they constantly professed to recall themselves. Resolutions were passed in favor of the passage of the convocations of the clergy bill without delay, and commending the work of the league to the generous support of Church people throughout the country.

The report of the Home Reunion Society, presented at its annual meeting, July 8, set forth that the question of the intercommunion with non-Episcopal bodies, advocated by Canon Hensen, had for the time hindered direct advances toward reunion, and that a further hindrance to the society's work had been "the unfortunate political spirit in which leading dissenters had misrepresented the real attitude of Churchmen in supporting the Government education bill." Lord Nelson, moving the adoption of the report, expressed the hope that when the education bill had passed, the animosity which had been aroused in connection with it would pass away. He thought it would be a good thing if committees of Churchmen and dissenters could be formed to discuss the four bases of intercommunion suggested at the last meeting of the Lambeth Conference. The Bishop of Truro, presiding, thought that when the educational controversy was over and the bill had passed, non-conformists would

feel that they had raised a flag which was without a staff and had shown unnecessary heat. One thing that came out very sharply from the contest was that Churchmen had stood up boldly for parents' rights to choose the religious education of their children. If they threw over their apostolic succession, the speaker thought, they would weaken the Church of England very much indeed, and make it less easy for their non-conformist friends to unite with them. What they had to do was not to overthrow the apostolic succession, but to make it a greater reality. The council of the society was considering how it could carry out the resolutions passed at the last Lambeth Conference with reference to discussions between Churchmen and dissenters.

The Society of the Sacred Mission, of which the purpose is to promote the increase of candidates for the ministry and aid in their efficient training, "offers a free and thorough education and maintenance during training to all who will give themselves up wholly to the service of God and his Church, in holy orders or lay work, in foreign missions or at home." At its annual meeting in November, 1901, it had about 40 candidates and 12 actually accepted.

The Liberation Society.—At the annual meeting of the Council of the Society for the Liberation of Religion from the Patronage and Control of the State, May 7, the treasurer reported that the receipts for the year had been £4,613, and the expenditures £4,522. The report of the secretary mentioned as evidences of an awakening interest in the country such facts as an increase in the number of meetings and lectures, and the preaching, at the instance of the Manchester and district branch of the society, of liberation sermons by 300 non-conformist ministers in the northwestern district. The action of the society with reference to the tithe rent-charge and the education bill was reviewed. The chairman, Principal Hutton, of Paisley, said in his address that they were not proposing terms with the state Church. They had been passing through a crisis in which new questions had divided them, but they knew their principles well, and had still the permanent moral forces which fought for them. They must hold that the abolition of state churchism was one of the greatest of political reforms, and was not to be taken up or laid down at party or personal convenience. Let them have done with attempts to reform the establishment. Gratification was expressed by resolution at the debate and division in Parliament of Welsh disestablishment. Another resolution called on Free Churchmen and educationists to oppose the education bill as one which would destroy direct popular control over schools wholly supported by the people, and would strengthen sectarianism in teaching and management.

At a breakfast given by the Liberation Society, April 15, Mr. W. S. Caine, M. P., presiding, the education bill was discussed by Mr. Caine, the Hon. James Bryce, Mr. H. J. Wilson, M. P., Mr. Ford Maddison, Mr. J. Compton Rickett, M. P., Mr. Lyulph Stanley, Mr. Herbert Roberts, M. P., Dr. Townsend, president of the National Council of Evangelical Free Churches, and Mr. Carvell Williams, all of whom condemned the measure severely.

Death of John Kensit.—The public protests during church services against presumed ritualistic excesses, instituted by John Kensit, were continued by him and the "Wycliffite preachers" at various times and occasions. John Alfred Kensit, son of Mr. Kensit, was summoned to

Liverpool in September on a charge of holding antiritualistic meetings calculated to cause a breach of the peace. Refusing to find sureties and give bonds to keep the peace, he was sentenced to imprisonment for three months. The incident caused much excitement among the antiritualists. Mr. Kensit, senior, sent petitions for his son's release to the Home Secretary and other members of the Government. He asserted that the most serious offense proved against his son was that he had read a sentence from the Prayer-Book characterizing masses as "blasphemous fables and dangerous deceits." In a memorial to the Home Secretary the Council of the Church Association characterized the imprisonment as a grave scandal and a menace to liberty of speech. In answer to a memorial signed by 100,000 persons, the Home Secretary said that the case was one in which he could not interfere. The Baptist Union, by resolution, asked for an investigation into the case, in which it affirmed there was reason to believe that there had been a grave miscarriage of justice. Mr. Kensit went to Liverpool to visit his son in prison, and a demonstration was made in Birkenhead against the Wycliffite preachers, in which he was hit upon the head with a chisel. Pneumonia supervened, from which he died, Oct. 8. His son was afterward released by order of the Home Secretary, when he declared that he would take his father's place at the head of the movement he had organized. Steps have been taken to erect a memorial to Mr. Kensit as a "defender of Protestant truth."

Convocation of Canterbury.—The Convocation of Canterbury met in its first group of sessions for the year on Jan. 28. In the upper house the appointment was advised of a joint committee to consider the best methods of approaching the Jews resident in the kingdom, and whether any special spiritual provision should be made for Jewish Christians during the first years of their conversion. A resolution of the lower house protesting against a proposal to legalize marriage with a deceased wife's sister was adopted, with a request that the archbishop and bishops use all means at their disposal to prevent any measure with that object from becoming law. The subject of preparing a special prayer in regard to the supply of candidates for holy orders was referred to the joint committee on special prayers and services. In the lower house the subject of the procedure of the confirmation of bishops was discussed. The following resolutions on the subject of ecclesiastical dilapidations were adopted: "1. That in the interest of the Church of England, and with a view to relieving the distress arising from the diminished income of the clergy at the present time, a general insurance fund to deal with dilapidations ought to be established. 2. That each incumbent who is liable should be required to contribute an annual payment to this fund upon some suitable basis. 3. That it is desirable that this annual payment should include a small sum to be lodged in the name of the incumbent as a guarantee fund against damage accruing through neglect or waste, to be returned with interest, if not required, to the incumbent at the termination of his incumbency." The resolutions further advised that the central management of the proposed insurance fund be placed in the hands of the ecclesiastical commissioners; and that diocesan, archdiaconal, or parochial repair funds be established to assist the clergy, in case of necessity, in raising the contributions levied upon them. The opinion of the house was expressed

that in any rearrangement of the position of voluntary schools, it was desirable that public aid given to them should be applicable to their general maintenance, without any allocation of funds to the support of secular as distinguished from religious instruction. The archbishop and bishops were requested to take steps for the provision of a prayer for the supply of candidates for ordination.

In the House of Laymen the discussion on the subject of the lay franchise was continued from a previous group of sessions, and a resolution relative to the initial lay franchise was adopted, "that an equal number of parochial representatives of every ecclesiastical parish or district attached to an old or new parish church in the diocese (including the district remaining ecclesiastically attached to the old parish church of an ancient parish church which had been ecclesiastically subdivided) shall be elected by such of the persons of full age, resident in the ecclesiastical parish or district, as declare themselves in writing to be members of the Church of England and of no other religious body, and are not legally and actually excluded from communion, and are of the male sex." Other resolutions relate to the details of the scheme, the election of representatives to the diocesan council, etc. In view of differences of opinion between this house and the House of Laymen of the Convocation of York with reference to the initial lay franchise, a joint session of the two houses was asked for. The "Convocations of the Clergy" bill, in the form in which it had been read a third time in the House of Lords, was approved, with the expression of a desire for its speedy enactment into a law.

At the meeting of Convocation May 1 both houses discussed the education bill and passed resolutions giving a general approval to it. Approval was given in the lower house in detail to the arrangements made at the confirmation of the Bishop-elect of Worcester, which, it was represented, were on the lines suggested in the second report of the Committees of Church and State on the Confirmation of Bishops. The resolutions appended to the report of the joint Committee on the Position of the Laity were discussed, without action being taken. These resolutions declare that it is desirable that a national council should be formed fully representing the clergy and laity of the Church of England; that the definition of the powers to be entrusted to the council in reference to legislation, of the qualifications of electors, and of the method of electing and summoning its members should be determined by a joint meeting of the members of the two convocations with the provincial houses of laymen, with a view to its receiving statutory authority; that this council should consist of 3 houses, the first that of bishops, the second that of representatives of the clergy, whether official or elected, and the third of elected communicant laymen; that the acceptance of the three houses, sitting together or separately, should be necessary in order to constitute an act of the body; and that nothing in the resolutions was intended to interfere with the position of the convocations as provincial synods of the clergy. The report stated that the committee had come to the conclusion that the study of the apostolic and primitive constitution of the Church as it is set forth in Holy Scripture and in the history and writings of the first three centuries showed clearly the coordinate action of clergy and laity as integral parts of the whole body of Christ, and it was added: "It appears to us that the creation of

a representative assembly in which clergy and laity should be coordinated under episcopal authority would be a wise reversion, not only to old Anglican tradition, but to those primitive Church principles which our national Church always desires to follow. We observe that such a course has been universally adopted by the sister and daughter churches of the Anglican communion. We observe also that the Established Church of Scotland, in which a powerful General Assembly, consisting of clergy and laity, has existed from the first years of the Reformation, shows that such an arrangement is perfectly compatible with establishment. Such an assembly in this country, working, as it must necessarily do, in harmony with the Crown and with Parliament, would, in our opinion, do much to promote that effective service to, and representation of, the religious life of the nation which it is the object of establishment to secure. Such an assembly would not stand alone. It would lead to the development of local organizations in our parishes and dioceses which would subserve the general object of making all members of the Church more conscious of their rights and responsibilities." The resolutions of the Committee on Clerical Poverty and Clerical Charities were adopted. They assert the importance of obtaining very general support for the Queen Victoria Clergy fund and the diocesan funds affiliated with it, and the desirability of introducing the custom of Easter offerings and collections for the benefit of the clergy into every parish; declare that no scheme for assisting the poverty of the clergy can be satisfactory that does not make provision for a considerable diminution in the number of poorly endowed benefices where the area and population are also small; advise the institution of diocesan boards of clergy and laity to promote the union of small benefices in suitable cases; and make other recommendations of measures intended to remedy the evils of clerical distress. A resolution was passed in the House of Laymen deprecating the tendency to pervert Sunday into a day of pleasure-seeking and trade.

At the session of the Convocation in July the upper house discussed the report of the Committee on Clerical Poverty. This report embodied the opinion that legislative action was necessary, and offered some recommendations, among which were those for the institution of sustentation funds and for unions of benefices. In the lower house the discussion upon the position of the laity in the councils of the Church was resumed. Resolutions were adopted urging Parliament to pass "an enabling act empowering the two convocations to reform themselves and to sit together"; that "it is desirable that a national council shall be formed fully representing the clergy and laity of the Church of England"; and "that it is desirable, without traversing in any way the historic position and rights of convocation, that a representative assembly of laymen, duly elected, and possessing statutory authority, shall be formed in each of the two provinces, and so associated with the convocations that in either province the archbishop shall summon the House of Laymen to consult and debate with the houses of Convocation, and that the two archbishops, acting together, shall, as occasion requires, gather all the houses of the provinces for a joint session as a national Church council." In the House of Laymen the powers and constitution of the contemplated national council and the education bill were subjects of discussion.

Convocation of York.—At a meeting of the House of Laymen of the Convocation of York, April 3, the resolution adopted in 1901 proposing that the lay franchise should be open to all rate-payers was reconsidered and receded from. This step was intended to bring the action of the house into harmony with that of the House of Laymen of the Convocation of Canterbury. The house further expressed its cordial approval of the Government education bill, but urged the elimination of the permission clauses. Another resolution expressed general satisfaction with the licensing bill of Mr. Ritchie, without binding the house to agreement in every detail.

The houses of the Convocation of York met April 30 and May 1. Resolutions were passed giving general approval to the education bill. A resolution of the lower house having reference to the distress among the clergy suggested the institution in every diocese of an annual Clergy Sunday, on which collections should be made in aid of the various clerical charities, and recommending the stimulation and encouragement of local effort to make the net income of every beneficed clergyman not less than £200. Another resolution affirmed the positive duty of the Church to impress upon all Churchmen the perpetual obligation "to do their utmost, by prayer, word, and example, to promote the cause of peace by implanting the great principles of justice, charity, and mutual respect throughout the world"; and further expressing a strong sense of the responsibility which will rest upon the Church in this regard toward the various races of South Africa at the close of the present war.

Joint Meeting of the Two Convocations.—A joint meeting of the two convocations, including both Houses of Laymen, was held in the Church House, Westminster, in July. The subject of the lay franchise was discussed at length and the opinions of the body were expressed by resolution; "that the electors should be of full age and have been baptized and confirmed, and should declare in writing that they are *bona fide* members of the Church of England"; and that the representatives elected by them should in addition to these qualifications be communicants.

Report on the Position of the Laity.—The report of the Joint Committee of Convocation on the Position of the Laity sketches historically the share of the laity in the councils of the Church, showing that their importance in ecclesiastical councils began to diminish after the Council of Niceæ until under the medieval papacy it was almost eliminated. In the East the emperor embodied, at least in theory, the functions of the laity, in the West the Pope absorbed these with those of the episcopate, though in remoter regions, such, for instance, as England before the Conquest, the share of the laity still remained great. The Conquest introduced a change, separating the clergy from the laity, and the Reformation did nothing to restore to laymen that direct share in ecclesiastical matters which had once been theirs. The supremacy of the king was gradually transferred to Parliament, always an imperfect substitute, and most imperfect now that Parliament has ceased to consist wholly of Churchmen. Recent political changes have impaired the parochial organization of the Church and deprived the laity of the influence in the parish which they had in the middle ages, and in some degree retained after the Reformation. The present position, then, is a disorganization not far removed from chaos. "The time has come for the creation of a repre-

sentative assembly which shall be coordinated under episcopal authority. This would be a wise reversion not only to old Anglican tradition, but to those primitive Church principles which our national Church always desires to follow."

The committee therefore present as their first resolution "that it is desirable that a national council should be formed, fully representing the clergy and laity of the Church of England."

The Case of Bishop Gore.—The Rev. Charles A. Gore, D.D., Canon of Westminster, was elected by the dean and chapter of the diocese, on the nomination of the Crown, Bishop of Worcester. Prior to the confirmation of the election, as directed under the new procedure adopted for such cases, 10 protests were filed from societies and individuals, alleging that Dr. Gore's views on inspiration and the sacraments were such as to disqualify him for the office of bishop in the Church of England. The objections stated were based, in part, on the fact of Dr. Gore's having participated in the preparation of the book *Lux Mundi*, and having used language therein calculated to shake the faith of believers; on his having taught the doctrine of a material presence in the sacrament; and on his having taken part in the founding of the Monastic Celibate Society. On the occasion of the procedure for confirmation of the election at the Church House, Jan. 22, on the calling of opponents by direction of the vicar-general, Mr. John Kensit offering to enter a protest, the vicar-general said that he could take claims to appear only in the order of their presentation. He then read a list of the objectors who had given written notice. They were the Church Association, the Liverpool Laymen's League, the Imperial Protestant League, the Protestant Alliance, the Protestant Reformation Society, Mr. John Kensit, the Protestant Truth Society, and four individuals. Other persons who expressed a desire to speak were told that they had failed to give previous notice. The bishop-elect, through his attorney, expressed readiness to answer to any charge which was legitimately made and relevant, subject to the decision of the vicar-general, but he wished to make it plain that he, for his part, was not urging that the court had no jurisdiction. The vicar-general explained that all the written objections had raised questions of doctrine, which under no circumstances could be entertained at confirmation; therefore none of the objectors would be heard, but he wished to add that any objector who could have established a right to appear, in accordance with the terms of the citation, would have been heard. Mr. Kensit and others attempted to protest against this decision, but the vicar-general refused to hear them. The proceedings then continued. The vicar-general read the decree of confirmation and the bishop-elect subscribed to the declaration and took the oath of office. On Jan. 24, the objectors applied to the King's Bench Division of the High Court of Justice for a mandamus against the Primate and the vicar-general, directing them to hear the objections. The Lord Chief Justice and Mr. Justice Darling, while declining to express an opinion as to the result in the case, decided to grant a rule *nisi* for a mandamus. The matter appeared to them one that should be discussed; and a further hearing was appointed. The consecration of the bishop-elect had been appointed to take place at Westminster Abbey on the following Saturday (Jan. 25), and the Archbishop of Canterbury had decided to proceed with it, under the Statute of *Præmunire*

and the act of Henry VIII, prescribing penalties for failure to proceed with "speed and celerity" in the consecration of a bishop. The bishop-elect, however, on legal advice, declined to present himself for consecration pending the decision of the judges. In the argument on the application for a mandamus in the Court of King's Bench, Feb. 3, the Attorney-General undertook to show that the confirmation was a mere form, and was intended to be so; and that it might be dispensed with altogether, and had been. In fact, the elections by the cathedral chapters had been pronounced in an Irish statute of Elizabeth "colors, shadows, and pretenses of election, serving to no purpose, and seeming also derogatory and prejudicial to the King's prerogative royal." The statute had been repealed, but the fact had not; and the Attorney-General insisted that beyond the points of the validity of the election and the identity of the person elected, no objection of any kind could be entertained. It was urged on the side of the opponents of confirmation that even if it were shown that the vicar-general's court did not deal with contentious business, it would still be his duty, when the case became contentious, to refer it to the archbishop. If the court refused to grant the mandamus in this case there would be no discretion in anybody to refuse to confirm and consecrate the royal nominee if he could answer the questions in the ordination service. He might even become a member in some other church, and still the archbishop would have no choice. The decision of the court was read by Lord-Chief-Justice Alverstone, Feb. 10, denying the application. The view was sustained that the public citation of objectors to the confirmation of a bishop is not a real proceeding. It was shown, in substance, that never since the statute of Henry VIII had there been any "practise" of hearing objections to the appointment of bishops on the ground of doctrine, and that for two hundred years before that date no such normal practise existed as the objectors contended for. The court, however, expressly guarded itself against deciding that no objection could be raised which the archbishop or vicar-general could decline to entertain. Thus, it could not be held that an objection involving a question of identity, as that the wrong man was put forward as the bishop elected, or one that involved a question of the genuineness of the documents produced should be considered. Thus it might be a good ground of objection that the bishop-elect had done something since his election that he should not have done. An appeal was possible from the decision of the court to the Court of Appeal, and ultimately to the House of Lords, but the Council of the Church Association, after consideration, decided not to make it. The consecration of Dr. Gore as Bishop of Worcester took place Feb. 22, and his enthronement Feb. 24.

The Second Fulham Conferences.—An account was given in the *Annual Cyclopædia* for 1900, page 25, of a meeting designated familiarly as a "Round Table Conference," which was called by the Bishop of London, Dr. Creighton, at the suggestion of the London Diocesan Conference, of representative men of both of the great parties into which the Church is divided, which met at Fulham Palace in October, 1900, and discussed the subject of The Doctrine of the Holy Communion and its Expression in Ritual. The suggestion of holding a second conference of the same kind was made by the London Diocesan Conference in 1901 to Bishop Ingram of London, and the conference was called to meet at Ful-

ham, Dec. 30 and 31, 1901, and Jan. 1, 1902. The subject presented to the consideration of the second conference was that of Confession and Absolution; and in his letter of invitation the bishop suggested that there be four sessions, at which the discussion might proceed on the following lines: 1. The meaning of our Lord's words (in St. John xx, 22, 23; St. Matthew xviii, 13), and their use in the ordinal as affecting the conception of the priesthood. 2. The practise of the Church (a) in primitive times; (b) in the middle ages. 3. The meaning of the Anglican formularies and the limits of doctrine and practise which they allow. 4. Practical considerations—(a) the treatment of penitents; (b) the special training of the minister. The members of the conference were selected by the bishop, according to his own declaration, "with the greatest care, in order that all schools of thought in the Church should be adequately represented." They included Lord Halifax, as the representative of extreme High Churchmanship; Mr. R. M. Benson; Principal V. S. S. Coles, of the Pusey House at Oxford; Professor Moberly, of Christ Church, representing the "Oxford High-Church school"; Canon Body, Dr. Mason, and Professor Swete, holding an independent position; Dr. Childe; Principal T. W. Drury, of Ridley Hall; Dr. Gee, Principal of Bishop's College, Ripon; Chancellor P. V. Smith and the Rev. Dr. Wace; Canon Lytleton; and Dr. Strong, Dean of Christ Church. The Rev. Dr. Wace, who was also chairman of the first Fulham Conference, was chosen chairman of the present one, and he prepared the report, which was published under the authority of the bishop. The general results of the conference are comprehensively stated in the summary of conclusions verbally communicated by the chairman to the bishop at the close of the last session as they are given by the bishop in the introduction to the volume embodying the report as follows:

"On the bishop entering, the chairman reported to his lordship the general results of the conference. He stated that a practical agreement had been reached on some important points, but that grave divergence remained on others. With respect to the first subject proposed to the conference, the members were agreed that our Lord's words in St. John's gospel, 'Whosoever sins ye remit, they are remitted unto them, and whosoever sins ye retain they are retained,' are not to be regarded as addressed only to the apostles or the clergy, but as a commission to the whole Church, and as conveying a summary of the message with which it is charged. It is, therefore, for the Church as a whole to discharge the commission, which she does by the ministration of God's Word and sacraments, and by godly discipline. But the members of the conference are agreed that the discipline of private confession and absolution can not be shown to have existed for some centuries after the foundation of the Church. It grew, in fact, out of the gradual disuse, perhaps about the fifth century, of the 'godly discipline' of public penance, referred to in our communion service as existing in the primitive Church. In view of the meaning which the conference agreed was to be assigned to the words of our Lord in St. John, the formula of ordination in our ordinal could not be regarded as in itself inculcating the duty of private confession and absolution. It was agreed that our other formularies permitted such confession and absolution in certain circumstances, but the conference were not agreed as to the extent to which they encouraged it. On the

practical question there was a deep divergence of opinion in the conference, some members holding that the practise of confession and absolution ought to be encouraged, as of great value for the spiritual and moral life of men and women, while others were deeply convinced that its general encouragement was most undesirable, that it should be treated as entirely exceptional, and that the highest form of Christian life and faith would dispense with it and discourage it."

Incense and Reservation in the Diocese of London.—The Bishop of London explained his policy in regard to incense and the reservation of the sacrament in an address to his diocesan conference in May. On taking up his work he had addressed a letter to 40 churches the ritual of which had been open to question, and had received ready answers from all, showing how long incense had been used in them (from five to forty years), and affirming that in all of them the laity were in cordial agreement with the clergy. He next wrote to 39 churches the usages of which seemed counter to the Lambeth opinion. He recognized the claim to special consideration, saying that he had hoped to be able to define uniform limits within which, in exceptional cases, these usages might be permitted, but had found it impossible. He said also that he did not propose to take any active measures against the continuance of a modified use of incense and manner of reservation, such as had already been agreed upon in private conversation, but as bishop he would not be present at any service when incense was ceremonially used, nor would he visit any church in which the limits privately agreed upon were transgressed. He thought the true policy was not to disturb existing arrangements. There were now only 6 churches which he could not visit officially because the sacrament was reserved in the open church and there was ceremonial use of incense on Sunday. All the others had conformed to his wishes entirely. A working method had been attained on this difficult question, and he intended to pursue the same policy during the coming year.

The Church Congress.—The Church Congress met at Northampton, Oct. 7. The regular meeting was preceded by a meeting for young women, which was addressed by the Archdeacon of Manchester, the president of the Girls' Friendly Society, and others. The Bishop of Peterborough being still laid up under the effects of an accident, the Bishop of Leicester presided and delivered the opening address. In the discussion of the first subject, Home Reunion, Bishop Boyd Carpenter, of Ripon, considering the three suggested methods of surrender of all the other churches to one confederation, and reorganization as all impracticable, pleaded as the only remaining alternative for cooperation between the churches for their common end. Prof. Collins affirmed that reunion could come only on the basis of the apostolical succession. Canon Hensley Henson, whose sermons on Communion and Cooperation with Nonconformists and addresses on the same subject, had attracted much attention and excited comment, maintained that in order to secure anything like practical reunion the non-episcopal churches must be frankly acknowledged. Earl Nelson defended episcopacy as a historic heirloom to be handed down to the children of the Church as a sacred trust. The Bishops of Perth (Australia) and Victoria (Hong-Kong) and others showed how reunion had been practically secured in the colonies and on the mission field through interdenominational recog-

nition. Other subjects treated in the papers read and the discussions were The Duty of Public Worship, its Ideal, and the Adequacy of the Prayer-Book Services; The Miracles and the Supernatural Character of the Gospels (as to which Prof. Swete spoke upon the Miraculous Conception, the Incarnation, and the Resurrection, and Prof. Sanday sought for a definition of a miracle); The Sermon on the Mount in its Application to Modern Life; The Maintenance of Religion in the Home under the Changed Conditions of Modern Life; The Position and Responsibility of the Clergy and Laity in Relation to Modern Criticism and its Influence on Theology, both as Students and as Teachers; Religious Work among Sailors; The Direction of Individuals in Spiritual Matters (in which the subject of confession was brought up); The Observance of Sunday (at a women's meeting); Grievances arising out of the Exercise of Patronage, the Alteration of the Mode of Conducting Services by the Incumbent, and the Continuance in Office of an Inefficient Incumbent; The Church and Working Men; Prayer, its Obligations, its Conditions, and its Results; The Duty of the Church in regard to Education, in the discussion of which the Bishop of Hereford advocated the establishment of equitable and friendly relations with nonconformists, and insisted as fundamental principles in any scheme that fair dealing as between citizens of different denominations required an efficient school within reach of each child, managed by a committee of which the members were publicly appointed or by the religious denomination to which the parents belong; that the expenditure of public money be under public control; and that small schools be not needlessly multiplied, that being contrary to efficiency and economy; and laid down a scheme conforming to those principles. The Bishop of Coventry defended the attitude of the Church in opposing undenominational management of the schools, and was followed by other speakers to a like effect. Earl Spencer criticized the provisions of the Government's education bill, which did not give genuine public control over the expenditure of public money, and laid emphasis on the strong feeling which prevailed in the country upon the subject. The Causes and Remedies for the Diminution of the Supply of Candidates for Holy Orders from Oxford and Cambridge were the subject of papers by the rector of Exeter College, Canon Hicks of Manchester, the Rev. Canon Foakes-Jackson, and Canon W. Johnstone. The subject of Church reform was considered in papers on (a) the lay franchise, qualifications of electors and elected; (b) Houses of Laymen—their constitution and work; and (c) reformed Convocation and a national synod.

The Irish Synod.—The financial reports made at the meeting of the synod of the Episcopal Church in Ireland showed that a considerable decrease had taken place in the revenue of the Church from voluntary sources. A diminished income was feared from mortgages and land, but the dioceses were now in much better position to meet such reductions. They had already entered into possession of the profits of commutations to the extent of £800,000, with £900,000 more to accrue in a not distant future.

In respect to the question of a Roman Catholic university, the Primate observed that Ireland was not large enough for two really great institutions of this kind; but why might there not be two, or perhaps three, constituent colleges in what might deserve to be called a university of Ireland?

In the synod, the duty of the Church in relation to religious instruction in primary and intermediate schools, and to the general conduct of the state system of primary education, was discussed. The archbishop and bishops were requested to enter into communication with the Board of Trinity College with reference to the position of the Church of Ireland toward the divinity school.

A declaration by the archbishop and bishops was issued to the synod reminding members of the Church of the increasing misuse of the term Catholic to describe those only who acknowledge the supremacy of the Pope. The matter was declared to be "not a mere question of words or names. . . . If we now surrender our title of membership in the Catholic Church we give up an important point in that faith which was once for all delivered to the saints."

The General Synod of Canada.—The General Synod of the Church of England in Canada met in Montreal, Sept. 3. The Primate, Archbishop Machray, being ill, Archbishop Bond, of Montreal presided. Canon Matheson, of Winnipeg, was elected prolocutor of the lower house. The business regarded as of most importance was the passage of a canon organizing the mission work of the Church under a board for the whole Dominion. The Ecclesiastical Synod of the Province of Canada had decided at its session in September, 1901, to merge its Mission Board into that of the General Synod if it would take over the responsibilities of the provincial board. The organization of the General Board was effected, and the Rev. N. L. Tucker, of Vancouver, British Columbia, was appointed its general secretary. A canon was passed by the House of Bishops absolutely barring any divorced person from remarriage during the lifetime of a former partner, but was defeated by the adverse vote of the laity in the lower house, although the clergy of that house were overwhelmingly in favor of it. Triennial meetings of the synod were decided upon, with double the former diocesan representation, making the largest representation of any diocese eight of each order. A resolution was introduced asking for the appointment of a committee to consider the question of a change of the name of the church—the name Church of England in Canada being considered by the movers not sufficiently descriptive. After some discussion, the consideration of the question was postponed. Committees were appointed to prepare drafts of extra prayers and services required by the conditions of the Church in Canada, to be submitted to the next meeting of the synod for adoption as an appendix to the Prayer-Book. No alteration in the body of the Prayer-Book was contemplated. Authority was given permitting the optional use of the Revised Version of the Bible at the services of the Church. A minute was adopted, to be brought before all the synods and convocations of churches in the communion, with a view to the discussion of it in the Pan-Anglican Conference in 1907, contemplating the extension of the diaconate and the making of it a permanent order. In the bishop's pastoral as read to the conference all the members were called upon to increase their interest in missions, in the sanctity of the Lord's Day, in the study of the Bible, in family worship, and in Sunday-schools.

The Synod in Japan.—The seventh General Synod of the "Holy Catholic Church in Japan" (the Nippon Sei Kokwai) was held in Kioto, April 10 to 15. A course of procedure introduced by the English and American bishops for the election of a Japanese bishop was almost

unanimously adopted. Resolutions were passed providing for a board of trustees, to be composed of the 6 bishops now in Japan and 6 Japanese, chosen by the synod, to raise and hold a fund for the endowment of the native episcopacy. The sum of 1,800 yen (about \$900) was pledged within the synod by Japanese lay delegates for this purpose. It was decided that the twentieth anniversary of the organization of the Nippon Sei Kokwai, occurring in 1907, should be commemorated by a special endeavor to raise a large amount for this fund.

The Church in the Far East.—The Lord Chief Justice presided over a meeting called to promote more systematic and extended mission work in the far East, May 6. The meeting had been called by the Associations in Aid of the Church of England Missions in North China, Korea, and South Tokio, Japan. Mrs. Isabella Bishop, who had traveled extensively in the far Eastern countries, spoke, from the results of her own observations, emphasizing the claims of those regions on the Church of England. At present that Church was taking an unworthily small share in the mission work there, except in the districts where the Church Missionary Society was working. The destruction of the old faiths in Japan by the contact with Western civilization, resulting in the growth of a race of agnostics, was a serious matter to face, especially in view of the recently formed alliance between England and Japan. The Archbishop of Canterbury dwelt on the vast responsibility that lay on the English Church, owing to the action of England in reference to China and Japan. A subscription was received toward the formation of a second bishopric in North China.

The "Ethiopian" Church.—A number of native churches which had been organized in South Africa under the auspices of a bishop of the African Methodist Episcopal Church, having become dissatisfied with that connection, withdrew during the year 1900, and applied, as the Ethiopian Church, to be received into communion with the Anglican Church. The Bishop of Grahamstown commissioned the Rev. Alfred Kettle, known as "Father Alfred," of the Community of St. Cuthbert, to visit the different centers of this Church and prepare the members for reception into the Anglican Church and for confirmation. He died in November, 1900, but it then had been shown that the people would be better instructed by persons who had been their own ministers. In May, 1901, 14 of these ministers came to Queens-town to receive instruction under Father Fuller, of the Cowley Brotherhood. Ten of the students were confirmed in November, 1901; 2 had been previously confirmed, and 2 had withdrawn. The 12 confirmed students early in 1902 began the work of preparing their brethren for confirmation, each of them being given a provisional catechist's certificate.

The West Indian Church Mission to West Africa has been maintained by Cadrington College, Barbados, since 1855, and is manned entirely by men of color, partly by natives and partly by men sent out from the West Indies, who have been trained at Cadrington College. At a meeting held in London in its behalf, Bishop Ingram, late of Sierra Leone, gave an account of its work on the Rio Pengo, and of the interest taken in it by the people of the West Indies.

ARCHEOLOGY. United States.—A professorship for the study of American antiquities, with an annuity of 6,000 francs for its maintenance, has been founded in the College of France by the Duke of Loubat.

Evidences are discovered in increasing number of the former existence of a dense population considerably advanced in civilization in Arizona. They are found in the ruins of large buildings and of cities, some of which are estimated to have had 100,000 inhabitants, and in the remains of irrigation works. Traces of large irrigation canals are described as being numerous in certain districts. One 32 miles north of Phoenix, supplied from the Rio Verde, passes for nearly 4 miles through an artificial gorge cut to the depth of 100 feet in the rock; it then divides into 4 branches, 1 of which is more than 40 miles long, and all together would measure 120 miles in length. This system supplied a region of about 1,600 square miles. These and other similar works are said to have been constructed with great engineering skill. The remains of the walls of one of the cities, called Los Muertos, may be traced for many miles; and an immense quantity of burned bone dust is one of the remarkable features of the site. The ruins supposed to be of another large city, on the other side of Salt river, cover an area of 28 miles by 12; and the remains of the structures, of stone and mortar, are frequently marked by the holes in which the timbers were inserted. Marks have been found of volcanic eruptions and of other changes that have occurred since these cities were inhabited and the irrigation canals were constructed, and the period is supposed to have long preceded that of the cliff-dwellers.

Dr. Henry M. Baum, president of the Records of the Past Society, of Washington, D. C., has affirmed that during a two months' tour among the ruins of the cliff-dwellers he hardly averaged 10 miles in any one of the cliff-dwelling districts without coming across some of their habitations, and that he saw enough dwellings to accommodate 2,000,000 people. He expresses himself convinced that the cliff-dwellers and the mesa and valley dwellers were all of a contemporaneous civilization which dates earlier than the heavy lava overflow in the southwest. "The pottery, stone implements, and skulls found in these three classes of ruins are all the same. It is quite evident that the vast civilization of the entire country was extinguished by a flow of lava," of which the evidences are abundant throughout the entire region.

In the exploration of 20 mounds along the shores of Perdido, Pensacola, and Choctawhatchee Bays and Santa Rosa Sound, on the northwest coast of Florida, Mr. Clarence B. Moore observed a new form of burial in which a skull alone or a skull with a few bones is laid beneath an inverted vessel of earthenware. A similar method of interment was practised in Georgia, where the remains were cremated. The decoration of the purely aboriginal earthenware recovered from the mounds and cemeteries is largely symbolical, and its make shows a mixture of styles, including some features of the ware of the middle Mississippi region and of that of Georgia and the Carolinas.

Parts of the skeleton of a man found at Lansing, Kan., in March, 1902, while digging out a tunnel, were the subject of a discussion at the meeting of the American Congress of Americanists in October. The bones, which were 20 feet below the surface, were believed by some anthropologists who had examined them to be of extreme antiquity. On the other hand, a statement had been published that they were the remains of a convict who had been buried near the end of an old mining-shaft. In a paper by Prof. S. W. Williston, of Chicago, this statement

was pronounced absurd, and it was maintained that the bones were marked by incrustations of the hardness betokening antiquity, and that the character of the surrounding deposits pointed in the same direction. The author believed that the discovery was genuine and the bones were those of a Pleistocene man, and argued that they had been covered at one time by an accumulation of at least 35 feet of river loess. In a paper by Dr. Ales Hrdlika, who had examined the skeleton, the bones were described as quite hard and porous, not sufficiently chalky to mark a blackboard, fully preserving their structure, and showing no traces of fossilization. Considered anthropologically, all the parts of the skeleton, and the skull in particular, approached closely in every character of importance the average skeleton of the present Middle States Indian.

Mexico.—Early in the year a most important and interesting discovery was made in the heart of the Mexican capital. It consisted of the unearthing of the remains of an Aztec temple and many idols, only two squares from the great central plaza, or what is called the Zocolo. The temple proved to be the Aztec house of many gods, located several years ago on a map projected by the Mexican archeologist Señor Batres, representing the ancient city of Tenochtitlan, or Mexico, as it existed when first seen by the Spaniards in 1519. This map shows the city as an island intersected with canals running nearly at right angles, corresponding to the present streets of the city. After great research Señor Batres succeeded in locating to his own satisfaction the public buildings, palaces, and temples of the Montezumas on this map, in each case giving his authority for so doing. The great temple, or *teocalli*, on the top of the pyramid of which the Mexicans sacrificed their thousands of victims to the war-god, is shown nearly in the center of the island city representing Tenochtitlan, the site of which at the present day is occupied by the great cathedral and plaza. Back of the great temple Batres located a much smaller one, which he said was called Coateocalli, meaning in the language of the Aztecs "the house of many gods." He gave as his authority for the existence of this temple Father Duran, who wrote that the palace of the Acevedos was built upon its site. No known record was left of the existence of this palace; but Batres found, by searching the municipal archives, a reference to an ordinance regarding the supply of water, under date of Oct. 27, 1710, in which reference was made to the property owned by the Acevedos family on the corner of Relox and Cordobanes Streets, and consequently he there located his temple of the many gods. As the corner was occupied by a fine old building, it was not supposed that any trace of the old temple could be found, even if Batres were correct in his location of it.

Last winter the work of renovating, or practically rebuilding, the edifice occupying the corner was undertaken for the purpose of furnishing suitable quarters for the offices of the Department of Justice. Capt. Diaz, son of President Diaz, had charge of the work, and it is due chiefly to him that the discoveries were made. While his workmen were leveling the *patio*, or central courtyard of the edifice, preparatory to putting down a new pavement, they came in contact with some solid stone work, which proved to be a flight of stone steps leading down below the surface. Diaz, appearing just in time, ordered the men to open a trench parallel with the steps, cautioning them to use their tools carefully. The trench was opened the entire

length of the *patio*, and at the farther end, scarcely 2 feet below what had been the surface of the *patio*, the men came upon what appeared to be a round, smooth rock, which might have been taken for an ordinary boulder. This rock proved to be a sculptured monolith weighing several tons, representing a tiger recumbent, or an ocelot ready to spring. Further excavating brought to light another great rock sculptured to represent a serpent's head, which corresponds with two others previously discovered, and which it is said formed the corner pieces of the wall that surrounded the great *teocalli*, within which dwelt 7,000 Aztec priests.

After these two huge monoliths were removed from the trench, the excavating was continued till the base of the steps was reached, 13 feet below the level of the present city, where they rested on a solid foundation which, being the base of the temple, is without question the level of the former city. This proves that the present city of Mexico is 13 feet above the city of the Aztecs that was destroyed by the Spaniards.

Near the foot of the temple many small objects were found, such as idols, remains of idols, incense gum, spear-heads, and ornaments, as if they had been thrown down from the temple and left there by the Spanish iconoclasts. These were all carefully cleaned and preserved for the study of Señor Batres, after which they will be

THE OCELOT, OR TIGER.

placed in the National Museum of Mexico. The stumps of two trees that evidently had grown from crevices in the stones near the foot of the temple show that the temple must have been allowed to remain in ruins after its destruction several years, otherwise the trees would not have grown there. Then came the final covering up of the temple with the trees, and the building of the edifice above at its present level.

The weight of the tiger that was found is 4 tons, and it measures 2 meters 30 centimeters long, 1 meter 5 centimeters wide, and 84 centimeters in height. Its mouth is open, showing huge teeth and a part of its tongue. Its great round eyes add to its ferocious look. It is well modeled, with its tail properly coiled round it on one side, as the animal is often seen in nature. On each side of the head and neck is a mane resembling somewhat the pendant part of the head-dress on the Egyptian Sphinx. On its under side are vestiges of paint, showing that the animal was originally painted with red and yellow in spots, to carry out the imitation of the American tiger more perfectly. Cut in its back is a cylindrical cavity about 18 inches in diameter and 5 inches deep. The sides and bottom of this cavity are sculptured with representations of Aztec figures or warriors.

The serpent's head represents the reptile with its mouth open and its upper lip rolled up over

its forehead, disclosing the upper jaw with great buaks projecting down over the under lip. It is said that there were four of these heads, one in each corner of the great wall around the *teocalli*, and the design corresponds to similar heads graven on the Aztec calendar stone. On the under surface of the heads Señor Batres thinks he has deciphered a hieroglyph which he calls *tres acatl*, the date of the foundation of the great *teocalli*.

Among the other relics unearthed was a curious little idol cut out of a piece of volcanic rock, about 10 inches in height. The workmanship is rather crude, but decidedly interesting, representing a head with scarcely any body, intended evidently to be in a sitting posture with folded arms across the chest. The incense gum which was found resembled pieces of bone, but upon being carefully cleaned of the earth in which it had been buried all these centuries, it burned upon the application of a lighted match and gave off the proper perfume.

IDOL.

Several large stones are sculptured to represent skulls or death's-heads. They were fashioned with long wedge-shaped projections at the back, evidently for the purpose of holding them in place in some wall or edifice, the decorative part of which they formed. The work was rather rudely done, and a coat of white paint, still preserved on some of them, added to their horrible aspect. An extremely interesting relic was part of a foot of a colossal statue in baked clay. The piece showed the toes perfectly modeled, with the edge of the sandal beneath and the knots of the thongs holding it over the instep of the foot, as worn at the present day by the Mexican Indians. Other smaller pieces of this statue were found, such as a piece of the knee showing a bit of the ornamented dress; and in handling them one could easily imagine the great war-chief in full regalia as he

of Mexico because the Spaniards did not rebuild upon the foundations of the city they destroyed with the material at hand after the destruction, as would be supposed, but brought material from elsewhere and built upon the ruins. Cortez compared the city, as he first saw it with its canals and little islands, with Venice. When he retook the city after he had been driven out the destruction took place. It may be that the Spaniards had no intention of rebuilding the city after the heroic defense made by the Aztecs, in which they left their countless dead and dying strewn about to breed pestilence in the air. The great temples and massive palaces were destroyed by the victors, after which Cortez withdrew to Coyocan on the mainland. Later he built his palace at Cuernavaca, which still exists, and while his lieutenants were subjugating the surrounding districts he devoted much time to tilling portions of the land granted him, where it is said he planted the first sugar-cane brought to the American continent.

The evidence is to the effect that the ruined city of Tenochtitlan was abandoned to the survivors of its terrible conquest, who stalked about mid the ruins, asking out an existence the best way they could for many years before the reconstruction was begun. This is shown by the stumps of the two trees unearthed at the base of the temple. The Franciscans built a little mission church where the cathedral is to-day, and it is known that the cathedral was not begun on this site till a century later.

In the year Prof. Marshall H. Saville, of the American Museum of Natural History, completed the four years of explorations in Southern Mexico planned by the museum, the funds for which were supplied by the Duke of Loubat. The first two seasons of these years were spent in explorations among the famous ruins of Mitla, where Mr. Saville made important discoveries and surveys. The last two seasons' work were devoted to explorations in the State of Oaxaca. Early in the year Prof. Saville went to Mexico City, where he fitted out this last expedition, assisted by the Government archeologist, Señor Batres, an arrangement having been made with the Mexican Government by which Prof. Saville is allowed to retain a certain number of his finds. The expedition fixed its headquarters at Oaxaca, which is near the extensive remains of Xoxocotlan and Cuilapam, centers of culture of the ancient Zapotecs, a powerful Indian tribe who had developed a high state of civilization, but differing in many important respects from that of the Aztecs of the valley of Mexico, and the Mayas of Yucatan. Three months were spent in making the excavations and studies, during which huge burial mounds were opened, disclosing the tombs of the ancient inhabitants. The tombs were found in a good state of preservation, some with sculptured lintels and doors closed with huge stone slabs, and long drains for the purpose of drawing off water that might accumulate in them. Within were found noteworthy objects of great archeological value, which afford a vivid glimpse of the culture of the ancient and little known people.

Not far from the places where Prof. Saville carried on his explorations is a range of hills on which, at an elevation of about 7,000 feet above the sea, are the remains of a great fortified city whose builders are lost to history, to which the name of Monte Alban has been given. It is thought that this may have been the capital of the old Zapotecan Empire. The entire section of the country about is thickly dotted with

STONE HEADS FROM EXCAVATION IN MEXICO.

guarded the portals of the temple when set upon by the Spaniards and hurled down the steps to the bottom to lie there crushed and broken with the rest of the ruin.

The old city of Tenochtitlan was at such a distance (13 feet) below the level of the present city

mounds indicating that at one time the country was densely populated by an industrious people. The mounds vary in height from 6 to 75 feet, some of them being in the form of a pyramid, while others are rectangular, and a few circular. Many have been plowed over, and thus their original outlines are destroyed. Statues appear buried in many places, and the plows too have wrought havoc and destruction among many of them.

A peculiar feature of the tombs were the cemented floors, in some instances these being one above the other, and indications of a structure on top of the whole. In some of them a flight of stone steps led upward to the platform or floor above. The tombs were of stone neatly dressed, covered with stucco, which had been painted red. The lintels over the entrances consisted of a stone slab, the outer part also painted red. Above the lintel were stucco decorations, sculptures, and hieroglyphics, and sometimes funeral urns of terra-cotta were found. One of which Prof. Saville found in front of a tomb in a large mound in the excavations of the ruins at Cuilapam, and was allowed to bring away. It was in pieces, which have been carefully put together, and it is now in the Museum of Natural History, New York. In one of the explorations made by carrying a trench through the entire mound a tomb was found with the characteristic cemented floors and adobe construction of the other mounds, with a door sealed with large stone slabs. The façade of the front wall was in the form of a frame in which were five terra-cotta funeral urns. One in the center had a death's-head on each side of it, made of stucco. The inside of the tomb was covered with food vessels, incense burners, and the remains of skeletons. Niches in each side of the walls also contained human remains. All the bones and skulls were painted red. There were several detached heads on the floor, which had been cut off. The walls of the chamber had been covered with plaster, but in the lapse of the time since they were built, probably on account of earthquakes, too, the greater part had fallen off. The plaster had been decorated with paintings in various colors, which had not altogether lost their brightness, although only traces remained. Over these bright-colored decorations a thin coat of stucco had been laid, upon which in black outlines was painted a series of human figures in the costume of the ancient people. One of the most important features in this and many of the other tombs was the hieroglyphic inscriptions found on the stone door lintel and wall chambers in form of writing entirely different from any heretofore found in Mexico, and the first ever found in Zapotecan territory.

At Cuilapam, 7 miles southwest of Oaxaca, 7 large chambers and a like number of small stone graves were uncovered. The excavations of the mounds were especially striking on account of the jadeite ornaments and other votive offerings found. They embraced beautifully carved breast ornaments, necklaces, beads, earrings, miniature idols, and various symbolic figures. Also fragments of mosaic work were found, the most interesting of which are two small circular mirrors made of bits of highly polished hematite cemented to thin disks of pottery. A significant point brought out by these discoveries is the fact that they fully confirm the writings of the old Spanish historians who have described the strange and elaborate burial customs of the Zapotecs, and also that the great underground tombs were used as ossuaries, or places reserved

only for the deposit of the bones of the dead, and not for burial. After a certain lapse of time when the flesh had decayed, the bones and heads were painted red, and with elaborate ceremony they were placed in the tombs with food and incense. One problem is definitely settled as to the character of the mounds; the rectangular ones were found to be burial-places and contained the most important tombs, but the pyramidal ones were temple structures.

While Prof. Saville was carrying on his excavations and explorations among the ruins of Xoxocotlan and Cuilapam, Señor Batres went to the ruins on Monte Alban. These have been known to exist many years and have been visited by American and foreign scientists, but Señor Batres through his government position was able to make many new and most important discoveries. Monte Alban rises to a height of about 1,200 feet above the valley of Oaxaca where the other remains are found. Its sides and top have been cultivated by the natives for years. A great central courtyard embracing many acres between quadrangular mounds, which, besides containing temples, may have served for defense, is used as

FUNERAL URN FROM MONTE ALBAN RUINS, MEXICO.

a corn-field. The mounds were arranged in a systematic order around this great court, and Señor Batres spent much time superintending the work of clearing the mounds of the brush and trees that covered them, employing many Indians from the surrounding towns. At the base of a great mound where excavations had been previously made by other explorers, including Prof. Saville, he rescued sculptured images the existence of which was known at three of the corners, and by their location discovered one at the fourth corner at the base. An important discovery was made in one of four pyramidal mounds, the remains of which stand in a row down the middle of the great courtyard, which is now turned into an Indian corn-field. The first object encountered was a sculptured, rectangular column of porphyry, 4 meters in height, 60 centimeters across the face, and 40 centimeters across the sides. On the face of this monolith

is an elaborate figure with a death's-head, evidently the portrait in bas-relief of a dead monarch. On one side are figures supposed to be two priests, with several rows of hieroglyphs, and on the other side a single priest with more hieroglyphs. The back is covered with hieroglyphs. But the greatest discovery was the finding of a pot of jade objects in the mound. The jade resembles Burmese jade, and has never yet been found on this continent, while the jar containing the jade is of evident Maya origin. Pieces of similar jade have been found in other parts of Mexico, and they have been regarded by many as evidence of the former communication of the aboriginal races of Mexico with the Chinese, but scientists still believe that jade may yet be found in its native state somewhere in Mexico. The specimens found at Monte Alban are beautiful in color, elaborately carved, and highly polished. One piece is about as large as the palm of the hand, of a rich deep blue, graven to represent a human face, said to resemble that of a Chinaman.

During the work of clearing and in some minor excavating, many great slabs of stone with carvings in bas-relief were found. Some represented men, some animals, and some were covered with hieroglyphs. The slabs usually covered the tombs, and one represents the figure of a monarch or prince, apparently wearing a royal head-dress, sitting on some high place with the sign of speech extending from the mouth, with a row of hieroglyphs following. The stone is 3 meters in height and 2 meters in width.

It is the opinion of Señor Batres that the ruined city was the sacred city of the people who built it. The area cleared is 3 kilometers in length by half a kilometer in width, and mounds of less importance cover the surrounding mountains, but these have not yet been touched. Those so far uncovered appear to be the bases of the great structures that surmounted them, and the remains of these structures or temples have been found on some of them. Excavations and explorations of these remarkable ruins are to be continued during the season of 1903.

South America.—The remains of the Calchaqui, a South American Indian race with characteristics much like those of the Northern Pueblo Indians, who were exterminated by the Spanish in the seventeenth century, have been the object of exploration by Dr. Juan B. Ambrosetti. Their monuments are found over a territory in the Argentine Republic stretching 900 miles from north to south, and about 200 miles from east to west. Their houses, constructed like those the remains of which are found in Colorado and Arizona, were built both in the valleys and on the mountains to a great height. Several of their villages have been explored by Dr. Ambrosetti, who has recovered from them a large number of articles of various kinds in stone, copper, bronze, turquoise, gold, and silver.

England.—The excavations at Silchester on the site of a large Romano-British city which has been identified with the *Calliva* or *Calleva Atrebatum* of the Antonine itineraries have been carried on continuously, by the aid of the Silchester Excavation Fund, since 1890. The area of 100 acres, enclosed by the remains of the Roman wall, nearly 2 miles in circumference, has been explored steadily and systematically till only a fractional part remains, and the foundations of the houses and public buildings have been traced more and more fully and with more precision from year to year. The new information gained each year has been most largely in

extension and addition to that already obtained, and the work has been little marked by sensational novelties of discovery. An area of 6 acres in the northern half of the town was examined in 1901. One of the houses had been enlarged after it was built to nearly double its former size, and presented two features that were specially remarked upon. One was the foundation of an almost perfectly circular room, and the other was the evidence that the house was half-timbered. Wattle work and plaster had been combined, and large pieces showed the ruts in the plaster formerly traversed by the osiers or small branches which held its substance together. The work resembled that which has been found in neighboring houses, and has perhaps been traditionally followed from the days of the city's prosperity to the present. This half timber-work—familiar in such medieval cities as Brunswick and Hildesheim—seems to have been widely prevalent; and remains have been found of Germano-Roman work—clay filling in a half-timber construction—on the Danube which presents a likeness to what has been found at Silchester. In a long room in one of the houses were a number of large jars fitting into holes in the flooring. In this room were also masses of bones of fowls, pheasants, and other birds. It is not easy to conjecture the height of these houses. The walls were about 18 inches thick and mostly of flint and rubble, and being of such material can not have been very lofty.

The recent architectural discoveries at Stonehenge were described in a paper on that subject read to the members of the Royal Institute, Jan. 20, by Mr. Detmar Blow, who with Dr. Gowland superintended the excavations which were made in October, 1901, for Sir E. Antrabus, owner of the estate. The author pointed out that the great monolith called the leaning stone was the largest in England, Cleopatra's Needle excepted. It was one of the pillars of the highest trilithon, and stood behind the altar-stone, near which it leaned at an angle of 65 degrees. Half-way up it had a fracture one-half across it, and the weight of stone above that fracture was a dangerous strain upon it. It had now been brought to a vertical position. One Roman coin and one George III penny were found quite near the surface. Numerous chippings of the sarsen and bluestone of which Stonehenge was built were discovered. The flints found were used for the softer sarsen and bluestones, and the hand-hammers and mauls for rough dressing. From this the deduction had been made that the building belonged to the Paleolithic period. All authorities agreed that it was the work of a highly civilized people. The construction was one of a stone development, and the surface of the stone was finished much like that of granite. The design of the pillars was, in Mr. Blow's opinion, evolved from the shapes of the flint instruments used by the workman, to which his hand had grown accustomed. Each pillar had a bold entasis in its elevation, and in its plan foreshadowed the column. With the aid of illustrations the author described the method by which the leaning stone had been raised in the work of restoration and the sifting process by which the implements, etc., had been recovered. Stonehenge had generally been supposed to be of the bronze age till these implements were discovered, and this was believed to be the only occasion on which the implements were found actually next to the stone building where they were used. In the discussion of the paper, Sir Norman Lockyer remarked that the conclusion was justified from

the evidence obtained that the sarsen stones were erected in the Paleolithic times—that was to say, before the age of bronze or, at all events, before bronze had been used for any ordinary kind of work in that part of England. Before the excavations were begun Mr. F. C. Penrose and he had been occupying themselves with Stonehenge from a slightly different point of view. They had been very anxious to determine its age, and it had been found much easier to get certain astronomical data from Stonehenge, owing to its position, than from other ancient monuments. A number of astronomical data presented by the speaker supported the conclusion that Stonehenge was a solar temple and was used for observation in the height of summer. From their observations he and Mr. Penrose came to the conclusion that the avenue which was associated with the sarsen stones was laid down about the year 1680 B.C. Such temples as Stonehenge were erected in the very first blush of civilization, in order that the people should be able to fix the time for performing agricultural operations.

It seemed certain that we had in Stonehenge a temple for determining the length of the year by observing the rising of the sun on its longest day; while in other parts of England there were temples for observing the sun not on June 21, but early in May and early in August.

In the course of excavations for a new road in Enfield, England, a layer of dark soil from 2 to 6 feet in breadth was come upon, in which many fragments of pottery and jewelry were embedded. Several coins were also found of the periods of Trajan, Claudius, Alectus, and Constantine. About a half-

A STATUETTE, ACTUAL SIZE.

mile from this spot a statuette was found lying upon the ground. The dark color of the stratum in which the principal relics were found is supposed to have been due to burning.

Three papers relating to underground structures, chambers, and dwellings were read at the Belfast meeting of the British Association. Some "souterrains" existing in the northeast corner of Ireland were described by Mr. William J. Fennell as being very numerous, and were regarded as showing the primeval architecture of the country. A souterrain might be defined as a subterranean place of refuge, and, in that sense only, a dwelling. The entrance was either naturally difficult of approach or cunningly hid, and the interior was generally long, low, narrow, and winding, and beset with frequent barriers locally known as "difficulties," through which only one person could pass at a time, and then only by creeping. Nothing was found in them to indicate that they had been used for burial. They were not burrows, but vaulted chambers connected by passages, well defended, and built of dry masonry walls and roofs, and afterward covered up by earth, and eventually hidden by vegetation. The exterior covering was always very thin. The construction was invariably of rough unhewn stones from the neighborhood, and the roof was

formed by the overhanging of one stone on another. The barriers were formed of walls, rising from the foot almost to the roof, then a space of 12 or more inches to the next wall, which descended from the ceiling to within 15 inches of the floor. They led in some cases to a long, low tunnel 16 or 18 inches high, with a similar barrier at the other end. No two souterrains were alike in plan; some were straight, or almost so, with chambers branching off. Some were extremely short, while others were considerably more than 100 feet long. One example was mentioned of a two-story building, entered from the field level to the upper floor, and from that to the lower one.

Three subterranean chambers cut in a bed of Thanet sand were described by Mr. George Clinch as having been discovered during the excavations for a sewer at Waddon, near Croydon. They were partly filled with fallen sand, but in each chamber a compact floor was found about 15 feet below the surface. The chambers were of beehive shape, about 7 feet high and 12 feet or less in diameter. Each had its independent entrance opening on the south-southeast side, but no other mode of access. Flint chips and fragments of pottery and of Romano-British pottery were found in them. They were distinguished by various characteristics from other British subterranean structures, and on the Continent of Europe the most similar chambers were those at Palmella, Portugal, which Cartailhac had ascribed to sepulchral purposes in the latter part of the polished-stone age. Similar chambers had been noticed in Brittany and elsewhere, and the subterranean beehive trunks at Mycenae were identical in plan, though different in dimensions and material. Southeast and east of Waddon were many hut circles which had been attributed to the Neolithic age. They had marks of entrance on the east and southeast side, and exhibited general resemblance in dimensions and plan with the Waddon chambers. The Waddon discovery was therefore of some importance as evidence for the size, shape, and plan of prehistoric dwellings, the vaulted roofs cut in hard sand reproducing in general form the interlaced boughs, benders, and wickerwork of the ordinary surface hut, and the lateral passage the doorway of the Neolithic dwelling. The same idea of interment within a house survived during the bronze age.

In the third paper certain primitive underground habitations were described by Mr. David MacRitchie as typical of a class of structures apparently existing at one time throughout the British Isles, though the greater part of the specimens now remaining were found in Ireland and Scotland. The occurrence in two of these dwellings of a number of dressed stones with Roman ornamentation which had been used in their construction indicated that they must have been built after the arrival of the Romans in Britain. Their use as places of human abode was obvious, because they contained domestic utensils, such as hand-mills and personal ornaments, as well as the broken bones of animals used by man as food. In a few instances they had a fireplace, but this was exceptional, as they were so well protected from the cold that an oil-lamp would suffice to keep them comfortable. From their characteristics, therefore, they quite justified the name of "earth-house," which was given to them in the Norse sagas and also in living popular speech. They varied considerably in appearance, but most of them had their roofs about a foot or two below the surface of the

ground; entrance was gained from above by one or more downward-slanting passages. They were built of rough, undressed, unmortared stone, the walls gradually converging until they met in a "cyclopean" or "false" arch, completed by a large flagstone laid across. In some cases their very dimensions suggested the traditional belief that they were built for a dwarfish race; but Prof. Boyd Dawkins, in the discussion, answered that their size had no direct relation to the size of the people, as it was necessary that they should be restricted in size to place difficulty in the way of the enemy.

During the demolition of the old Bluecoat School, in Newgate Street, London (the Christ's Hospital of Lamb's essay), pieces of the Roman wall, the existence of which was well known, were laid bare. The wall ran along the west end of the Gray Friars' Cloister, and was about 10 feet high. The masonry, which consisted of six courses, was in excellent preservation. Close by formerly stood an archway, known as the New Gate, which spanned a narrow lane where a broad and level thoroughfare now runs. The New Gate was the fifth of the great gates of London, and was so called, as Stow records, from its having been "latlier built than the rest."

France.—While etchings executed with much spirit upon bone and ivory by the West European cave-dwellers of the later Paleolithic age have been well known for many years, the first discovery of engravings and pictographs on the sides of caverns was announced by M. E. Rivière in 1895. An account of another discovery of similar engravings was published in the *Comptes Rendus* of the French Academy of Sciences for Dec. 9, 1901, by MM. Capitan and Breuil. It embraced 109 figures of the Magdalenian epoch engraved on the vertical walls of the cave of Combarelles near Eyzies in the Dordogne for 100 meters on each side of the passage. They begin about 15 or 20 centimeters from the ground, and reach to an average height of 1.50 meter, often extending to the roof, which is from 1 to 2 meters in height. The figures are for the most part deeply engraved in the rocks, but in some of the designs are merely scratched; and they are often covered by layers of stalagmite, which is sometimes thick enough to obliterate them. In some cases the cuttings have been reinforced, and occasionally replaced, by black pigment. In some instances the surface of the rock has been scraped away around the contour of the figure, particularly of the head, so as to throw it into slight relief. The style of the engravings agrees completely with that of the etchings on bone and antler of the Magdalenian stations, and is such as to make it seem certain that they were drawn by men familiar with the living animals. The animals pictured are represented separately, intermingled, or in groups. Among them are horses of two distinct types. One type is marked by a massive head with a convex nose, a mane short and stiff or long and flowing, and a tail similar to that of ordinary horses. Evidences that some of these horses were domesticated appears in the representation of halters upon them or of cords round the muzzle, and a covering of some sort seems to have been thrown over the backs of two of them. Horses of the other type are of more elegant shape, with small heads, slender legs, short and erect manes, and tails starting low down and bare except for a terminal tuft of long hair. Representations of the ox-tribe are less frequent. Three of the figures appear to be bison, one is like domestic cattle, and a third kind suggests

certain African antelopes. The difference between the reindeer, of which there are two figures, and the wild deer of Europe, of which there are three, is clearly marked. The mammoth is represented by 14 drawings. Some are entirely covered with hair; others have less hair, it being shown on the under side of the body, on the head, and occasionally around the mouth. The tusks are always strongly secured, and the feet are very distinctly drawn. The details of the form of the ears are indicated in two of the figures. The only approach to the representation of a human face is a kind of irregular circle within which two eyes are indicated and marks are made for the nose and mouth. Among the simple signs described by the authors as occurring with the engravings are three roof-like designs somewhat complicated, a double contoured lozenge in the body of a horse, some marks resembling the letter M, semicircles, etc., and a group of small cups. Comparisons are made between some of these designs and those found in the Mas d'Azil cave. The author's paper is only a preliminary one.

Sketches and paintings upon the walls of prehistoric caves in the Dordogne have been the subject of several communications to the French Academy of Sciences. Messrs. Capitan and Breuil gave accounts, June 23, of the paintings on the wall of the cave of Font de Gaume. The pictures comprised 80 figures painted in red ochre and manganese black, 49 of which are bison. They are all engraved and painted; and in the case of some of them the surface of the rock has also been scraped. Many of the designs were found covered with a thick layer of stalagmite. The original of the figure of a running bison reproduced in connection with an article on the subject by Mr. A. C. Haddon (*Nature*, Sept. 4, 1902) is 1 meter (or 39½ inches) long and 60 centimeters (or 25½ inches) high. It is entirely painted in a brown color with a red tint on the forehead. These are the first frescoes recorded in France, the engraved designs published by M. Émile Rivière in 1895 from the cave of La Mouthe being rarely colored, and then only partly so. An analysis of the coloring matters employed by the paleolithic painters, made by M. Henri Moissan, shows that they are ochres composed of oxides of iron and manganese in varied proportions. In a paper presented to the Academy July 28, M. Émile Rivière marked the distinction between the true frescoes described by MM. Capitan and Breuil, and the pictures he had discovered in the cave of La Mouthe in the Dordogne. The sketches at La Mouthe are nearly all engravings of greater or less depth, or shallow markings made by scraping and scratching the rock. Traces of paint were found on two of the figures. One of them represents a ruminant, in which the contour of the hind limbs is colored a blackish red brown, especially at the level of the joints and hoofs, and the left flank is marked with ten spots of the same color, in a line from the shoulder to the upper part of the thigh. The other design is a kind of hut, the form of which is designated by a scraping of the rock rather than by an engraved contour line. The color has been laid on upon a part of the scratches in bands nearly parallel and alternately clear and dark, and is much less deep than in the figure of the ruminant. This is said by Mr. Haddon to be the only known drawing of a habitation of primitive man. Without saying whether he regards these drawings as of the same age with the paintings of the Font de Gaume, M. Rivière believes that they are certainly Paleo-

lithic, Magdalenian, and of the Quaternary geological period. The prehistoric artist who figured them, say M. Rivière and Mr. Haddon, was the contemporary of the reindeer and of the mammoth whose portraits he depicted.

Among the latest and most recent finds of remains of prehistoric man are two skeletons—those of a young man and an older woman—unearthed in the excavations carried on by the Prince of Monaco in the Cave of Grimaldi, near Mentone. They are believed by Dr. Verneau, of Paris, to be paleolithic. The skeletons lay side by side, the woman's body being doubled up, while the young man's head was concealed in a mass of ashes. The skulls are of the dolichocephalic or long-headed type.

Scandinavia. A runic inscription copied from off a stone which was found in 1817 near Ringerike, Norway, has been deciphered by Prof. Sophus Bugge, and found to relate to America. The stone was lost a few years after it was found, as also was a drawing made of it; but a copy of the drawing from which Prof. Bugge has made his version was preserved in the mu-

seums, when found, would prove to have been cremated, according to the custom of the ancient Aryans. A resemblance of the reticulated vases

MASES RECENTLY DISCOVERED IN THE QUIRINAL, ROME.

of the tomb to netted gourds, and the likeness of the funeral urn to a conical hut roof are taken as evidences of date from a primitive period. The tomb is the most ancient of a series of links in the chain of Roman history as illustrated by an almost continuous series discovered by Prof. Boni within the precincts of the Forum down to the eighth century A. D.—constituted of the cippus under the Black Stone, the Rostra, the ritual pits, the massive republican drains far surpassing the Cloaca Maxima, the underground gallery for scene-shifting, the Lacus and the Fons Juturna, the Sacred Way (Via Sacra), the Heroon of Cæsar, the Regia, the house of the Vestals, the Basilica Æmilia, the Church of Santa Maria Antiqua, and others relics of less importance, but fitting well into the succession.

While excavating a tunnel under the Quirinal to afford a passage between two quarters of the city, a large chamber lined with sculptured marble, of the period of the decline, was discovered. Among the carvings were panels illustrating the cult of Bacchus. In one of these panels are the heads of a faun and a bacchante, and of a bearded man of the type of Dionysos, with a basket of fruit beneath the figures. In another is a similar group, with a burning altar shaped like a wheat-sheaf in the place of the basket. A thyrsus, the Bacchic symbol (a rod of fennel topped with a pine-cone and bound with a fillet), forms an accessory. Below the female head is a lyre. A third group is a variation, on the same theme; and a fourth, a more vigorous composi-

A YOUNG MAN'S SKULL (PREHISTORIC), DISCOVERED AT MENTONE.

seum at Bergen. Apparently only a part of the inscription has been recovered, of which Prof. Bugge's version, translated, reads: "They came out (from the ocean) and across great stretches, and needing clothes to dry themselves and food, away toward Vinland and on the ice in the uninhabited region. Evil can take away joy, so that one dies early." The inscription is interpreted as the epitaph for a young Norwegian from Ringerike, who had been wrecked with his companions, and after wandering over the ice had finally died near the coast of Vinland. The character of the ruins indicates that the epitaph was cut between 1010 and 1050—that is, within half a century of the discovery of the Western Continent by the Northmen. It is therefore the earliest document known to us containing a reference to America.

Rome.—On April 2, Signor Boni, director of excavations in the Forum, discovered a prehistoric tomb, believed to date approximately from the eighth century B. C., containing an urn, or dolium, of black ware full of calcined bones; several reticulated egg-shaped vases, a bowl, and a cup with horned handles like those found in the *terremana* of the bronze age. The tomb was situated in the bed-clay, about 12 feet below the level of the Sacred Way opposite the Regia, and close by the Temple of Antoninus and Faustina. The discovery is believed by Signor Boni to illustrate his theory that the founders of Rome were buried under a part of the Forum, and that their

A MARBLE BAS-RELIEF, RECENTLY DISCOVERED IN POMPEII.

tion, shows a bacchante and a Silenus, with a set of Pan's pipes as a decorative accessory.

Among the later discoveries of objects of art at Pompeii are a bronze support for a revolving

table, which, notwithstanding the gracefulness of its design, exhibits in its violation of natural characteristics unmistakable marks of decadence, and a bas-relief which seems to represent a rustic offering to Alma Venus, the nourisher.

Greece.—According to the twentieth Annual Report of the American School of Classical Studies at Athens, the results of the explorations of 1901 in the Grotto of Pan, Apollo, and the Nymphs, at Vari, in Southern Attica, greatly surprised scholars with finds a few inches under the soil, where it was supposed careful examinations had been made. The finds include 7 reliefs, in 50 fragments, of which 6 were of the typical order of Pan, Hermes, and the Nymphs, with the Achelous head in one corner; 3 dozen terra-cotta figurines, mostly broken, including archaic busts, piping Pans, masks, a turtle, and a frog; about 140 coins, of which those that have been cleaned are of Roman or Christian times; inscriptions on stones and vases; hundreds of lamps, Greek, Roman, and Christian; many vases, mostly "red figured," and many prothesis amphoræ and small lecythi and aryballi. The Argive excavations, on which \$13,000 in all have been expended, have been put in charge of a Greek guard.

The operations of the American School of Classical Studies in Corinth were pursued from the beginning of March to June 14, this being, according to the account of Director Rufus B. Richardson, the longest season of work yet carried on. The work of the previous year, while it had revealed nothing of great importance, had brought to light a considerable number of Latin and Greek inscriptions of the Roman city, two statue bases inscribed with the name of Lysippus, and a number of proto-Corinthian bases, mostly in fragments, and a line of vaulted chambers on the south side of the temple hill, with remains of a stylobate of a porch thrown out in front of them. The temple foundations were cleared of all the earth covering them; and in the last three days of work the stumps of two Doric columns, resting on a stylobate, were found. These were made the point of beginning for the work of 1902. They proved to belong to the front line of a Greek portico, or stoa, running east and west behind some vaulted rooms which had been excavated in 1901. It was older than the chambers, having belonged to the Greek city, while they belonged to the Roman city. The portico was more than 100 meters long, and wide enough to give room for an interior line of Ionic columns. At its back the rock of the temple hill was cut away to make room for it. Mr. Richardson thinks that it may have been already destroyed when the Roman vaulted chambers were built in front of it, for the interval between the front of the stoa and the back line of the chambers was very narrow. Stumps of the Doric columns remain, with one occasionally lacking, all along the line, and enough of their capitals and entablature to allow of a restoration of the whole on paper. Of the Ionic columns the chief remains were the bases and capitals. A trench was made back of the portico as far as it was cleared, following the slope of the bed-rock up to the temple. The chambers were also cleared, and found to be 18 in number; and another Greek stoa, larger than the former one, was found, but much more broken up. Much higher up the hill, back of the Greek stoa, was the stylobate of a late Roman or Byzantine stoa. "Porch above porch," says Mr. Richardson in his account of the excavations published in the *New York Evening Post*, "must have given this side of the temple

hill a fine aspect from Pirene and the Lechæum road. The whole area between this upper stoa and the back of the vaulted chambers was filled up to make a broad area for circulation of the populace." Among the single finds in this part of the exploration were old Corinthian and proto-Corinthian pottery in abundance, with whole vases in proto-Corinthian style; terra-cotta figurines, some of them extremely archaic, though finely wrought; additional parts of colossal figures that had been found two years before; a fine head of an Amazon from a high relief in Pentelic marble; a woman's gold ring with a stone containing a legend in raised letters; an archaic gem with a horse engraved upon it; several ancient Greek inscriptions, one of them at least as old as the sixth century B. C., and in the local Greek alphabet; 200 terra-cotta lamps with representations and inscriptions on them, of dates ranging from the sixth century B. C. to the fifth century A. D., and numerous other articles. In the explorations of the ancient city, following indications furnished by Pausanias, the excavators found the theater in the first year (1896), Pirene in the second, the agora and the fountain of Glauke, and identified the temple of Apollo in the third year; and they were now having to do with structures which he knew nothing of, but which "were already underground at the time of his visit." A trench made during the past season in the theater opened up a confusing number of walls, which are believed to have belonged to two stage buildings, the Greek and the Roman. A great number of marble fragments, mostly architectural, were found in the trench, pieces seeming to belong to a large medallion containing a head of Medusa in high relief, and a marble head of a youth, "which is not only the best head found at Corinth, but is a real prize, and would be an ornament to any museum."

Part I of *Investigations at Assos* by the Archaeological Institute of America, published by a committee of the institute and edited by Francis H. Bacon, contains the introduction maps, history of Assos, account of the expedition plans, photographs, and drawings of the agora, stoa, and Boulenterion, with inscriptions and bases from the agora. The second and third parts are to appear together, and the fourth and fifth parts will complete the work.

The excavations begun in 1879 by Dörpfeld and Milchöfer on the site of the great temple of Athene at Tegea in Arcadia are now being continued by the French school at Athens under the direction of Dr. Mendel, and with considerable results. Fragments have come to light of the sculptured boar hunt described by Pausanias in his itinerary, who names Scopas, of Paros, as the artist. The torso of a woman with a short chiton is assumed by Dr. Mendel to have belonged to the Atalanta; a head very much damaged is a remnant of the Hercules, and a part of one of the hounds has been discovered. A beautiful head, excellently preserved, is attributed to the statue of Hygeia, which according to Pausanias was next to that of Athene. A few small bronzes similar to those found in the German excavations in Olympia and the American in the Heræum of Argos have also been unearthed.

The Annual Report of the Society for the Promotion of Hellenic Studies mentions the continued excavations of Mr. Arthur Evans on the site of Knossos in Crete; interesting discoveries made by Mr. Hogarth at Kato Bakro; the undertaking by the British school at Athens of the exploration of a promising Mycænan site at Pa-

Isokastro, near Sitia, in eastern Crete; the establishment of a British school at Rome on the same lines as the school at Athens; satisfactory progress on the facsimile of the Codex Venetus of Aristophanes, which was practically complete, and on the publication of the report of the important excavations undertaken by the British school at Athens on the site of Phylakopi in the island of Melos; and work done in the library.

The extensive excavations which the French Government has been making in Delphi since 1892 are reported to be approaching completion. The most important work done recently has been the laying bare of the Pythian stadium. It is nearly 178 meters in length and from 25 to 28 meters wide. The course had to be excavated on the very sides of Mount Parnassus, at a cost of which the accounts are still extant. It has been found that at the starting-place small depressions were cut out, where those who participated in the races stood till the signal was given. Starting-places for 18 runners were provided. An inscription, supposed to be of the fifth century B.C., directs that "No wine shall be brought into the temple of Eudromos (the god of the racers); but if it nevertheless be, then he for whom it is brought shall appease the god with a sacrifice, and pay five drachmas, of which the informer shall receive one-half."

A special organization has been formed in Berlin for the excavations at Miletus. Funds have been secured for buying the whole peninsula on which the city stood. The newly acquired territory includes all the western half of the old city, together with portions of the necropolis, the "sacred way" that led up to the temple of Apollo, the entire hill on which the theater was situated, the harbor, at the entrance of which two colossal lions of marble have been found, the recently uncovered market-place, some large public halls, and some fine Roman fountains.

Several entirely unknown poems from the fifth book of Sappho have been discovered by Dr. Schubart, of the Egyptian section of the Royal Museum of Berlin, in papyri recently added to the collection there. The manuscript dates from the sixth or seventh century. Of the poems which have been deciphered, one describes the author comforting a departing pupil, and another is addressed to a former pupil who had removed to Lydia. Some new metrical combinations appear in the poems.

The Grecian Government has been presented by Konstantin Karapanos, the discoverer and explorer of Dodona, in Epirus, with the articles found there, including bronze statues, bronze reliefs, inscriptions, temple utensils, and records of questions put to the oracle. The collection derives heightened interest from the fact that the temple and oracle of Dodona flourished from early times down to Roman days.

Crete.—In a short account of his excavations in Crete given at the annual meeting of the Society for the Promotion of Hellenic Studies (Hellenic Society), Mr. Arthur Evans said that there were four distinct lines of walls of the palace of Minos. He described the various chambers and frescoes and the complicated system of underground communication. A considerable number of very interesting frescoes—of the same school as those of Milos and Phylakopi—were also discovered. Many bits of naturalistic foliage and lilies were found, and scattered portions of sculpture of the previous year's discovery had been successfully pieced together. Specimens of marvelous beauty had come to light of early Minoan pottery—seal impressions of a primitive

style, some with cryptographic inscriptions; clay tablets with the linear script, developed from a pictorial prototype and not derived from the earlier types hitherto known. The economic history of those ancient days was to some extent disclosed by a series of accounts. The excavations allowed an approximate reconstruction of a Minoan street, some of the houses being, it might be said, of a surprisingly modern character, and displaying a highly advanced civic development. The height of the houses enabled one to realize the description of the island as "hundred-citied Crete," and pointed to a congested population. The statuary was remarkable, and bronze wire was used for hair.

In the more detailed accounts of his work, Mr. Evans refers to the results of the previous season's excavations as having included the uncovering of the eastern wing of the palace of Knossos, which seems to have been mainly reserved for state and religious functions, business, and storage, a great central court, and beyond it to the east a part of what seemed to be the royal residential quarter. At the close of the last season's work a staircase had come to light here leading down by a triple flight to a hall with double tiers of colonnades, and beyond it a larger columnar hall or megaron. On the upper level north of these ran a corridor beneath which another corresponding passage of lofty dimensions had now been cleared out, originally lit by a large window opening on the light-well of the larger hall. The clearance of this was marked by the discovery of a very extensive deposit of inscribed clay tablets, larger than any collection previously discovered, which included about 100 perfect documents dealing with palace accounts. A large portion of these tablets dealt with percentages, and made it evident that the decimal system was in use. Thus 3 of these tablets, of which facsimiles were exhibited to the Oxford Philological Society, each bore 3 or 4 numbers, the sum of which (though the numbers themselves varied) was 100. With these were several large clay impressions of what is supposed to have been a royal signet ring, exhibiting a goddess and her attendants, of which a counterfeit matrix had been found the year before in another building. The spacious chamber bordering on this corridor, which has been named, from the frequent occurrence of these figures on its walls, "The Hall of the Double Axes," had at its eastern end a double portico facing both south and east. A doorway in its southern wall led to a finely paved turning passage, beyond which has been uncovered another chamber, flanked on two sides by a high stylobate, which also served as a base for seats between the original pillars, for which light was obtained on one side from a portico, and on the other from an area with a rear wall stepping back above. From the west side of this room access was had through an opening in the balustrade to a small bath chamber, lined with gypsum slabs, of the painted frieze of which the spirals and rosettes still partly adhered to the walls. Remains of a painted terra-cotta bath were found near, and remains of the wall-paintings of the room and the portico beyond, but in a fallen condition. An "aquarium" of fish was very naturalistically rendered, with parts of two dolphins and many smaller fry, some of them complete. A counterpart to this discovery is suggested in the fresco showing flying-fish found by the British school in the prehistoric settlement of Melos. In these pictures, since the different hues of blue had to be mainly reserved for the fish, the sea-water

was indicated by azure wreaths and coils of dotted spray on a white ground. In the figure of the upper part of an elegant lady in a yellow jacket and light chemise, the flying tresses and outstretched arm suggest violent action. Another fresco fragment shows a more rude female figure in the act of springing from above and seizing the horns of a galloping bull. With the remains of a series of scenes exhibiting female treading found toward the close of the previous season's excavations it was possible to reconstitute a complete panel of one of these fresco designs. "The whole is a *tour de force* of ancient circus shows. A Mycenaean cowboy is seen turning a somersault over the back of a charging bull, to whose horns in front clings a girl in boy's costume, while another girl performing behind, with outstretched hands, seems to wait to catch her as she is tossed over the monster's back. The fallen body of a man beneath another bull brings out the grimmer side of these Minoan sports." A private staircase opening from the north wall of the newly discovered hall leads up by a double flight to upper rooms, which are on the general level of the great central court and of the originally discovered buildings on its west side. They are, however, isolated by the intervention between them and the great central court of a large room to which they have apparently no means of access. A passage opening on the west side of the hall leads to what appears to have been the most secluded part of the residential quarter of the palace. Here were rooms on the levels of the halls of the Colonnades and of the Double Axes. At one point in these apartments were the remains of what appeared to be a wooden staircase, the upper part of which was choked with broken seal impressions. One of these impressions, "only a fragment," bears part of the impress of a Babylonian cylinder, "thus supplying direct proof of correspondence with the East." Mr. Evans remarks especially upon the elaborate drainage system of this quarter of the palace: "The well-paved floors are underlaid by quite a network of stone channels, in places crossing each other at different levels, and roomy enough to allow a man to crawl along them. A succession of stone shafts leads down to these from the upper story, in one case apparently connected with a latrine, of which a curious and in some respects very modern example also occurs on the ground floor. In another part of the palace sections of a terra-cotta drain-pipe have been found of a most advanced form, provided with stop-ridges." In another quarter south of this group of chambers were smaller rooms, in which parts of two boards of inscribed tablets were found. One of these contained lists of persons indicated by the man-sign, the other referred to the armory, the exhibits, besides the linear characters of the inscriptions, outlining figures of swords. The pottery of this and the adjoining region gave some new illustrations of the prehistoric writing of Crete. Another magazine contained vases in the earliest palace style, some of which were painted with very naturalistic lilies. In an adjoining chamber was a kind of domestic shrine, which is thus described: "On a small dais, beside a tripod of offerings, and with a miniature votive ax of steatite before her, rose a painted terra-cotta figure of a goddess, pillar-shaped below according to the old religious tradition, and with a dove on her head, while in front of her stood a male votary holding out another dove. That a goddess was associated with the palace cult of the double ax further appears from a gem on which a female

divinity is seen bearing this symbolic weapon in her hand." In the basements of one of the eastern terraces and below the level of the later palace were found remains of another magnificent construction which was still earlier than the structure called Minoan. In it were vases of the Kamares class, some with lily designs in white, a miniature vase of gold and porcelain, and a miniature pillar-shrine of painted terra-cotta with doves perched on the roof. In another basement, not far away from this one, and at a slightly lower level, was found a mosaic of small porcelain plaques, which seems, as described by Mr. Evans, to have represented "scenes disposed in various zones, recalling the subjects of Achilles's shield—the walls and houses of a city, a vine and other trees, warriors with bows, spears, and throwing sticks, besiegers and defenders, and various animals. But the most surprising part of all is the houses of which the city is composed. Fragmentary as are their remains, it has been possible to reconstitute about a score of these. The varying character of the structure—stone, timber, and plastered rubble—is accurately reproduced, and the walls, towers, gateways (a whole street of a Minoan city) rises before us much as it originally stood. But, what is even more surprising than the fact that the elevations of these prehistoric structures should thus be recovered to us intact from the gulfs of time, is the altogether modern character of some of their features. Here are three stories (some of the semi-detached kind showing contiguous doorways) with windows of 4 panes, or double windows of 3 panes each, which seem to show that the inmates of the houses had actually some substitute for glass." The part of the eastern side of the great parallelogram in which the halls of the Colonnades and the Double Axes are situated showed that it was a building of 3 stories. The limits of the palace on the eastern slope of the hill are said by Mr. Evans to have extended themselves beyond all anticipation, but much denudation has taken place. Among the finds are remains of a large architectural fresco with realistic imitation of veined marble, and stone jars more capacious than any previously brought to light. A stone spout jutting out from a neighboring wall and connected by a conduit with an oil-press above, explained their purpose and the manner in which they were filled. Farther down were massive lines of supporting walls, forming here the outer eastern boundary of the palace.

In the small but well preserved Mycenaean settlement excavated by Miss Boyd at Gourniá, sacrificial vases, bronze saws, and other implements, and ante-Mycenaean fetishes and idols have been brought to light; and through the excellent preservation of some of the buildings a sensible addition has been made to our knowledge of Mycenaean domestic architecture.

The excavations of the Italian Archeological Mission at Phaestos, under the direction of Prof. Halbherr, have been practically completed, after three seasons of work. The architectural lines of the palace here are described as being "incomparably more striking" than those of Knossos. The pavement of the agora is traversed by some curious slightly raised diagonal lines, and the agora terminates on the north in a broad series of stone steps. To the west is another imposing flight of stone steps leading up through a portico to a great hall measuring 27.70 by 13.75 meters—surpassing in dimensions any Mycenaean apartment yet discovered. Its structure is like that of the Hall of the Double Axes at Knossos;

but in the center is a great stone pier which apparently served no structural purpose. The other apartments show a fundamental similarity of plan with that of Knossos. The central court or quadrangle is peculiarly imposing. Both Knossos and Phæstos seem to have been inhabited from the remotest prehistoric times; but after both were burned in the Mycenaean age, Phæstos was in time resettled.

Another Mycenaean palace has been discovered by Prof. Halbherr at Hagia Triada, a few miles west of Phæstos. It stands on a hilltop overlooking the plain through which the river Lethæus flows to the sea. The excavations, only begun, have yielded results full of promise. Among them are more tablets with pre-Hellenic inscriptions, two frescoes, one of a wood scene and the other of a sumptuously arrayed Mycenaean lady, and a vase decorated with 26 figures in relief of a procession of a band of warriors headed by their chief.

At Palæocastro, at the extreme east of the island, Mr. R. C. Bosanquet has discovered two cemeteries of the Kamareos epoch, in which a mode of sepulture now commonly prevailing in the Levant (packing the bones, cleansed by previous interment, in chambers) is shown to have been in vogue before the Mycenaean age, some Mycenaean tombs, and Mycenaean mansions, one of which is of a type intermediate between the ordinary dwelling and the great palaces.

The belief is maintained by Mr. Evans that in Crete the double ax was, in part, at least, associated with a divinity known to the Greeks as the Cretan Zeus, which in its original character was essentially a sun or light god. It was in itself an object of worship as the dactyliform of the divinity with which it was associated. On a Mycenaean gem from east Crete, found by Mr. Hogarth, votaries are actually seen in the act of adoration before it. The fresh discoveries, moreover, confirmed the view that though a male divinity was also represented, at times in warrior guise on the signets and seal impressions of the palace, the most prominent place was taken by a goddess who from her lion-guardians might be regarded as a prototype of the Latin Rhea, Cybele, though in other aspects of her personality she seems to approach the Cretan Aphrodite or Ariadne. Evidences of the cult of the double ax were also remarked in the palace shrine described by Mr. Evans. The whole result of the excavations at Knossos, Mr. Evans said, had been to bring out in a remarkable way the underlying element of truth in ancient tradition. In his account given at the meeting of the British Association Mr. Evans spoke of clay cups having been found with ink inscriptions, "a new departure in the prehistoric script." He also described some modern features in the mosaic representation of a Minoan street; and ivory figures of youths, as displaying naturalistic details not found again in such work till the age of the Italian Renaissance. Below the Mycenaean palace had been found remains appertaining to what seemed to have been an earlier royal dwelling going back into the third millennium B.C., in which were beautifully painted vases, some of eggshell-like fabric, and some embossed in imitation of metal-work. The Neolithic stratum underlying the whole site was productive of more stone implements, pottery, and primitive images of clay, marble, and shell, perhaps the tridacna, and pointing to a prehistoric intercourse with the Indian Ocean.

In an account of his excavations in the Dictæan cave, given before the Anthropological In-

stitute, May 27, Mr. D. G. Hogarth expressed the belief that the cave was undoubtedly the one that was the seat of the legendary birth of Zeus. It stood near a lake bed which had a subterranean outlet. The cave was exceedingly rich in remains, but little evidence existed in it of Mycenaean or pre-Mycenaean times, nearly all the remains being subsequent to the Mycenaean period. The skulls found were clearly of sacrificed animals. The honors of Dictæ had been largely usurped by the cave of Ida, but Dictæ showed a variety of ancient objects of the stone age—symbolical axes of fractional size, and others—a massive Mycenaean wall, and a few specimens of Hellenic and Roman work. Mr. Hogarth said he had excavated another settlement at the end of the Dictæan cave, the little wasted settlement of Zachro. In two caves he had found human bones, and what seemed to be cists like those of the Ægean islands of the prehistoric period. In one cave he had lighted on five burials. One cist burial was untouched, and included a new kind of pottery more regular than the Neolithic pottery. The vases tended to show the existence of a native pottery lineally following the Neolithic period. In connection with an address by Mr. Evans, a lecture was given by Prof. Boyd Dawkins on the Animal Remains of the Cave, dealing with the geological aspects which led to inferences of its high antiquity. Among the skulls discovered was one of an ox to which the author found no exact parallel. He had therefore felt disposed to classify it as a member of a distinct species, to which he gave the name of *Bos Creticus*. Another skull, in some respects varying from all existing specimens, he inferred to be that of a domestic boar. The preservation of these skulls, apparently for ornamental purposes, was a singular note of modernity in prehistoric times. Prof. Dawkins could not state the precise or approximate date of any of the specimens sent him by Mr. Hogarth. Describing the human skulls, he said that the teeth were wonderfully small, and some of them decayed, and these and other circumstances led to the inference that they belonged to a highly developed civilization. Decayed teeth were, unhappily, a mark of an advanced culture. The skulls found in Crete seemed to correspond with the oldest skulls of Attica and Asia Minor. The people interred in this case were, the author thought, cognate with the Iberian race, long-headed, probably of small stature, dark-haired, non-Aryan, and stretching back to the Neolithic age. Prof. Petrie noted correspondences from Egypt, as in the hanging of skulls as ornaments, with what had been said of Crete.

Bosnia.—Very fruitful excavations have been made among the remains of prehistoric lake-dwellings on the River Save, near Dolina, northern Bosnia. Four dwelling-houses built on piles have been laid bare and the burial-place belonging to the settlement has been examined. In it were found a number of bronzes and urns. Among the articles recovered are objects of pottery, utensils of staghorn, weapons of bronze and iron, ornaments of bronze, silver, gold, and amber, seeds and bones. It has been possible, by the aid of these houses, to determine the architectural construction of the pile-dwellings with a hitherto unusual accuracy. A boat 5 meters long was found lying 9 meters below the platform of a pile-dwelling. The pile-dwellings of Dolina are assigned to two different periods, of dates included in the first millennium before Christ.

Palestine and Syria.—The first report of the new American school in Palestine, Novem-

ber, 1901, describes the establishment of the institution, and the beginning of excavations at Sidon, under the first director, Prof. C. C. Torrey, of Yale. A Greek necropolis was explored, and yielded results of importance. At Jerusalem students of the school will have free access to several valuable libraries, including the Greek Patriarchal Library, with a great store of manuscripts, the Dominican Library, and the Franciscan, Augustinian, and Latin Patriarchate libraries. The Roman Catholics were doing much in Jerusalem to encourage archeological and linguistic studies. Three museums had lately been opened, one of them by the Turkish Government, containing the finds of Dr. Bliss in his excavations for the Palestine Exploration Fund.

Excavation was actively pursued in Palestine and the East in 1902, under English and German auspices. The operations included work begun by the English Palestine Exploration Fund, under Mr. McAllister, at Abu Shusheh, which has been identified by M. Clermont-Ganneau as the site of the Biblical Gezer, near Rambleh, on the edge of the plain of Sharon; explorations by Austrians at Ta'anuk, the Biblical Taanach, on the southwestern edge of the plain of Esdraelon; excavations to be begun by Germans at the ancient Megiddo; the exploration and restoration by Germans of the great temple of Jupiter Heliopolitanus at Baalbek, and the neighboring smaller temples, which has been going on for two years and will require a year longer; excavation by the same expedition of some smaller but interesting ruins in the Lebanon, on the edge of the Bekaa, in the same general region. The same expedition was also exploring the ruins of Palmyra, Gerash, Amman, and other comparatively little known sites east of the Jordan, for the purpose of a more thorough study and comparison of Syrian and Roman architecture and antiquities. The Germans have also been excavating at Miletus, at Pergamos, and at Babylon, and contemplate the excavation of a little known Babylonian ruin mound, apparently of great antiquity, south of Nippur, between the Tigris and the Euphrates.

At the annual general meeting of the Palestine Exploration Fund, June 17, Major-Gen. Sir Charles Wilson delivered an address on The Recent and Proposed Excavations of the Fund. The work of the past year, he said, had been mainly the excavation of grounds in the Valley of Judah, and had thrown light on many ancient sites. The excavations revealed remains of pre-Israelitish times from 1700 B.C., and the successive periods down to Byzantine times. Painted ware and Mycenaean pottery were found in this region, and specimens of early Greek ware as well as Assyrian and Babylonian objects. The chief site was probably to be identified with Gath. Remains were also found of a town which had been abandoned in prehistoric times; and relics of subsequent periods were discovered there. Statues were found of Demeter and Berenice, and pottery and other fragments of the third and fourth centuries B.C., which had been imported into Palestine. Two inscriptions in Greek characters were discovered, one of them divided into 7 columns, and a translation from Hebrew into Greek, the Greek characters of which were read from right to left. Many tablets were commemorative of important events, as of birth or marriage; and these were symbolical references. Few of the caves examined by Mr. McAllister seemed to be earlier than the Seleucid period. Some of them contained remains of a population distinct from that of the towns.

The pottery began with the pre-Israelite or Amorite period, and furnished specimens similar to those discovered by Prof. Petrie in Egypt. The painted pottery or sherds presented Mycenaean features, though they were not supposed to be Mycenaean work. In the Jewish period the Phoenician and Mycenaean influences seemed to have disappeared. The names of the potters—all of a tribal character—were found on many of the pieces of Jewish pottery. After the Jewish period a distinct growth of beauty in form and design is shown. Few completed statues of later times were found; but some of these were of fine workmanship and form. One of the great caves had been used as a columbarium after its original purpose had been abandoned.

Under the auspices of the Vienna Academy of Sciences, Dr. Sellin, professor in the Evangelical Theological Seminary in Vienna, began excavations in March, 1902, in a mound near the village of Tanaak, one day's journey from Jaffa, and three days from Jerusalem. His report relates the discovery of four castles or fortresses. In the middle were the ruins of an Arabian castle. On the east was a castle of the period of King Solomon, on the northwest a castle of a late Israelite period, while on the west was found a castle of pre-Israelite or Canaanite date. All the castles had been plundered before they were destroyed, so that no valuables were found, but objects of stone and clay and weapons were recovered by the aid of which the dates of the various buildings were approximately fixed. The

A HITTITE INSCRIPTION HITHERTO UNKNOWN TO SCHOLARS.

Canaanite castle, the oldest of the number, was built of unhewn blocks of stone, which showed no marks of the chisel. Inside of it lay fragments of images, such as are mentioned in the Bible, and also a number of small ornaments made of stone and earthenware, mostly representing beetles, scarabs, and other insects, and bearing inscriptions. There were, too, some rude weapons. The second building in date had suffered considerably, but enough remained to show that it belongs to the class called Solomon castles. In both buildings, idols, vessels, and other objects appertaining to religious rites were found, such as a sacrificial pillar of stone, with an opening for libations, a stone altar, and an earthenware altar in the form of a throne, adorned with cherubim and lions. The cherubim, of which these are the only existing representations of that date, appear as human heads with the bodies of lions, and wings. The late Israelitish castle appears to have been a fortress only. The Arabian castle displays more architectural skill than the other. Vessels and lamps were

found in it, and inscriptions of a religious character. Human remains buried with vessels bearing inscriptions were found beneath the ruins of all the castles. A cemetery for children seems to have existed close to the Solomon castle. Prof. Sellin attaches most importance to the excavation of this Canaanitish castle.

A stone, belonging to a gentleman residing in Syria, and bearing Hittite inscriptions, has only recently been first made known to Europeans. An illustration of the inscriptions is given in the figure on page 29.

Babylonia.—The German Oriental Society reports of the results of the latest expedition sent out by it to the East the discovery of 400 inscribed clay slabs in the center of the ruins of Babylon. Two of these have been deciphered—one comprising a large part of a Babylonian compendium, or dictionary, of the cuneiform characters; the second tablet contains a litany which was chanted by the singers of the temple of Esagila on the return of the god Marduk to his sanctuary.

The discovery of a square courtyard surrounded by walls in the south quarter of the city of Babylon is reported by Dr. Kaltenay. The southernmost wall is described as being remarkable for its architecture and its elegance. It is faced with glazed tiles, ornamented with flowers and tracery. When the tiles that had fallen to the ground were replaced, a beautiful design was revealed. Bricks composed of enamels and glass-raised work, which were apparently part of a mosaic pavement, were found in the courtyard, together with coins, fragments of inscriptions on stone, and a broad slab bearing a picture of the Babylonian idea of hell. From the great elegance of this courtyard Dr. Kaltenay believes that it was a part of the palace of Nebuchadnezzar. A building about 60 feet wide and 160 feet long is supposed by the discoverer to have been the throne room of Nebuchadnezzar. Exactly opposite the door is the niche in which the royal throne stood. On both sides and on the northern front of the hall were richly colored ornaments in good preservation. No inscriptions of special significance are mentioned.

Egypt.—Besides the review of the work of the society, the report of the Egypt Exploration Fund for 1901 gives a conspectus of the work done by other scholars and explorers and those of other nationalities. Among these is the discovery at Elephantine or Assouan, reported by Prof. Sayce, of an Aramaic papyrus, with two ostraka, relating to loans of money contracted by Jews settled in that district during the Persian epoch. The Aramaic texts are said to contain some fresh words and to throw light on Biblical Aramaic. The discovery by Mr. Evans at Knossos, in Crete, of an alabaster lid inscribed with the name of the Hyksos King Khyan, coupled with the occurrence of the same name on a lion of Bagdad now in the British Museum, seems to show that that ruler was a personage of great importance. The monuments of no other Pharaoh have so wide a range. Some examples of a curious kind of lamp, discovered in two places, have been placed in the Cairo Museum. It consists of a small bowl pegged into a saucer, and provided with an extinguisher. It was fed by scented fat, which was burned by means of a wick. A Berlin papyrus, published by a German professor, contains a Hesiodic fragment about the wooing of Helen, of whose suitors Ulysses is said to have been one.

The work of Prof. Petrie in Egypt in the sea-

son of 1901-'02 extended over every historical period, and its most important result was the connection of the prehistoric with the historic period. On the site of an early town was discovered an unbroken stratified series of deposits ranging over four or five centuries of the earliest kingdom. It has been calculated that the deposits of the town dwellers increased at the rate of 20 inches to each century, and thus, by a process of leveling, the relative ages of the pottery, flints, and other objects were estimated. Further comparison with the final prehistoric stages and with the remains from the royal tombs established a continuity between the known and the hitherto unknown or undefined. It seems to have been made clear that the great settlement at Abydos began with the founding of the kingdom there, and the large tombs of the first dynasty show a continuance of the type of prehistoric burials. Much sculpture was found in the ruins of the Temple of Osiris of the sixth, eleventh, twelfth, eighteenth, nineteenth, and twenty-sixth dynasties, but of the twelfth much had to be left until the next season, and in particular a tomb which is pronounced to be the largest in Egypt awaits a complete clearance. Two gigantic sarcophagi of granite have been seen within it. The researches of Dr. Grenfell and Dr. A. S. Hunt in the Fayoum, under the auspices, like those of Prof. Petrie, of the Egypt Exploration Fund, were pursued more with reference to the Græco-Roman period, mainly in searching for papyri in the Ptolemaic cemeteries. Many Greek and denotic papyri were obtained, partly from early Ptolemaic mummies and partly from the mummies of crocodiles of a rather later period. These have yet to be prepared and examined. Another work of exploration was prosecuted on the account of the Egypt Research Fund, at the site of the Temple of the Kings (Seti I) by Mr. A. St. G. Caulfield, while Mr. L. Chrystie copied the sculptures.

The second part of the collection of the Amherst papyri, edited by Messrs. B. P. Grenfell and A. S. Hunt and published by the Oxford University Press, has to do with classical fragments, documents of the Ptolemaic, Roman, and Byzantine periods, and theological fragments, chiefly from the "Shepherd" of Hermes. Among the fragments are fifteen broken lines of an unknown tragedy; a commentary by Aristarchus on the first book of Herodotus, preserving a short quotation from the *Ποικίλεις* of Sophocles; a papyrus of the fourth century, A. D., containing three fables of Babrius in Latin; and miscellaneous documents supplementing our information about the administration of Egypt. In these are found notices of conflicts between the Egyptians and the Greek settlers under the later Ptolemies, in which the Egyptians complain that they are overreached by the Greeks in the apportionment of lands, and, revolting, destroy title deeds. Evidences are also afforded of the exactness of the enforcement of law and the collection of the taxes. The prominent position of women in business and the prevalence of the custom of marriage of brother and sister, among Greeks as well as Egyptians, are amply illustrated in these documents.

In illustration of the thoroughness with which investigation of prehistoric relics is now carried on may be cited the method by which P. J. Petrie has established a succession of remains of pottery. Having to deal in his latest season's work with a site which contained, in successive layers, the remains, easily distinguished, of successive kings of the first Egyptian dynasty, and

below these the remains of several continuous prehistoric periods, he devised a plan of classifying the whole mass by a card catalogue. He then tabulated his results, and obtained a sort of chronological scheme by means of which the development in the fashioning of pots may be followed from a period far anterior to Menes through successive prehistoric strata into the continuous line of kings of the first dynasty.

A description and translation are published by Jules Nicole, of Geneva, in the *Archiv für Papyruskunde* of a fragment of a papyrus on which are written questions and answers concerning surgical operations, showing how surgical examinations were conducted in Egypt eighteen centuries ago. Its contents, so far as they have been preserved, indicate that a fair knowledge of anatomy existed; and the subject is treated from very like a modern point of view. The questions are such as might be properly asked in a medical school of the present day. Another article by Prof. Otto Gradenwitz, of Königsberg, cites two documents from the Berlin papyri, giving evidence that banks existed in Egypt, and issued and accepted checks and bills of exchange. The form of these drafts is more complicated than present forms; but "they amounted simply to orders to pay a certain sum of money to a certain person clearly specified and to charge the same to the account of the undersigned."

Carthagina.—The excavations made during the past twenty-five years on the site of ancient Carthage by Father A. L. Delattre have restored most of the outline of the city, and furnished much light upon its life and antiquities. The work has consisted largely of exploration of tombs, of which more than 1,100 of the oldest period, between the sixth and eighth centuries B. C., have been excavated. The finds illustrate the political and business relations of Carthage at that period, and the prevalence of Egyptian and Phœnician influences in earlier, of Greek and Roman in later times. They include armlets, rings, chains, and coins, in gold, silver, bronze, glass, terra-cotta, etc. The specimens have been deposited in a special museum established by the White Mission Brotherhood of Northern Africa. A full account of the discoveries, by Albert Mayr, was published in the *Beilage* of the *Allgemeine Zeitung*, No. 130.

Africa.—Results of six years' systematic explorations among the prehistoric remains between the Zambesi and Linepopo rivers, South Africa, are given in the book of R. A. Hall and W. G. Neal, entitled *The Ancient Ruins of Rhodesia*. Nearly 200 ruins were investigated by the authors and Mr. George Johnson, under grants from the chartered company. More than 500 temples, citadels, enclosures, chains of forts, gold workings, and terraced slopes are reported from various districts covering a total area of at least 115,000 square miles, not one-tenth part of which has as yet been thoroughly explored. Structures are found among these ruins of earlier and of later dates, and the authors have classified them under four categories, of which the periods range from 1000 or possibly 2000 B. C. down to the advent of the Mohammedan Arabs and the Portuguese. The buildings of the first period, as at the Great Zimbabwe, are marked by great solidity and superior workmanship. The massive walls of dry masonry rest upon the bed-rock, and are often 15 or 17 feet thick at the base. They are skilfully built, and are ornamented with various decorative patterns. These are ascribed to the South Arabian Himyarites by Theodore Bent, Dr. Schachter, and Mr. A. H. Keane. The structures

of the second period are less substantial than these, and are inferior to them in other respects, and are assigned to the Phœnicians. They are built upon the other monuments or constitute extensions to them, and also occur by themselves in the districts farther removed from the eastern coast. One class of structures are recognized as slave pits. Extensive terraced slopes in the Inyanze and Mount Fura districts resemble those of the Yemen uplands. Other finds are represented in quartz crushers, gold-smelting works, gold crucibles showing gold in the flux, and massive gold objects, beads, bangles, plates, wire, pegs, nails, ferules, etc., which have characteristics of the monuments of the first period. "All the branches of the goldsmith's art were practised by them," the authors say, "including gold wire-drawing, beating gold into thin sheets, plating iron and bronze with gold, and burnishing." The conditions all go to indicate that the South Arabian Himyarite occupation of this region was a settled one.

A brief general account of Christian antiquities in the Soudan awaiting exploration has been published by Mr. John Ward, F. S. A. The site of Soba, on the Blue Nile, contains the ruins of several Christian temples. It was visited by Col. Stanton, governor of Khartoum, who began preparations for having the ruins cleared and photographed. At Naga, 80 miles north of Soba, are extensive ruins, including 5 temples of Roman architecture with avenues of figures of pascal lambs leading up to them. Hieroglyphic inscriptions were found, and the composite capitals at both places bore the figure of the cross. The natives say that similar ruins are spread all over the country. Sculptured rocks and temples are to be found 80 miles east of Khartoum, and temples are said to be known as far away as Darfur.

Central Asia.—A number of manuscripts said to have been found in Chinese Turkestan, in the desert north of a caravan route between Gūma and Khotān, which were offered to the attention of archeologists several years ago, have been a subject of investigation by M. A. Stein, and have been found by him to be fraudulent. Mr. Stein, who is engaged in archeological explorations in Chinese Turkestan, met the alleged discoverer of the manuscripts—Islām Akhūm—and obtained a confession of the fraud from him. Mr. Stein made many, and some important, discoveries, particularly in the Dandān Uiliḡ ruins and in the remains on the Niya river. Some Chinese manuscripts of the eighth century found at Dandān Uiliḡ are of interest as being descriptive of the social conditions existing at that period. One of them is a bond given in exchange for a loan of money, and another is a document of a similar kind relating to grain. In both cases the lender is a Buddhist priest, and the terms of the loan are very strict. At the Niya ruins Mr. Stein found wooden tablets bearing Kharoshthi writing, which is assigned to the time of the Khurshana or Indo-Scythian kings of the first two centuries of the Christian era.

ARGENTINE REPUBLIC, a federal republic in South America. The legislative power is vested in the Congress, consisting of a Senate of 30 members, 2 from each province and 2 from the federal district, and a House of Representatives, numbering 86, 1 to every 20,000 inhabitants. One-third of the Senators and one-half of the Representatives are replaced every two years. The President and Vice-President are elected by direct popular vote for six years. The President of the republic, inaugurated on Oct. 12, 1898, is Gen.

Julio A. Roca. The Vice-President is Norberto Quiroga Costa. The Cabinet at the beginning of 1902 was composed as follows: Minister of the Interior, Joaquin Gonzalez; Minister of Foreign Affairs, Dr. Amancio Alcorta; Minister of Finance, M. Avellaneda; Minister of Justice and Public Worship, Dr. J. Serd; Minister of War, Col. Pablo Riccheri; Minister of Marine, Capt. O. Betheder; Minister of Agriculture, Dr. W. Escalante; Minister of Public Works, Dr. Emilio Civit.

Area and Population.—The area of the republic is 1,113,849 square miles, that of the 14 provinces being 622,969 square miles and that of the territories 490,880 square miles. The total population was estimated on Dec. 31, 1900, at 4,794,149, being 7.4 to the square mile, and on Dec. 1, 1901, the increase for the year was estimated at 100,000. There were about 50,000 Argentinians living or traveling in foreign countries. The number of Indians was about 30,000. The number of marriages registered in 1900 was 28,103; of births, 173,719; of deaths, 88,656; excess of births, 85,063. The number of immigrants arriving by sea in 1900 was 105,902, comprising 52,143 Italians, 20,383 Spaniards, 3,160 French, 2,119 Russians, 2,024 Austrians and Hungarians, 1,583 Syrians, 760 Germans, 431 British, 355 Swiss, and 205 Portuguese. The total immigration since 1856 was 2,670,293. In 1901 the number of arrivals was 160,000 and of departures 112,000. Buenos Ayres, the capital, had on July 1, 1901, a population of 836,395. The next largest city is Rosario, with 112,461 inhabitants, and after it La Plata, which has about 61,000, and Tucuman, with 50,000 inhabitants. Education is free, secular, and compulsory. There were 3,055 public and 1,076 private primary schools in 1899, with 13,103 teachers and 326,752 scholars; 16 Government lyceums, with 450 teachers and 4,103 scholars; and 2 national and 3 provincial universities, with over 3,000 students.

Finances.—The revenue of the National Government in 1900 was \$36,632,346 in gold and \$63,962,000 in paper, and the expenditure was \$23,819,979 in gold and \$94,271,310 in paper. Under the conversion law of 1899 paper dollars are redeemable in gold at 44 per cent. of their par value. The revenue for 1901 was estimated at \$37,991,000 in gold and \$62,300,000 in paper, and expenditure at \$26,025,175 in gold and \$92,466,605 in paper. The actual receipts were \$38,244,638 in gold and \$62,341,306 in paper, and the expenditures were \$23,835,857 in gold and \$91,160,227 in paper. For 1902 the estimated receipts were \$40,013,347 in gold and \$64,290,000 in paper. The revenues collected in gold are \$30,000,000 from import duties, \$2,800,000 from export duties, \$2,765,000 from port and navigation dues, \$460,000 from consular dues and fines, and \$3,937,747 from debt services. The expenditures for 1902 were reckoned at \$32,438,189 in gold and \$96,198,813 in paper. The estimates under the several heads were \$2,566,380 in paper for Congress, \$13,941,222 in paper for the Interior Department, \$309,381 in gold and \$1,165,720 in paper for foreign affairs and worship, \$7,671,102 in paper for the Ministry of Finance, \$23,984,124 in gold and \$12,093,810 in paper for the public debt, \$12,066,164 in paper for justice and education, \$15,875,000 in paper for the Ministry of War, \$12,188 in gold and \$10,050,584 in paper for the Ministry of Marine, \$3,301,360 in paper for the Ministry of Agriculture, \$300,000 in gold and \$10,669,100 in paper for public works, \$5,498,371 in paper for pensions, and \$7,832,496 in gold and \$1,300,000 in paper for extraordinary purposes.

The foreign debts on July 1, 1901, amounted to £86,984,201 sterling, consisting of £45,453,744 of national loans outstanding, £31,384,147 of provincial loans and other debts assumed by the Federal Government, and £10,146,310 of cedulas. The funded internal debts on Jan. 1, 1901, amounted to \$17,937,500 in gold and \$93,463,983 payable in paper. On April 1, 1902, the external debts amounted to \$386,451,295 in gold and the consolidated internal debt to \$89,610,983 in paper and \$17,863,000 in gold. The municipal indebtedness is \$24,596,422 in gold. The paper money in circulation on Jan. 1, 1901, amounted to \$291,004,259. The mint up to Dec. 31, 1897, had coined \$31,716,545 of gold, \$2,805,840 of silver, \$2,748,375 of nickel, and \$82,704 of copper coins.

The Army.—The standing army consists of 1,340 officers and 7,297 men. The war strength of the regular army is about 30,000 of all ranks. There are 471,912 men enrolled in the National Guard, of whom the younger members receive two months of military instruction. A law authorizing compulsory military service was passed by Congress in 1901.

The Navy.—The Argentine naval force consists of the new coast-defense armor-clads the *Libertad* and *Independencia*, of 2,336 tons, having a speed of 14½ knots, 8 inches of armor, and a battery of 2 10-inch breech-loaders and 4 4.7-inch quick-firing guns; the old coast-guards *Andes* and *Plata*; the central-battery ship *Almirante Brown*, of 4,267 tons, having 9 inches of side armor and carrying 10 5.9-inch and 6 4.7-inch quick firers; the *Garibaldi*, of 6,840 tons, and *Pueyrredon*, of 6,882 tons, carrying 2 10-inch rifles and 10 6-inch and 6 4.7-inch quick firers, and the *San Martin* and *Gen. Belgrano*, of 6,882 tons, the former armed with 4 8-inch, 10 6-inch, and 4 4.7-inch quick firers, the latter with 2 10-inch rifles and 14 6-inch and 2 3-inch quick firers, all 4 cruisers having 6 inches of armor and a nominal speed of 20 knots, built originally for the Italian Government; the *9 de Julio*, 25 de *Maio*, and *Buenos Ayres*, strongly armed and swift second-class cruisers built in England; 5 converted cruisers of 3,403 to 4,218 tons, purchased from Italian and Spanish steamship companies; the English-built destroyers *Corrientes*, *Misiones*, and *Entre Rios*, which at their trials exceeded the contract speed of 26 knots, and the one built to replace the *Santa Fe*, which was lost; and 12 first-class and 10 second-class torpedo-boats.

Commerce and Production.—There are over 15,000,000 acres in cultivation, yet that is only 6 per cent. of the available land. Wheat in 1901 covered 8,449,372 acres, on which 2,871,440 tons were grown; the yield of flax from 1,518,380 acres was 390,000 tons; and the corn-crop was in the neighborhood of 2,000,000 tons. The wool-clip of 1902 was valued at \$40,000,000, the wheat-crop at \$120,000,000, the corn-crop at \$100,000,000. The quantity of sugar produced in 1889 was 103,112 tons, four-fifths of it in Tucuman province. Alfalfa is grown extensively for feeding stock. There were 89,000 acres of vineyards in 1900. The number of cattle in 1900 was estimated at 28,000,000; of sheep, 110,000,000. There were 329,400 cattle slaughtered in 1900. The wool-clip of 1901 was 250,000 tons. Coal and petroleum are found, and some gold is mined on the slope of the Andes, the output of 1900 having been 2,112 ounces. The existence of foot-and-mouth disease in Argentina put an end to the exportation of live stock to Great Britain. In May, 1902, the disease was officially declared to be exterminated, and negotiations were begun

for the reopening of British ports to Argentine cattle.

The value in gold of the imports in 1900 was \$113,485,000, and of exports \$154,600,000. Imports of live animals were \$364,271; alimentary substances, \$10,453,326; beverages, \$7,277,851; textile fabrics and clothing, \$37,597,847; mineral and other oils, \$4,194,342; chemical products, \$3,760,594; dyes and colors, \$865,727; lumber and wood manufactures, \$7,040,854; paper, \$2,926,206; leather and manufactures thereof, \$1,244,764; iron and steel and their manufactures, \$19,054,051; other metals and manufactures thereof, \$3,343,172; earthenware, china, and glass, \$8,893,370; tobacco, \$3,147,161; other articles, \$3,321,533. The exports of animals and animal products were valued at \$71,253,886; of agricultural products, \$77,426,356; of forest products, \$3,508,915; of mineral products, \$262,222; of products of the chase, \$990,594; of other products, \$1,158,439. There were \$38,609,571 of duties collected from \$96,502,452 of the imports and \$56,169,377 of the exports. The exports of wool were 101,113 tons; of sheepskins, 37,593 tons; of wheat, 1,929,676 tons; of corn, 713,248 tons; of beef and mutton, 99,220 tons. The imports of specie were \$7,209,555, and exports \$3,480,840. The commerce was distributed among the principal countries as follows:

COUNTRIES.	Imports.	Exports.
Great Britain.....	\$38,682,755	\$23,890,685
Germany.....	16,635,615	20,070,135
France.....	10,897,870	19,007,960
Belgium.....	8,430,880	17,980,885
United States.....	13,438,530	6,882,765
Italy.....	14,924,495	4,304,155
Brazil.....	3,741,880	6,185,505

Navigation.—The number of vessels entered at Argentine ports during 1900 was 12,917, of 6,193,783 tons. At Buenos Ayres 1,257 vessels, of 2,110,306 tons, arrived from oversea. The merchant fleet of the republic in 1900 comprised 155 sailing vessels, of 39,798 tons, and 101 steamers, of 40,794 tons.

Railroads, Posts, and Telegraphs.—There were 10,595 miles of railroad in operation in 1900, capitalized at \$526,616,661 in gold. The gross earnings in 1898 were \$41,394,169; expenses, \$19,117,118. The number of passengers carried in 1900 was 17,898,961; tons of freight, 12,719,297.

The length of telegraph lines in 1900 was 27,584, with 58,656 miles of wire. The postal traffic in 1899 was 242,016,000 pieces of mail-matter; postal receipts, \$17,492,398; postal and telegraph expenses, \$30,732,670.

Political Affairs.—The old controversy between the Argentine Republic and Chile which several times they have threatened to settle with arms, regarding the limits of their territories in Patagonia, was at last by mutual agreement submitted to the arbitration of Great Britain. The agreement was concluded on Sept. 22, 1898, and the British Government appointed the boundary commissioners, but before they could begin their task differences arose as to the basis of arbitration and each government sought to impose conditions. To improve their respective cases Argentina promoted emigration into parts of the territory in controversy and in other parts Chile constructed roads, though both had agreed to preserve the *status quo*. Negotiations were carried on for a long time and at several stages suspended. After the last breach Chile made fresh proposals, which were amended by the Argentine Republic, and in this shape were accepted

by Chile. The convention was signed by the plenipotentiaries on Dec. 25, 1901; but even after that the Argentine Republic declined to adhere to a provision in the protocol requiring each contestant to withdraw all police from the disputed territory. The chief points of the protocol were: (1) Chile renounced the contention that the existence of artificial roads in Ultima Esperanza, one of the regions in dispute, was a proof of continued occupation; (2) the Argentine Republic and Chile both agreed to retire their police from the disputed district; (3) the disputed district would, pending arbitration, be guarded in such way as the Argentine Republic and Chile should mutually agree; (4) difficulties arising in the course of negotiations for such agreement should be referred for immediate decision to the British arbitrators. The Argentine Government consented to withdraw its police from Ultima Esperanza on receiving an assurance from Valparaiso safeguarding the rights that Chile was believed to have infringed. The act submitting the whole matter to British arbitration was finally signed at Buenos Ayres on Jan. 6, 1902. The dispute as to the ownership of Patagonia first arose in 1843 when Chile established the seaport of Punta Arenas on Magellan Straits and laid claim to the whole interior. The Argentine Republic protested against the presence of the Chileans at Punta Arenas and asserted a right to all Patagonia. The controversy remained open till 1856, when a treaty was signed by which both parties agreed to accept the boundaries by which the Spanish rulers divided the provinces when their rule ceased in 1810. Such official Spanish delimitation could not be found; but there were old maps in which Patagonia was marked as Chilean territory, and accordingly Chile asserted a claim to the entire country. The Argentine Republic did not recognize this claim, but took no steps to establish its own alleged rights until Chile became involved in a war with Peru and Bolivia, when as the price of non-intervention the Argentine Government exacted from Chile a treaty dividing Patagonia. The line of division was stated to be the line running along the highest peaks of the Andes, which divide the watershed. The highest peaks are near the western coast; the main range of the Cordilleras which for the most part forms the water-parting, runs through the middle of Patagonia. The treaty of 1881 was loosely drafted without the advice of geographical experts and without knowledge of the provisions to be included for the strict definition of international boundaries. The Chileans construed it as giving to Chile the main western watershed, and drew the line at the principal divide of the waters. The Argentines took the crest of the great chain of the Andes that was thrown up in a later geological period as the boundary, and assigned to Chile only the steep Pacific slope. Col. Sir Thomas Hungerford Holdich, one of the appointed commissioners, went to South America soon after the protocol was signed to explore with a staff of assistants the territories in question. The boundary post at San Francisco south of the Puno de Atacama, the district which United States Minister Buchanan awarded to the Argentine Republic, had to be fixed by the British commissioners as well as the frontier in Patagonia, where the districts of Lake Lacar and the Argentine settlement of 16 de Octubre needed special examination, and also the Ultima Esperanza and the territory between Lake Nahuel Huapi and 52° of south latitude. The basins of these Patagonian lakes are claimed by

both parties. The development of the disputed regions as far as it has proceeded has been accomplished thus far mainly by Argentinians, to whom the country is more accessible than to the dwellers beyond the impassable Andes, and who have been stimulated by political motives to substantiate by actual possession their claim to the valleys of the Pacific watershed, into 7 of which, out of 9 principal ones, they have gradually intruded since 1881. While the dispute as to the conditions of arbitration and the basis of the respective claims was still acute the two governments resumed the belligerent preparations which have created financial embarrassment on both sides for many years. In 1900 an understanding was reached between President Roca and President Errazuriz of Chile not to increase further the military and naval powers of their respective countries. This private agreement ended when President Errazuriz went out of office, and was not renewed with President Riesco. The rivalry of the two nationalities for future influence and empire prompts each one to a struggle for military and naval primacy in South America and for political prestige. This struggle is not likely to end when the burning question of the boundary is settled, yet when that phase of it is past it will be unlikely that either country will go beyond its definite and distinct sphere to seek a cause of war. Chile having purchased 2 torpedo-boat destroyers and ordered an armored cruiser in the United States, the Argentine Government decided in the beginning of April to order 2 new war-ships in Italian yards, to cost \$5,000,000 in gold apiece, which should be defrayed out of the general revenue in two years. This decision was in accordance with the avowed policy of the Government to maintain a marked naval superiority over Chile, which on its part adopted the policy of keeping its naval armament equal, but not superior, to that of Argentina, so that in case of arbitration involving disarmament or limitation of armaments the arbitrator would find that Chile had pursued a purely defensive policy. Such a competition involved a naval extension that could be checked only by the bankruptcy of one Government or the other. The mediation of the British representatives was offered to bring about an arrangement preventing additional construction and dividing the war-vessels that were being built equally between the two countries. Except upon the sea the danger of a collision between the war forces of the two republics is remote unless neighboring countries are involved, because the great Andean chain forms an effective obstacle against a direct military invasion from either side. The total expenditure for naval construction incurred by the Argentine Government amounted to \$30,000,000 in currency, which it was proposed to distribute over three years in equal portions. To meet this extraordinary demand a part of the money was to be obtained from the National Bank, which was in liquidation, and the remainder to be raised by contributions from lotteries, a duty on real-estate transactions, and some increases in internal taxes. At the time when the two additional armored cruisers were ordered there were 2 already building in Italy, to be ready for sea in September, 1903. The total cost of the 4 cruisers is close upon \$25,000,000 in gold, and they entail heavy annual disbursements for maintenance. Chile endeavored to exact from the Argentine Government as a condition to the limitation of armaments a declaration that it would in no event intervene in affairs on the Pacific coast. By giving moral support to the contentions of Peru

and Bolivia in their disputes with Chile regarding the restoration of their lost provinces Argentina has to some extent undermined Chilean influence in those countries, where Argentina will not grant to her rival a free hand that would make Chile the dominant political power in South America. Political primacy and domination of the continent is the prize for which the rival powers may wager a conflict that would permanently humble and weaken the loser and result in the destruction of one navy or the other, the payment of a heavy money indemnity, the annexation of the whole of Patagonia by the victorious power, and in the event of Argentinian success the restoration to Peru and Bolivia of the ports and nitrate fields seized by Chile in 1879-'82.

The Argentine Government refused to give a pledge to maintain absolute neutrality in existing and future questions on the Pacific coast, but gave an assurance that it had no wish to intervene in affairs on the Pacific, provided Chile fulfils her treaty obligations toward Peru and Bolivia. The Minister of Foreign Affairs died suddenly on May 5, and Valentin Virasoro was appointed in his place. Congress was opened on May 8. The Minister of Finance expected the ordinary revenue to be sufficient to cover expenditure and further reduce the floating debt. Additional taxation affected articles of luxury, not those of prime necessity, and unless extraordinary expenditure occurred it would not be enforced. Regulations were issued requiring statements to be made to consuls regarding the country of origin and the cost of manufacture of goods shipped to Argentina, but on complaint of merchants that these were vexatious they were recalled. Both the Argentine Republic and Chile had made preparations of such warlike character that an outbreak of hostilities might occur after the award of the arbitration tribunal. The Peruvian question might be the cause, but in any event the work of the boundary commission would have gone for naught. Therefore the British representatives conveyed a hint that unless means were adopted to preserve peace his Britannic Majesty would withdraw from the dispute. A treaty was drawn up the preamble of which contained declarations of the Argentine minister to Chile and of the Chilean Minister of Foreign Affairs which were accepted by the Chilean Government as a pledge not to disturb its possession of the Peruvian and Bolivian territories occupied by Chile, but to leave the question of their final disposition to be settled with Peru and Bolivia without intervention, and by the Argentine Government were accepted as a promise on the part of Chile not to seek further territorial aggrandizement. A protocol constituting King Edward of England general arbitrator, one for the cancellation of existing orders for ships and for the equalization of armaments within twelve months, and one recognizing the principle of non-interference with the existing boundaries of the neighboring republics, Chile to retain all rights conferred by treaties, were signed on May 27 at Santiago, and on May 28 a treaty of general arbitration in case of future difficulties was signed, also a protocol for the limitation of naval armaments and one for the demarcation of the frontier after the award of the arbitration tribunal by a technical commission to be appointed by the arbitrator. The first article of the treaty of general arbitration declares that the high contracting parties bind themselves to submit to arbitration every difficulty or question of whatever nature that may arise between them, pro-

vided such questions do not affect the precepts of the respective constitutions of the two countries, and that they can not be solved through direct negotiations. The exception of questions affecting the constitutions of the republics may be made to cover almost any question in which national ambition or animosity finds a cause of war. This is, however, a necessary legal restriction of arbitration when adopted by constitutional governments, although a similar clause delayed for several years the ratification of the treaty of arbitration between the Argentine Republic and Italy. The British Government has been particularly interested in the preservation of peace between the Argentine Republic and Chile on account of the amount of British capital staked in both countries. In the Argentine Republic, aside from Government securities, there are nearly £123,000,000 of foreign money invested, about 75 per cent. of it English, and in Chile the proportion of British capital is larger. The agreements were approved by the Senates of the two republics without much discussion, but in both Houses of Representatives there was cavil and obstruction, but not enough opposition to prevent their acceptance after a further interchange of notes in which Chile agreed to the limitation of armaments on receiving a distinct assurance that the Argentine policy was one of absolute neutrality in questions on the Pacific coast. The period for ratification elapsing, it was prolonged by a protocol signed on July 24. On July 31 the Argentine Chamber approved the agreements without modification, and on Aug. 12 they passed the Chilean Chamber.

Besides high taxation, necessitated by the warlike preparations that have been carried on intermittently for ten years, the failure of civil and criminal justice in Argentina operated to deter enterprise and depress the economic situation. President Roca, in his message to Congress, said that the standard of the judiciary had degenerated through a quarter of a century without any determination being shown on the part of the Legislature to mitigate this crying evil. The system of indirect taxation by which the bulk of the revenue is raised bears most heavily on the poorer classes. Thousands of immigrants have left again when they found how difficult it is to make a living. Land taxation is of the highest description, and a result of this condition is that great blocks of fertile land lie unimproved and uncultivated. A transitory cause of economic depression in 1902 was the failure of the harvest in 3 great provinces. Notwithstanding the agreement with Chile to restrict armaments, the budget called for a national expenditure of \$77,000,000, reckoned in gold, besides \$25,000,000 of provincial expenditures and the municipal charges. The grain harvest in Argentina is always uncertain. In 1900 the wheat exports were 2,000,000 tons, in 1901 only 1,000,000 tons, and in 1902 they dropped to 600,000 tons. Minor causes which aggravated the economic crisis were the closure of British ports to Argentine sheep and cattle, overproduction of sugar in Tucuman, and an excessive crop of grapes in Mendoza and San Juan. Quarantine restrictions between the Argentine Republic and Brazil also tended to hinder trade. The revenue fell off until the Government was confronted with a shortage of \$7,500,000. In framing the budget for 1903 the Government made a retrenchment of \$16,500,000 on the finance bill for 1902 and reduced taxation by \$2,900,000 in gold and \$1,500,000 in currency. In order to meet unforeseen expenditure the National Bank, which owes the Government \$50,-

000,000, placed \$5,000,000 of its bonds in the hands of the Government.

ARIZONA. (See under UNITED STATES.)

ARKANSAS. (See under UNITED STATES.)

ASTRONOMICAL PROGRESS IN 1902.

The astronomical discoveries of the past year (from October to October) have in some respects surpassed those of any of its predecessors, characterized by great activity, especially in the departments of variable stars and spectroscopic binaries.

In looking over the year's work, one is confronted with the fact that, though astronomy is the oldest of the sciences, it is still in the experimental stage, and probably will be for centuries. The impressive fact must constantly be borne in mind by the reader that he is standing face to face with numbers, magnitudes, velocities, and distances which no stretch of thought can comprehend. All countries that possess the means for astronomical research made gratifying progress during the year, and this is emphatically true of the United States.

Daylight Astronomy.—This is exemplified only in observing the Sun, about which astronomers know but little. When his disk is observed with a telescope of contracted aperture, the eye protected against his terribly penetrating heat and light by colored glass and other devices, it presents a mosaic of pores, spots, faculae, and corona; and when his disk is completely covered by the Moon during a total eclipse the chromosphere, prominences, streamers, and Bailey's beads, all of which bid defiance to investigation. We are no wiser than were the ancients as to the cause of these phenomena. All we know is that he rotates on his axis in about twenty-six days, and has also a motion of translation, but whether tangential or orbital is unknown. This progressive motion was immediately inferred when his rotation was known. This supposition has been confirmed by both telescope and spectroscope. In our age the direction is toward the constellation Hercules, but the center around which the Sun and planets and satellites are revolving is unknown. This motion is about fifteen miles a second—sufficient, it would seem, after the lapse of a few centuries to produce a perceptible change in the appearance of stars and constellations. The point toward which we are now moving is called the solar apex. A strenuous effort is being made by several astronomers, especially at the Lick Observatory, to locate with all attainable exactness the direction of this motion. The D. O. Mills expedition to Chile, South America, with a new reflecting telescope and other appliances made especially for the work by John A. Brashear, has arrived at Valparaiso, and will be located there for three years, to work in conjunction with the astronomers at the Lick Observatory. Before shipment the instruments were subjected to the most rigid comparison tests with those left in the observatory. The two parties will work on two different sets of stars, one north, the other south, which latter can not be seen at the Lick Observatory. Spectroscopic and other observations will be made on several bright stars in both hemispheres during the three years. As before said, the design of the expedition is to ascertain the exact direction of our celestial highway, including the entire solar system and periodic comets, its rate of motion, and, if that is orbital, where the mighty center is, and whether a single Sun or a cluster of Suns, and the periodic time.

The three most trustworthy determinations of the present solar apex are as follow: New-

comb, right ascension $18^h 28^m$, declination north 35° , or near Alpha Lyra. Kapteyn, right ascension $18^h 16^m + 20''$, or in Hercules. Campbell $18^h 28^m + 20''$; velocity 12.4 miles a second.

To elucidate the spectroscopic process by which it is hoped the direction of the Sun's motion may be determined the following facts must be borne in mind. If a star is not moving toward or from the solar system, or we toward or from the star, the spectral lines of hydrogen, sodium, iron, etc., will occupy precisely the same positions that are experimentally observed in the chemist's laboratory. If the lines in the spectrum of the star occupy positions slightly toward the red end of the spectrum, that star is either moving from the Earth or the Earth from the star, or both from each other. On the other hand, if all the lines are moved slightly toward the violet, that star is either moving toward the Earth or the Earth toward the star, or both toward each other. If the lines from all the stars in a certain region of the sky are moved toward the violet, it furnishes strong evidence that the Sun with his family of planets is moving in that direction, or that all the stars in the region are moving in our direction—an improbable supposition.

If the spectral lines from stars in a certain direction are moved toward the violet the theory demands that the lines from stars in the opposite direction shall be displaced toward the red.

The Zodiacal Light.—The cause of this strange light is one of the most inexplicable mysteries of the heavens. It is very doubtful if its cause will ever be discovered. It is gratifying, however, to announce that it is beginning to attract the attention it deserves. For its investigation no instrument, unless it be the spectroscope, can be used. Though the area of the light is large, it is too faint for telescopic observation, and the hope that the spectroscope can deal intelligently with it is almost a forlorn one. So faint is it that the light from the planets Venus and Jupiter are sufficient to obliterate it. It is also too faint to attract popular attention, but none the less necessary to be investigated. It is a broad beam of light, seen in the west above the place where the Sun has set as soon as twilight is ended, and in the morning sky before dawn appears. It is conical, 25 degrees broad at the horizon, and extends often to near the zenith, where it narrows to a blunt point. Some observers think they have seen it extend from horizon to horizon. In some countries it is seen only during the 3 spring and autumnal months, in the west in spring, and in the east in autumn. This, if true, is an important fact as associated with the meteoric-ring hypothesis. At the Lowe Observatory, in southern California, 3,500 feet above tide-water, it is visible the year round in the west; but, owing to obstruction by the San Gabriel mountains, it is never seen in the east except from the top of Mount Lowe, one of its highest peaks.

Several plausible theories have been advanced to explain the cause of this light, but in the writer's opinion they are not worth recording.

The writer is of the opinion that the zodiacal light is due to the reflection of sunlight from the cast-off tails of comets. No comet gathers its tail to itself; a part is left behind, and the process has been going on since the creation. This hypothesis demands that the cometic ring extend far beyond the earth, if not to Neptune's orbit, its eccentricity being very great.

The Gegenschein is another mysterious light, in several respects more so than the zodiacal

light, with which it seems to be associated. Prof. Barnard has made it a systematic study for fifteen years. It is a circular light, always exactly opposite the Sun, therefore on the meridian at midnight. He has traced what he calls the zodiacal band, extending from it to the evening and morning zodiacal cones, 3 or 4 degrees broad, and it can be seen, except where it crosses the Milky Way, in June and December. The writer never saw it in New York, but in California was surprised at its brilliance.

Mercury.—The exact diameter of Mercury has always been considered beyond the limits of accurate measurement. Recently, from a long series of micrometer determinations with the 26-inch telescope at the Naval Observatory, Prof. T. J. J. See has deduced a mean diameter of $5.8993''$, with a probable error of only $0.0080''$. There was no appearance of an atmosphere or evidence of any markings on his disk. This gives the diameter of the planet about 3,000 miles.

Jupiter.—Prof. See has recently completed a series of daylight observations to determine more reliable values of Jupiter's diameter with the same telescope. They were made when he was at the distance of 5.20 (the Earth's distance from the Sun being 1) with the following result: Equatorial diameter $37.646''$, polar $35.222''$, corresponding to 88,151 and 82,475 miles respectively. Since last report Prof. See has subjected Saturn and his rings to a long series of micrometrical measurements with the following results: Equatorial by night, $76.598''$; by daylight, $74.172''$. External diameter of outer ring, $171.948''$. External diameter of dusky ring, $111.969''$ miles respectively.

Bolides.—Since the last report several of these strange celestial visitors have suddenly appeared and as suddenly vanished—where from and where gone is a fathomless mystery. They are also called fire-balls and meteors. That they are identical with the fall of meteoric stones is generally conceded; but that they are even remotely connected with what are called shooting stars is in the highest degree improbable. During the great star showers of Nov. 13, 1833, and the 14th in 1866 not a bolide was seen, though countless millions of the microscopic meteors were seen over a large portion of the earth. No shooting star ever has been known to reach the Earth. The writer well remembers the celebrated one of 1860. In Niagara County, New York, he rose to give a lecture, when instantly the room was lighted to the brilliance of a sunny day, and the light disappeared as quickly as a flash of lightning. It was first seen in Colorado in broad daylight, and last seen over the Atlantic Ocean. Whether it ever reached the Earth is not known. Its velocity was from 12 to 15 miles a second.

The object in calling the reader's attention to this subject is to describe the appearances of 3, among several others, on as many different dates which have appeared in the past twelve months. On Dec. 16, 1901, a remarkably bright one was seen in England, in the constellation of Perseus. It moved north almost at a right angle to the ecliptic, and disappeared beneath the polestar. On Nov. 13, 1901, one was visible over a large portion of England. Its path remained visible a short time when a dotted streak of light appeared, finally assuming a faint nebulous cloud. The most remarkable of the three passed over New South Wales at $9^h 35^m$ on the evening of Jan. 7, 1902, visible over a region 300 miles in length. It first appeared in the con-

stellation Octans. Allen B. Cobham received statistics from 25 stations. Mathematical computation revealed the fact that along its visible path its average height was about 50 miles, and its velocity 33 miles a second. A few minutes after it disappeared a loud report like distant thunder was heard at all the stations which shook buildings. At some places a double report was heard.

Meteoric Stones.—That bodies when they fall to the Earth, which they sometimes do, are identical with meteoric stones is conceded. They are of all sizes and shapes from that of a marble to 100 tons. Recently Prof. Henry A. Ward, of Chicago, who is an authority on the subject, visited Mexico to inspect a stone that was reputed to have fallen from the sky. He found

The ring completes a revolution 'round the Sun in about thirty-three years and a quarter, thus causing the Earth to pass through it every year in a new place, and once in about thirty-three years through the dense place. The shower in 1833 surpassed all its predecessors.

Prof. W. H. Pickering says that the observation of the Leonids, as the shower is called, appears to indicate that the 33.25 year period must be abandoned, on the ground that since 1698 the length of the period has been thirty-four years. Remembering that brilliant displays were seen in 902, 1002, 1202, and 1602, it seems possible that it will yet return in November, 1902, but unfortunately there will be a full moon. If it does appear it will be just one thousand years since it was first recorded in history.

Another notable shower of meteors occurs every year on Aug. 10 whose elements agree with those of Swift's comet of 1862, having a period of one hundred and twenty-three years. A fine display was seen in Europe on Aug. 10, 1902. They are called Perseids, because they appear to radiate from the constellation Perseus.

Distances of the Stars.—The grandest and most difficult problem man ever attempted to solve is to ascertain the distance of a few of the brighter stars. The problem has not yet been solved with the desired accuracy. One element of doubt is the Sun's distance from the Earth, which has engaged the attention of astronomers for at least three thousand years. The process resorted to is briefly as follows: The velocity of light is assumed to be 186,325 miles a second, as a year contains 31,556,926 seconds, the product of these two numbers will give the number of miles corresponding to a "light year." A star having a parallax of 1" is distant 3.26 light years. The parallaxes of the stars, however, are, with perhaps a single exception, much less, and the less this is the greater its distance. If the light year of a star having a parallax of 1" be divided by the assumed parallax of any other star the result gives the distance in light years. Suppose the parallax of the star to be 0.5", then $\frac{3.26}{0.5} = 6.52$ years—that is, the light has been more than six years in reaching us, moving at a velocity equal to seven times round the Earth in one second. The nearest known star is Alpha Centauri, whose parallax is not quite 1". It is distant about $3\frac{1}{2}$ light years. All this, however, depends on the correctness of the computation of the parallax, an assumption seldom if ever trustworthy. The following list comprises the best determination:

STARS.	Parallax.	Light years.
Dog-star	0.85"	8 $\frac{1}{2}$
Procyon	0.37	12
Groombridge, 1890	0.14	23 $\frac{1}{2}$
Alpha Lyra	0.13	27
Aldebaran	0.10	33
Capella	0.10	33
Pole-star	0.07	47
Arcturus	0.03	160

Proper Motion.—In common parlance the stars are called fixed stars; but, strictly speaking, there is not a fixed star in the universe. Every one is attracted and swayed by the others and in all directions. Their apparent motion, though very rapid in miles, is, from their great distance, exceedingly slow. The proper motions of several thousand have been determined with great exactness, both in right ascension and declination, and catalogued. Proper motion is not applied to motion of stars in the line of sight, as they appear absolutely stationary.

THE GREAT METEORITE IN MEXICO.

it to be a very remarkable one. (See illustration.) They never fall perpendicularly, and when they are large they plow a long, deep channel. He hoped to be able to remove it to Chicago, but found it to be impossible. He estimated it to weigh 50 tons. As it is far from a railroad or shipping port, it will probably never be moved. It is partly hidden in a long deep channel that it dug.

Meteorites are of two kinds—iron and stone. If a stone is seen covered with a rough, jet-black crust, with many depressions of all sizes and depths, it is a meteorite. The hollows are gouged out in passing through the air, producing the sparks that are seen during its visibility.

Star Showers.—On the mornings of Nov. 12, 1799, Nov. 13, 1833, and Nov. 14, 1866, the world was treated to magnificent star showers. The intervals between them (thirty-three years and one day) furnished a strong suspicion that they would again recur on Nov. 15, 1899, but at that date no meteors appeared, or no more than are usually seen about Nov. 14. This shower can be traced back nearly one thousand years. The sun appears to be surrounded with a meteoric ring of what are called, before consumed in our atmosphere, meteoroids, and while visible, undergoing combustion, meteors and shooting stars. The earth in its annual path around the Sun passes through the ring every year about Nov. 14, and produces a slight display. The ring, supposed to be composed of the ejected tails of millions of comets, appears to be unequally dense, one place in it being exceedingly dense, through which the Earth passed in 1799, 1833, and 1866, but not as was expected in 1899.

It would be natural to suppose that the brighter stars were the nearer and their proper motions the greater, but this seems not to be the case, or at least it often fails. The most rapid proper motion in the sky is that of two stars invisible to the naked eye. Groombridge 1830, a star of the sixth magnitude, has long been called the runaway star. It has a proper motion amounting to 7" a year, which would carry it around the sky in one hundred and eighty-five thousand years. Its velocity is thought to be 200 miles a second. The latest and most rapid known is that of an eighth-magnitude star in the southern sky. Its proper motion is 8" a year, or sufficient to carry it across a space apparently hidden by the diameter of the moon in two hundred and fifty years, or, in miles, round the earth in eighty-three seconds. The latest record of Groombridge 1830 is from the Lick Observatory Bulletin, No. 4, which gives the proper motion of the star as 7.05" a year, which with Newcomb's adopted parallax of 0.14", would denote a velocity perpendicular to the line of sight of 150 miles a second. The Bulletin gives the radial velocity (in line of sight) as 59 miles a second. The above-mentioned parallax of the star gives its distance as 23½ light years. The same Bulletin confirms the variability of Delta Orionis in the line of sight, discovered by M. Deslandres at Meudon. The results from three photographs are +3 kilometers a second, +51, and -69. A large variation has been discovered in the radial velocity of Omicron Persei. The range of variation in this star and in Eta Orionis are the largest yet discovered among spectroscopic binaries with one dark component. The well-known Algol variable Delta Libræ exhibits a considerable variation in the line of sight, proving that it is a double star, which never has been seen with a component. Ten spectrographs of the dog-star were obtained between December, 1901, and March, 1902, which give for the epoch 1902.06 a radial velocity of -6.57 kilometers a second. This value, combined with others previously made, gives its parallax as 0.21", making his distance in light years nearly twice as great as was formerly supposed.

Binary Stars.—Recently 300 binary systems have been discovered. This work is still progressing, and many astronomers are engaged in it. The sky is covered with them, but they were never suspected until the invention of the spectroscope and the application of photography.

Binary stars are divided into three classes: 1. Telescopic, where both components are visible. 2. Spectroscopic, where only one is seen, the other being too close to be visible in any telescope, but both being bright and each giving a spectrum. 3. This class of binary stars, unlike those of No. 2, give but one spectrum, one component being incapable of giving a spectrum. Stars of No. 1 type are both seen with the telescope to revolve round each other, but always in a plane perpendicular, or nearly so, to the line of sight. The spectral lines of the approaching star will all be slightly moved toward the violet end of the spectrum, and those from the receding star toward the red, thus causing the lines of hydrogen, sodium, helium, iron, etc., from each star to be periodically single, broad, and double, and *vice versa*. When there is no to-and-fro motion the lines are single. The behavior of stars of the third class is quite unlike those of No. 2. If the star gives but a single spectrum, it is either a single star or a binary with one component dark. If it is single its spectral lines will never move

or be double, but if it is a binary the lines will be seen to vibrate periodically toward the red and the violet. The dark sun revolving round the bright one periodically sways the bright one to and fro by its attraction.

If the reader will turn back a few lines and re-read what is said about the radial motions of Delta Orionis, Omicron Persei, Eta Orionis, and Delta Libræ, he will be able to comprehend how the periodic motions of stars to and from the Earth is ascertained. The following is a list of a few recently discovered stars moving in the line of sight:

Alpha Auriga.....	104 days.	
Omicron Leonis.....	14.50 "	
Kappa Pegasi.....	5 "	Dark companion.
Zeta Geminorum.....	5.88 "	
Delta Cephei.....	5.37 "	Variable.
Alpha Virginis.....	4.01 "	Dark companion.
Beta Scorpii.....	4 "	
Alpha Ursæ Minoris.....	3.95 "	Pole-star.
Alpha 1 Geminorum.....	2.93 "	Fainter component of Castor, triple sun. 1,000 years = Castor.
Alpha 2 Geminorum.....	.....
Delta Orionis.....	1.99 "	
Mu Scorpii.....	1.46 "	Two bright stars.
Alpha 1 Scorpii.....	34 h. 42 m. 30 s.	
Iota Pegasi.....	1 day.	Next to shortest known.
Y Lyræ.....	12 h. 3 m. 52 s.	Shortest known.

The discovery of radial motion in the trinary system of the pole-star excites the admiration of all who are able to appreciate its significance. Prof. W. W. Campbell, director of Lick Observatory, has, from observation secured since 1899, shown that the velocity of the center of mass of the binary has varied from -11.8 kilometers a second in 1899 to about -13.5 kilometers a second at the present time. It varied from -18.0 a second in 1896 to -11.8 a second in 1899. A reversal has therefore taken place. The period of the binary system 34° 23' 14.3" deduced in 1899 satisfies recent observations.

The pole-star has a companion visible through small telescopes, and was formerly considered a telescopic binary. Lately the spectroscope has determined the faint telescopic component to be a spectroscopic binary with a period of about fifteen years.

Much interest attaches to Mizar, which is a telescopic binary and a spectroscopic trinary. It is the middle star in the handle of the Great Dipper. From observations made in March and April, 1901, Vogel has deduced the relative motion in the line of sight. It is the brighter component that is a spectroscopic double. Its spectroscopic duplicity was discovered by Prof. E. C. Pickering. Prof. Campbell estimates that one star in every five or six is a spectroscopic binary, yet up to the present time not more than 40 are known.

Five Algol stars—viz., V Puppis, X Carinæ, RR Centauri, Beta Lyra, and U Pegasi—revolve with their components in contact.

Nebulæ.—Since Sir William Herschel's day many thousand nebulæ have been discovered. They are now searched for by photography, which by long exposure reveals what no visual telescope can. At the Paris Observatory 23 new ones have recently been discovered, and many at the Cape Observatory and at the Arequipa station of Harvard College Observatory in Peru, and a great many have been discovered that escaped the eye of Sir John Herschel and others. One of those discovered at the Cape was by one hour's exposure depicted on a photograph plate. In fact, it is a double, consisting of two spindle-shaped nebulæ side by side, but touching each other in one place only. This was previously discovered at Arequipa.

Dr. Hartmann, in a Berlin astronomical publication of Feb. 27, 1902, describes experiments made with the Potsdam photographic refractor, with two different spectroscopes, one having a flint-glass prism of 60° and 3 of 63°. The exposures were from 90^m to 270^m. The velocity of the nebula, General Catalogue, 4390, was first determined from measurements of the line H β and H γ , which were very satisfactory. Their motions in the line of sight were:

G. C. 4390	= - 10.5 kilometers a second.
4373	= - 63.8 " "
New " 7027	= + 4.9 " "

The great nebula in Orion has been subjected to a similar spectrographic analysis, and the result indicates a motion in the line of sight by using the H β line, amounting to +6, +41, and +28 kilometers a second. The results of measures made by three experts are, as might be expected, somewhat discordant, because of the faintness of the lines.

Double Stars.—During the past one hundred years the search for double stars, the investigation of their motions, and determinations of their period if binaries have constituted an important division of sidereal research. In the past thirty years 4,000 double stars have been discovered, all by a few astronomers. In 1902 several hundred new ones were found. Nearly 12,000 double stars are now known.

If two stars are found by the telescope to be excessively close to each other, in which after several years no motion of revolution is observed, the pair is called an optically double one. If motion of revolution is detected, it is called a binary. A few trinary systems are known, of which the pole-star is an example. Prof. Hussey, of the Lick Observatory, has discovered that Burnham's double star 168 is a trinary, one component being an exceedingly close double, the distance being less than 0.4". The companion is a spectroscopic double which yields to no telescope. The telescope sees two, the spectroscope deals with three. The following short list includes a few of the most interesting telescopic binaries, of which about 400 are known:

Name.	Period of Rotation.
Burnham 683	5.5 years. Shortest known.
Kappa Pegasi	11½ "
Delta Equelei	11½ "
88 Ceti	16 "
Zeta Herculis	40 "
Procyon	40 "
Sirius, dog-star	58.8 "
Xi Urse Majoris	61 "
Alpha Centauri	81 "
70 Ophiuchi	94 "
Gamma Virginis	200 "
Gamma Leonis	400 "
Castor	1,000 "
Zeta Aquarius	1,500 "

The vast difference between the periods of the first and last will not escape notice. To separate many of the double stars eyepieces magnifying from 1,000 to 5,000 diameters are used. Prof. Hussey, examining some well-known double stars, found 5 of them triple, 4 as close as 0.6", and one only 0.3", the closest telescopic binaries yet discovered.

A large variation is shown in motion in line of sight of Omicron Persei. Its range of variation and that of Eta Orionis are the largest yet discovered among spectroscopic binaries that have a dark component. The well-known Algol variable Delta Libræ also exhibits considerable variation in radial velocity. Ten spectrographs of Sirius were obtained between December, 1901, and March, 1902, which give for the epoch

1902.06 a velocity in line of sight of — 6.87 kilometers a second. This result, combined with that obtained by Vogel and Scheiner, — 15.6, for the epoch of 1890.09, gives a parallax of 0.21" for the system. Gill's value from heliometer measures is 0.37". The following are moving the most rapidly:

TOWARD THE EARTH.		FROM THE EARTH.	
Name.	Miles in a second.	Name.	Miles in a second.
Arcturus	55	Dog-star	20
Alpha Lyrae	40	Castor	25
Alpha Cygni	50	Alpha Orionis	15
Beta Gemini	60	Beta Orionis	25
Alpha Urse Majoris	60	Gamma Leonis	22

Comets.—There was a dearth of comets in 1902, contrasting strangely with the number (10) seen a few years ago. *Comet (a)* was discovered by Prof. Brooks at Smith Observatory, Geneva, N. Y., April 14, in the constellation Pegasus, and in the same telescopic field as was that of Feb. 23, 1883, also discovered by him. The direction and rate of motion were such that it was constantly in the Sun's twilight. The few observations made indicated that it was moving in a parabolic orbit, and therefore visited us for the first and last time. *Comet (b)* was discovered on July 22 by John Grigg, of New Zealand, but, from places too roughly given and long delay by mail, it was not seen elsewhere. *Comet (c)* was discovered by Prof. C. D. Perrine at the Lick Observatory on Sept. 1. It was very faint, about 4' in diameter with a tail 30' in length. Its discovery place was right ascension 3^h 17^m 49^s, declination north 34° 38' 47", or in the constellation Perseus.

A finding ephemeris of Swift's comet 1895 II is published, and astronomers are searching for it by both photography and telescope, with but little prospect of success, its position relative to the Sun and Earth being unfavorable for visibility. It occasionally makes the nearest approach to Jupiter of any of the periodics. When this event next occurs its orbit will be greatly changed, perhaps to a very long period, or even to a parabola. Mr. Schulhof estimates the uncertainty of the time of perihelion passage at only three days.

Among the comets that have returned to perihelion unobserved is Finlay's of 1886, an especially interesting one from its supposed connection with Loxell's comet. E. Swift's comet, having a period of 5.855 years, has also returned without detection, much to the disappointment of astronomers, as there is some reason for supposing it to be identical with Di Vico's lost comet. One of Barnard's comets is also in the same category, having escaped detection at two apparitions.

Minor Planets.—The search for these bodies (called also asteroids and planetoids) is still prosecuted with vigor, resulting as heretofore in their rapid discovery, but more especially since the employment of photography. It is supposed that nearly all as bright as the tenth magnitude have been discovered. Their diameters in miles vary through wide limits. The mean diameter of the four largest—Ceres, Pallas, Juno, and Vesta—according to Prof. Barnard, is 285 miles.

Ceres is the largest of the whole family, 477 miles. The smallest yet measured is No. 433, the celebrated Eros, 15 to 20 miles.

Minor planets are not searched for all over the sky, as are comets, but at certain declinations both north and south of the equator. The following have been discovered since the last report:

PROVISIONAL.		PROVISIONAL.	
Letters.	Numbers.	Letters.	Numbers. Names.
FL	456	GB	469
FM	459	GJ	470 = Killa.
FN	460	GN	471
FR	461	GP	472 = Roma.
FO	462	GC	473
FS	463	GD	474
FV	464	HN	475 = Oello.
FW	465	GQ	476 = Hedwig.
FX	466	GB	477
FY	467	GN	478
FZ	468	HJ	479

No. 448, Natalia, was discovered by the late Prof. Keeler in 1890, with a 3-foot reflector. It is the faintest of all the family, and is of the twentieth magnitude.

Nearly 30 others have provisional letters assigned to them, some of which, no doubt, will be found to be identical with some previously discovered. A few have been seen but once, so provisional numbers were withheld until further investigation. It is safe to assume that 500 of these little worlds have been discovered. The most distant of the minor planets is 279 Thule. The nearest is 433, Eros, which occasionally approaches nearer the Earth than any heavenly body except the Moon.

No. 475, Oello, has a southern declination of $61\frac{1}{2}^{\circ}$. Its daily orbital motion amounts to the enormous sum of 2,200", or did when in perihelion, and it is the nearest to the Sun of any of the family except Eros. It was found depicted on a photographic plate by Steward, at the Harvard College Observatory station at Arequipa, Peru.

Variable Stars.—The search for stars that vary in brightness is to most astronomers a pleasing pastime. The high interest attaching to their discovery and subsequent investigation into their periods and fluctuations in brightness have led many astronomers to devote their lives to the fascinating work. The number discovered since last report is so great and varied that amateurs have taken up the subject, as no expensive instruments are needed, and are assisting the astronomers in their further discovery and investigation.

Many explanatory theories have been advanced to account for their variation. There are three varieties: 1. Those that vary equally (though different for different stars) from maximum to minimum, and *vice versa*, varying as regularly as the changes of the Moon. This variety is called Algol variables. 2. Those that vary intermittently or fitfully without any regard to periodicity, sometimes to invisibility. 3. Temporary stars, which burst out in an instant, surpassing even Jupiter in brilliance, as did the recent outburst in Perseus, the brightest since the notable one of 1572.

Algol variables are reasonably accounted for by supposing they are periodically occulted by an opaque object, which partially eclipses them, and this accounts for all that is observed by the telescope and spectroscope.

The hypothesis meets with general acceptance among astronomers.

To explain the cause of the fitful variables and the sudden outbursts of the temporaries no theory worth recording has been promulgated.

The number of variables now known is more than 2,500, and further discoveries are being made at a rapid rate. One astronomer asserts that one star out of every five is a variable. The statement seems extravagant, but he doubtless included the minute spectroscopic variation of many, caused by their slight motion to and from the earth in the line of sight. In their discovery

and the investigation into the cause of their variation photography is doing good work, of which the following is one example among hundreds: Prof. E. C. Pickering, describing the discovery of a remarkable variable star, says, in Circular No. 65, it was found that a photograph on glass of the region in which Brooks's comet was discovered on April 14, 1902, had been taken at the Harvard Observatory on April 3. This was superposed on another taken on March 7, 1900, resulting in the discovery of a new variable of the Algol type in R. A. $21^h 55.2^m$, declination north $43^{\circ} 52'$. The true period of the new variable is about 31.304 days. It retains its full brightness for twenty-eight days, its photographic magnitude at maximum being 8.9. About a day before minimum it begins to diminish, attaining the magnitude 9.0 at 1.05^d before minimum, 9.5 at 0.94^d , 10.0 magnitude at 0.84^d , 10.5 at 0.71^d , 11.0 at 0.58^d , and 11.5 at 0.43^d . The time of increase is apparently the same as that of decrease. The light remains nearly constant for more than half a day, with the minimum magnitude 11.6. The period of the variable is more than three times that of any other yet discovered, and the duration of minimum (two days) is double that of S Cancri, the next in length. These results have been obtained from an examination of 388 plates, taken between 1888 and 1902.

Prof. Robert Innis, in his revision of the Cape catalogue, discovered 4 new variables, all, in one respect at least, very interesting. One designated 29, 1900, Appodis, varies from 8.6 magnitude to invisibility. Its period has not been ascertained, but the periods of the other three are from three hundred and sixty to four hundred days, and they diminish in brilliance to invisibility, suffering periodically a total eclipse.

Dr. Anderson, who makes the discovery of variables a special line of work, calls another new one 77, 1901, Herculis. Soon afterward A. Stanley Williams discovered one with the designation 78, 1901, Cygni. It is of the Algol type. Its normal brightness is tenth magnitude, but after $3^d 2^h$ it diminishes to the twelfth, at which it remains for fifty minutes. In $4^h 10^m$ it recovers its usual brightness.

Harvard College Observatory Circular No. 54 gives a list of 64 new variables, the greater part being southern stars discovered by the presence of bright hydrogen lines in their photographed spectra.

Mira Ceti is considered the most remarkable of all the variables. It was discovered to be a variable star more than three hundred years ago. When at its maximum brightness it shines as a second-magnitude star, but it dwindles down to the $9\frac{1}{2}$ magnitude. Recent investigation shows that it is not an Algol star. In the little globular cluster surrounding Omega Centauri 125 variables are visible, Omega itself being one of them, with a period of only six hours and twelve minutes. Another remarkable variable is Eta Argus, often invisible to the naked eye, but in 1838 and 1843 it surpassed in brightness every star in the sky except Sirius. The shortest known variable is U Pegasi = $4^h 29^m 8^s$, the longest is R Carinae = thirty-seven or thirty-eight years.

Stellar Photography.—Prof. E. C. Pickering has for many years been taking celestial photographs. He has a library of glass, so to speak, of more than 30,000 plates, all numbered, dated, their right ascensions, and declinations recorded, packed away in the order of right ascension, so that a plate of any locality in the sky can be found in a moment. In his fifty-sixth annual report for 1901 is the statement that the number of

photographs taken with the several telescopes and available for use amounts to 28,608. The annual production is about 5,000. In the examination of these plates Mrs. Fleming recently discovered two new variables, three stars having peculiar spectra, and the presence of bright lines of hydrogen in the spectrum of U Andromeda. By examination of the plates of the region of the new temporary star in Perseus it was ascertained that if the star existed two days before its sudden outburst it must have been fainter than the twelfth magnitude.

One of the marvels of celestial photography which transcends what we are accustomed to see in astronomy is the rapid formation of the nebulous ring surrounding the new temporary star Nova Persei. Assuming its parallax to be 0.5" and the radius of the ring as photographed at the Yerkes Observatory to be 6', it results that the radius must be 66,000,000,000 miles, and formed at the rate of 6,000 miles a second.

A Gift.—Prof. Pickering, director of Harvard Observatory, has received an anonymous gift of \$20,000 for the benefit of the observatory. As the donor has named no restrictions, the director proposes to use half of it in erecting a wing to accommodate the rapidly increasing stock of negatives and astronomical books. The building is to be fire-proof and of a size to hold the plates that will accumulate in many years.

Prizes.—The gold medal annually given by the Royal Astronomical Society of England has been bestowed on Prof. J. C. Kapteyn, of Holland, for his work connected with the Cape Catalogue, measurements of its celestial photographs and researches in stellar parallax. The Mrs. Jackson Gwilt bronze medal was awarded to Rev. Dr. Anderson for his discovery of the two Novæ Auriga and Persei and many ordinary variables. Each medalist will also receive a bronze medal from the Astronomical Society of the Pacific as heretofore, including Dr. W. R. Brooks and Prof. C. D. Perrine, who will each be the recipient of the latter medal.

AUSTRALIA, COMMONWEALTH OF, a federal union of the British colonies of New South Wales, Victoria, Queensland, South Australia, Western Australia, and Tasmania, proclaimed at Sydney, New South Wales, Jan. 1, 1901, in accordance with the enabling act passed by the British Parliament on July 9, 1900, after New South Wales, Victoria, Queensland, South Australia, and Tasmania by a popular referendum had decided to federate. In August, 1900, Western Australia also decided to enter the union as an original state, for which provision was made in the act of confederation. The legislative power is vested in a Federal Parliament, consisting of a Senate of 36 members, 6 from each state, and a House of Representatives. The Senators are in each state elected for six years by popular vote on a single ticket, except in Queensland, which is divided into 2 districts. One-half of the Senate is renewed every three years, but in case of a deadlock between the Senate and the House of Representatives the Senate must be dissolved and an entire new Senate elected. The number of members in the first House of Representatives is 75, of whom New South Wales elected 26; Victoria, 23; Queensland, 9; South Australia, 7; Western Australia, 5; and Tasmania, 5. The legislative period for the House of Representatives is three years unless it is previously dissolved. The electors qualified in each state to vote for the popular branch of the state Legislature may vote for Senators and Representatives in the Federal Parliament, which

has power to enlarge, but none to restrict, the franchise so defined. To be elected a member of either house of Parliament, one must be a natural-born British subject or naturalized for five years, a qualified elector of his own state, and a resident in the Commonwealth for three years. The states reserve all legislative powers not specifically delegated in the Constitution to the Federal Parliament, which has power to legislate on commerce, railroads, shipping, light-houses, statistics, marriage and divorce, emigration and immigration, currency, banking, weights and measures, conciliation and arbitration in industrial disputes, and certain other matters. The executive authority vested in the King is exercised by a Governor-General on the advice of a Council of State. The Governor-General is the Earl of Hopetoun. The Council of Ministers appointed at the establishment of the Commonwealth was composed as follows: Prime Minister and Minister for External Affairs, E. Barton; Attorney-General, A. Deakin; Minister for Home Affairs, Sir W. J. Lyne; Treasurer, Sir George Turner; Minister of Trade and Commerce, C. C. Kingston; Minister of Defense, Sir John Forrest; Postmaster-General, J. G. Drake.

LORD TENNYSON,
GOVERNOR-GENERAL OF AUSTRALIA.

Area and Population.—The area of the states forming the commonwealth and their population, exclusive of aborigines, according to the census of 1901 are given in the following table:

ORIGINAL STATES.	Square miles.	Population.
New South Wales..	810,897	1,352,297
Victoria..	87,864	1,300,918
Queensland..	658,497	466,596
South Australia..	908,690	882,604
Western Australia..	976,980	162,553
Tasmania..	26,215	173,475
Total.....	2,972,573	3,767,448

The total population of New South Wales was 1,359,537, comprising 713,794 males and 645,743 females. This includes the aborigines, of whom there were 3,906 males and 3,244 females; total, 7,240. There were 9,750 Chinese and 1,151 half-castes. The number of Chinese arriving in 1900 was 75, while 379 departed. The immigration by sea in 1900 was 68,783, and the emigration 67,198, making the net immigration 1,585. Between 1891 and 1901 the increase of population was 227,303, the natural increase from excess of births over deaths being 226,752. The population of Victoria, according to the census of March 31, 1901, consisted of 603,903 males and 597,015 females. The annual rate of increase since 1891 was only 0.43 per cent., compared with 2.83 per cent. in the preceding decennium. The population is three times as thickly settled as in New South Wales, averaging nearly 14 persons to the square mile, and 56 of the population live in towns, Melbourne having 493,956 inhabitants; Ballarat, 46,410; Bendigo, or Sandhurst, 43,112; Geelong, 23,440; Warrnambool, 6,600; Castle-

maine, 7,990; and Stawell, 5,400. The number of immigrants who came by sea in 1900 was 82,157, comprising 53,559 males and 28,598 females. The emigration for the same year was 83,684. Since the opening of the Western Australian gold-fields there has been an excess of emigration, which was 14,547 in 1896, 6,454 in 1897, 3,789 in 1898, 1,563 in 1899, and 1,427 in 1900.

Queensland shows an annual growth in population in ten years of 2.78 per cent. The population on March 31, 1901, comprised 280,092 males and 223,174 females. There were 9,313 Chinese, including 530 females; 9,327 Polynesians, including 671 females; 939 East Indians and Cingalese, including 12 females; 1,557 males and 230 females of other colored races; and 3,862 male and 2,808 female aborigines, exclusive of those living in a migratory or savage condition. Of the three divisions of Queensland the southern contained 328,390, the central 63,919, and the northern 110,957 inhabitants. The number of immigrants in 1900 was 36,348, inclusive of 1,085 Chinese and 1,760 Pacific islanders; the number of emigrants was 35,433, inclusive of 807 Chinese and 996 Pacific islanders. Brisbane, the state capital, had 119,428 inhabitants on March 31, 1901, inclusive of suburbs. Charters Towers had 20,976; Rockhampton, 19,691; Townsville, 15,506; Ipswich, 15,246; Gympie, 14,431; Toowoomba, 14,087; Maryborough, 12,900.

The population of South Australia showed an increase for the ten years of 1.37 per cent. per annum. It was composed of 184,422 males and 178,182 females. In the northern territory there were 4,890 persons, most of them Chinese coolies, and only 436 of them females. The population of Adelaide, the capital, is about 160,691, inclusive of suburbs. The immigration by sea in 1900 was 31,094, and emigration 30,417.

The population of Western Australia consisted of 112,094 males and 70,459 females. Perth, the capital, contained 36,199 inhabitants; Fremantle, 20,359. The population continues to increase through immigration, mainly from the older colonies. In 1900 the number of immigrants was 24,921, and of emigrants 19,021, giving a net increase of 5,900.

The annual increase of population in Tasmania between 1891 and 1901 was 1.64 per cent. The population on March 31, 1901, consisted of 89,624 males and 82,851 females. Of the total population 136,629 were born in Tasmania, 12,526 in other parts of Australasia, 19,815 in Great Britain and Ireland, 773 in Germany, and 484 were Chinese. The number of immigrants in 1900 was 23,056. The recorded emigration was 22,574, but about 3,000 departures are believed to have been unreported. Hobart had 24,654 inhabitants in 1901; Launceston, 18,022.

The movements of population in the several states in 1900 was as follows:

STATES.	Marriages.	Births.	Deaths.	Excess of births.
New South Wales.....	9,996	87,146	15,118	22,028
Victoria.....	8,808	80,779	15,215	15,564
Queensland.....	3,871	14,801	5,747	9,054
South Australia.....	2,306	9,143	3,774	5,369
Western Australia.....	.....	5,454	2,240	3,214
Tasmania.....	1,382	4,864	1,908	2,951

Federal Finances.—In the budget presented in the House of Representatives on Oct. 8, 1901, the revenue for the year ending March 31, 1902, was estimated at £10,339,750, and the expenditure at £9,339,743. The revenue from customs and excise was estimated at £8,009,000, of which £2,100,000 are collected on stimulants and

narcotics and the balance from import duties of three kinds—fixed, ad valorem, and composite. New South Wales was expected to pay £2,360,000 of the customs and excise duties; Victoria, £2,410,000; Queensland, £1,404,000; South Australia, £665,000; Western Australia, £800,000; and Tasmania, £370,000. The remainder of the revenue is derived from the postal and defense services, yielding £2,330,750. The expenditure on Commonwealth services was estimated at £3,024,106, leaving £6,315,637 to be returned to the states, which receive severally the following amounts: New South Wales, £1,922,491; Victoria, £1,902,303; Queensland, £961,131; South Australia, £570,524; Western Australia, £656,958; Tasmania, £302,230. The receipts of the Commonwealth for the year ending June 30, 1902, were £11,304,800, of which customs and excise yielded £8,908,300, postal receipts £2,378,700, and miscellaneous sources £17,800. The expenditures of the Federal Government were £3,931,300, leaving £7,373,500 to be distributed among the states.

Commerce and Production.—The value of the foreign trade of the several states in 1900 is shown in the following table:

STATES.	Imports.	Exports.
New South Wales.....	£27,561,071	£28,164,516
Victoria.....	18,301,811	17,422,563
Queensland.....	7,184,112	9,581,562
South Australia.....	8,084,552	8,089,157
Western Australia.....	5,962,178	6,862,054
Tasmania.....	2,073,657	2,610,617

The area cropped in New South Wales in 1901 was 1.18 per cent. of the total area of the state. Few farms exceed 500 acres. The number of holdings on March 31, 1901, was 69,439, covering 46,856,577 acres which the Government had alienated, and 128,034,958 acres occupied on pastoral leases. The state allows settlers to select land for £1 an acre to be paid in instalments upon to 640 acres in the eastern, and up to 2,560 acres in the central districts. The wheat-crop of 1901 was 16,173,771 bushels, from 1,530,609 acres; the corn-crop, 6,292,745 bushels, from 206,041 acres; the potato-crop, 84,505 bushels. There were 2,343,138 acres cultivated. The produce of tobacco was 1,905 hundredweight; of sugar, 199,118 tons, from 22,114 acres; of wine, 891,190 gallons, besides 11,170 gallons of brandy, from 8,441 acres of vineyards; of table fruits, 4,214 tons. There were 14,965 acres of orange orchards. The live stock in New South Wales on March 31, 1900, comprised 39,811,991 sheep, 1,983,116 cattle, 481,417 horses, and 256,577 hogs. Forests cover one-fourth of the state. The area of the timber reserves and state forests is 5,946,355 acres.

The gold production of New South Wales in 1901 was 270,724 ounces, value £921,282. The quantity of silver-lead ore and metal mined in 1900 was 438,838 tons, valued at £2,513,874. Of silver 774,203 ounces, of the value of £90,243, were produced. The value of copper produced was £425,301. The quantity of coal mined in 1900 was 5,507,497 tons, valued at £1,668,911; in 1901, 5,968,426 tons, valued at £2,178,929. The wool exports in 1900 were 221,265,084 pounds, valued at £8,342,612. The value of gold coin exported was £5,389,822; of coal, £1,273,034; of frozen and preserved meat, £829,757; of hides and skins, £756,528; of tallow, £454,505; of leather, £435,560. Of the total imports of New South Wales in 1900 the value of £9,923,117 came from Great Britain, £11,512,685 from Australasian colonies, £1,005,154 from other British possessions, £2,557,961 from the United States,

and £2,562,154 from other foreign countries. The imports by land amounted to £3,480,085, and exports to £5,849,139. Of the total exports, £18,873,488 were home products and £9,291,028 foreign products.

Of the total area of Victoria the Government has alienated 23,200,000 acres, leaving 6,300,000 immediately available for agricultural and 17,190,000 acres for pastoral purposes. The timber and water reserves, including state forests, have an extent of 4,892,000 acres; auriferous lands, 1,044,110 acres. The area under crops in 1901 was 3,925,000 acres, of which 2,017,000 acres yielded 17,847,000 bushels of wheat, 502,000 acres 678,000 tons of hay, 363,000 acres 9,582,000 bushels of oats, 59,000 acres 1,215,000 bushels of barley, and 38,000 acres 123,000 tons of potatoes. There were 226,000 acres of meadows, 30,000 acres of vineyards, and 57,000 acres of orchard and garden. The gold output in 1900 was 807,407 ounces, valued at £3,229,628, the number of miners employed being 29,035. In 1901 the gold production was 789,562 ounces. The import duties levied in Victoria average 11½ per cent. Of the total value of imports in 1900 Great Britain furnished £7,055,028, Australasian colonies £6,769,200, India £465,367, Ceylon £173,392, Canada £56,789, other British possessions £238,911, and foreign countries £3,543,124, of which £1,461,880 came from the United States, £778,056 from Germany, £392,563 from Java and the Philippine Islands, £239,783 from Sweden and Norway, £207,783 from France, £198,631 from Belgium, £84,202 from China, and £180,226 from other countries. Of the total value of exports Great Britain took £6,363,685, Australasia £5,703,810, India £1,256,100, Ceylon £575,874, Canada £11,000, other British possessions £1,462,423, and foreign countries £2,060,649, of which £730,765 went to France, £328,763 to Germany, £203,245 to Belgium, £120,138 to the United States, £107,424 to China, £47,493 to Java and the Philippines, and £522,821 to other countries. The imports of wool in 1900 were £1,927,677 in value; of cotton goods, £1,044,523; of woollen goods, £707,458; of iron and steel, £935,768; of live stock, £897,904; of sugar, £696,942; of lumber, £569,173; of coal, £403,723; of silk goods, £375,258; of tea, £376,960; of oils, £310,178; of all other goods, £10,126,909. The exports of wool were £4,217,018 in value; of gold coin and bullion, £4,132,061; of butter, £1,489,935; of grain and flour, £1,489,935, the wheat export being £892,480; of live stock, £705,619; of frozen meat, £441,451; of hides, skins, and furs, £300,673; of leather and harness, £344,729; of clothing, £179,799; of tallow, £174,985; of sugar, £118,964; of tea, £148,729; of all other goods, £3,765,506. The quantity of wool exported, one-fifth coming from other parts of Australia, was 102,205,965 pounds.

In Queensland the Government still owns 411,928,560 acres, or 97 per cent. of the area of the state, having alienated 13,323,524 acres outright and 2,585,996 acres conditionally on the payment of instalments. Government lands can be purchased free from conditions of residence or improvement on the payment of 13s. 6d. an acre in 20 annual instalments, or, with such conditions, in homesteads of 160 acres for 2s. 6d. an acre, payable in 10 instalments. It is also possible to lease agricultural land for twenty years up to 1,280 acres with the privilege of purchase, the annual rent of 2½ per cent. of the purchase price going toward the payment, and grazing farms of 20,000 acres or less can be leased for fourteen, twenty-one, or twenty-eight years, the smallest rent being ¼d. an acre per annum. Half

the surface of the state is forest. Scrub lands can be leased for thirty years at ¼d. an acre on condition that the squatter clear and fence his run. Squatters already occupy 225,000,000 acres of the public domain. The live stock in 1900 consisted of 456,788 horses, 4,078,191 cattle, 10,339,185 sheep, and 122,187 pigs. There were 2,456,647 bushels of corn harvested from 127,974 acres and 1,194,088 bushels of wheat from 79,304 acres. The area under sugar-cane was 108,535 acres, yielding 92,554 tons of raw sugar. The output of coal in 1900 was 497,132 tons, valued at £173,705. The production of gold was 963,189 ounces, value £2,871,709; of tin, 1,123 tons, value, £74,041; of copper, 384 tons, value £23,040; of silver, 112,990 ounces, value £12,712. Lead, bismuth, wolfram, manganese, molybdenite, and antimony are mined also, and opals and other precious stones. The importation of textiles and clothing in 1900 was £1,435,372; of metals and metal manufactures, £1,257,933. Of the total imports £3,100,706 came from Great Britain, £3,101,086 from Australasian colonies, £357,124 from the United States, £185,262 from British possessions outside of Australasia, and £439,934 from other countries. Of the exports £5,488,128 went to Australasian colonies, £3,271,656 to Great Britain, £453,598 to British possessions, £2,596 to the United States, and £365,604 to other countries.

The area of South Australia is 578,361,600 acres, and only 7,344,740 acres had become private property up to Jan. 1, 1901. Freeholds and leaseholds together amounted to 93,383,621 acres. There were 3,279,406 acres under crops in 1901, of which 1,913,247 acres produced 11,253,148 bushels of wheat. Orchards occupied 16,001 acres; vineyards, 20,158 acres. The quantity of wine made was 1,388,847 gallons, of which 476,646 gallons were exported. The live stock consisted in 1900 of 166,790 horses, 214,761 cattle, and 5,235,220 sheep, exclusive of the northern territory, where there were 12,562 horses, 257,667 cattle, and 48,027 sheep. The value of copper exported in 1900 was £371,920; of copper ore, £22,526. The total mineral product was valued at £431,289. The exports of wool were valued at £1,003,391; of wheat, £492,394; of wheat flour, £344,724. Of the total imports £4,174,369 in value came from Australasian colonies, £2,397,684 from Great Britain, £326,968 from other British countries, £406,461 from the United States, and £729,070 from other foreign countries. Of the total exports £3,917,143 went to Australasian colonies, £2,325,519 to Great Britain, £754,501 to other British countries, £1,953 to the United States, and £1,030,041 to other foreign countries.

Agriculture has made rapid progress in Western Australia, yet only 201,946 acres out of a total area of 624,500,000 acres were in cultivation in 1900. In 1901 there were 74,130 acres under wheat, 8,460 under barley and oats, and 104,104 acres in grass. The area alienated in 1900 was 48,957 acres, making altogether 6,619,284 acres in the hands of private owners. Grapes for wine and table were planted on 3,245 acres. The live stock in 1901 consisted of 68,231 horses, 338,665 cattle, and 2,431,861 sheep. There were 2,561 leases of gold-mines in 1900. The number of miners employed was 16,080. The gold output was 1,580,950 ounces, value £6,007,610. The production of copper was 249 tons and of concentrated copper ore, 846 tons, together valued at £33,937. From 103 tin-mines were obtained 670 tons of ore and 142 tons of ingots, total value £57,050. There are 71 coal-mines operated. The

value of gold exports, which reached £5,451,368 in 1899, was £3,799,124 in 1900. Other exports in 1900 were pearl shells of the value of £86,513; pearls, about £20,000; sandalwood, £39,038; timber, £458,461; wool, £270,718; skins, £54,109. Of the total imports £2,743,502 in value came from other Australasian colonies, £2,225,746 from Great Britain, £279,593 from other British possessions, £228,035 from the United States, and £487,302 from other countries; of the total exports £4,268,419 went to Great Britain, £1,125,338 to Australasian colonies, £1,214,756 to other British possessions, £175 to the United States, and £243,366 to other countries.

Of 16,778,000 acres, the area of Tasmania, 4,834,944 acres had up to Dec. 31, 1900, been sold or granted to agricultural settlers, leaving 11,943,056 acres still the property of the Crown, consisting mostly of forest and mineral lands. There were 19,422 persons engaged in agriculture and 1,881 in pastoral pursuits in 1901. The area leased as sheep-runs was 1,206,794 acres. The area under crops in 1901 was 224,352 acres; under grass, 306,180 acres. The yield of wheat, from 51,825 acres, was 110,421 bushels; of oats, from 45,073 acres, 1,406,913 bushels; of potatoes, from 23,068 acres, 93,862 tons; of hay, from 61,541 acres, 94,198 tons; of hops, from 624 acres, 696,679 pounds. One of the most important products is fruit, which was exported, fresh and preserved, to the amount of £279,988. The live stock in 1901 was 31,607 horses, 165,516 cattle, 1,638,956 sheep, and 68,291 pigs. There were 420 licenses on Jan. 1, 1901, for gold, 441 for tin, 29 for coal, 229 for silver, and 102 for copper mines.

The value of gold exported in 1900 was £207,162; of silver and silver ore, £252,080; of copper ore, £901,660; of tin, £270,998; of wool, £261,214; of timber and bark, £71,618; of hops, £19,870. The output of silver and copper ore was 446,436 tons, valued at £1,583,404. The duty levied on imports is on the average 22.44 per cent. The imports of textiles were £436,632 in value in 1900; of hardware, £131,128; of sugar, £114,499; of machinery, £112,044. Of the total value of imports £908,722 came from Victoria, £337,672 from New South Wales, £154,904 from other British possessions, £628,663 from Great Britain, and £43,696 from foreign countries; of the exports £688,600 went to Great Britain, £613,161 to New South Wales, £388,913 to Victoria, £109,088 to other British possessions, and £810,855 to foreign countries.

Irrigation.—The stock growers of Australia have been relegated in the older colonies to the semiarid regions, and part of these have been reclaimed for agriculture by irrigation. The colonial governments and private individuals have given attention to securing a water-supply by artificial means for animals, great numbers of which have perished in years of unusual drought. The water-supply has already been increased by artesian borings to such an extent that millions of sheep and cattle are thriving on lands where grazing was formerly impossible. In all Australia on Jan. 1, 1900, there were 1,639,127 horses, 9,678,422 cattle, and 72,624,735 sheep. By Jan. 1, 1901, the Government of New South Wales had completed the sinking of 82 wells, of which 56 flowed spontaneously, 18 required pumps, and 8 were failures. The daily supply of water from these wells is 32,700,000 gallons. It was necessary to drill 4,467 feet in the rainless district west of the mountains in northern New South Wales, at which depth the Dolgelly well gives 745,000 gallons a day. The Kenmare well, on the

arid northern plains, supplies 2,050,000 gallons from a depth of only 1,682 feet. The well at Pera, 1,262 feet deep, gives 300,000 gallons a day, and here and at Native Dog, Barrington, and Cungiopia fine crops of lucerne, corn, tobacco, wheat, and sugar-cane have been grown experimentally by irrigation, as well as vegetables and pineapples and other fruits, proving that the soil of the waterless plains of Australia possesses every element of fertility except moisture and offers great prospects for agriculture through irrigation wells. On the desert route from Wanaaring to Milparinka 7 artesian wells now supply 2,300,000 gallons a day. Farther north borings have given satisfactory results. Besides the Government borings private individuals have sunk a great number of wells, yielding in the aggregate a supply of 45,000,000 gallons a day. In Victoria borings have not been generally so successful. Many proved dry, and in many wells that were struck the water was salty and worthless. Nevertheless, success has on the whole repaid the efforts in that state. A remarkable settlement at Mildura, on the river Murray, is peopled by 4,000 emigrants from the British Islands, who in thirteen years have invested over £1,000,000 in the cultivation of vineyards, orange groves, and fruit farms and are making large profits from raisins, currants, and other dried and fresh fruits. A railroad 100 miles in length will connect this community with the trunk line to Melbourne. Here irrigation is supplied not from wells, but from reservoirs in which the river water is stored. The Government of Victoria has proposed united action on the part of Victoria, New South Wales, and South Australia for conserving the waters of this river so as to afford adequate irrigation to the northern districts of Victoria and adjacent parts of the neighboring states.

On the plains of Queensland a great future for irrigation is promised. In the western districts water is easily obtained by boring. Up to June 30, 1900, the number of wells sunk was 839, of an average depth of 1,160 feet. The proportion of failures was large, especially in the Government borings, but in many of the wells the flow is exceedingly copious. At Winton, 430 miles from the coast, is a Government well of great depth. One not so deep at Charleville, 420 miles west of Brisbane, yields 3,000,000 gallons daily. The deepest bore, at Bemerah, is 5,045 feet, and 11 others exceed 4,000 feet. There are 151 wells the flow of which exceeds 750,000 gallons a day, and 60 of these give over 1,150,000 gallons. In South Australia the Government has made many attempts to reach water on the arid plains of the interior, but the hope of rendering the desert regions suitable for stock raising has been disappointed. Only 33 wells were found, most of them near the southern border of the desert. On the western frontier a well was sunk on the Nullarbor plains which yields a good supply, and in the remote north, at Kopperamana, a flow of 800,000 gallons a day was obtained at a depth of 3,280 feet. The Government of Western Australia has bored a series of wells on the route to the Coolgardie gold-field and toward the frontier of South Australia, and has extensive operations in progress for increasing the water-supply by this means. The yield of 16 wells is 4,806,000 gallons a day. The deepest bore is 2,000 feet at South Perth, yielding daily 1,120,000 gallons.

Drought has prevailed over the greater part of Australia for five years, more severely in the last three years, and most so in 1902, when it was partially broken in the autumn months.

Near the coast rains have fallen during all this period, but in the northwestern parts of New South Wales and the interior districts of other colonies there are great tracts rented to squatters who have not a single animal left of their flocks and herds. It is estimated that Australia has lost up to 1902 over 30,000,000 sheep from drought, and cattle and horses in proportion.

Navigation.—The number of vessels entered at the ports of New South Wales during 1900 was 3,626, of 4,094,088 tons, of which 3,248, of 3,487,968 tons, were British and 378, of 606,120 tons, were foreign. The total number cleared was 3,406, of 3,920,801 tons, of which 3,060, of 3,358,524 tons, were British and 346, of 562,277 tons, were foreign. The shipping registered in the state comprised 509 sailing vessels, of 57,982 tons, and 499 steamers, of 73,801 tons. During 1900 there were registered 31 new sailing vessels, of 4,289 tons, and 23 steamers, of 10,445 tons.

The number of vessels entered at Victorian ports in the course of 1900 was 2,101, of 2,929,389 tons, and there were cleared 2,134 vessels, of 2,944,192 tons. Of those entered 748, of 360,814 tons, were British, and 1,189, of 1,194,484 tons, colonial, and of the total number cleared 807, of 1,470,710 tons, were British and 1,159, of 1,093,892 tons, colonial.

The number of vessels entered at Queensland ports was 713, of 835,355 tons, of which 54, of 85,470 tons, were entered from British ports and 457, of 557,669 tons, from colonial ports; cleared, 716 vessels, of 819,662 tons, of which 45, of 116,993 tons, were cleared for British and 433, of 482,142 tons, for Australasian ports. The merchant shipping of Queensland consisted in 1900 of 155 sailing vessels, of 10,285 tons, and 93 steamers, of 10,798 tons.

At the ports of South Australia 1,010 vessels, of 1,780,383 tons, were entered and 1,003, of 1,772,253 tons, cleared during 1900. The shipping of this state comprised 216 sailing vessels, of 19,140 tons, and 107 steamers, of 26,945 tons.

There were 769 vessels, of 1,625,696 tons, entered and 747, of 1,606,332 tons, cleared, at Western Australian ports during 1900. The number of sailing vessels registered in Western Australia was 150, of 7,268 tons; of steamers, 29, of 5,249 tons.

At Tasmanian ports 741 vessels, of 618,963 tons, were entered and 743, of 613,955 tons, were cleared during 1900. The shipping registered in Tasmania consisted of 157 sailing vessels, of 8,983 tons, and 47 steamers, of 6,800 tons.

Railroads, Posts, and Telegraphs.—New South Wales on June 30, 1900, had 2,811 miles of Government railroads, built at a cost of £38,477,269. The gross earnings for the year were £3,163,572, and the operating expenses were £1,769,520, 55.93 per cent. of the gross earnings. There were 71 miles of Government tramways, which cost £1,769,520; gross earnings, £409,724; operating expenses, £341,127, being 83.26 per cent. of the gross earnings.

In Victoria the railroads, all of which belong to the Government, had a total length on July 1, 1900, of 3,218 miles, built at a cost of £39,496,247, which was raised by loans, except £2,803,740 provided out of revenue. The gross earnings in the fiscal year 1900 were £3,025,162, and the expenses were £1,902,540, being 62 per cent. of the receipts, leaving a profit of 2.86 per cent. on the capital expended and 3.06 on the borrowed capital, on which the mean rate of interest is 3.86 per cent. The total deficiency between interest and net earnings has from the beginning amounted to about £9,000,000. The num-

ber of passengers in 1900 was 49,332,899; tons of freight carried, 2,998,303.

On Jan. 1, 1901, the length of completed railroads in Queensland was 2,801 miles. The Government has expended in construction £19,526,370. The receipts in 1900 were £1,312,850, and operating expenses were £1,034,880. The total capital expenditure was £21,335,071.

South Australia had 1,883 miles of completed railroads on Jan. 1, 1900, of which 146 miles were in the northern territory. The net earnings average 3 per cent. on the capital. The projected transcontinental line from Adelaide to Port Darwin will have a length of 1,896 miles.

The railroads completed in Western Australia on July 1, 1901, had a total length of 1,978 miles, of which 623 miles belonged to companies.

The length of railroads completed in Tasmania up to Dec. 31, 1900, was 594 miles.

The New South Wales post-office in 1900 handled 78,129,384 letters, 1,473,410 postal cards, 51,500,920 newspapers, 13,846,737 packets, and 711,717 parcels, and issued 435,768 money-orders, for the aggregate amount of £1,541,535, and postal notes for £488,484.

The postal traffic of Queensland was 22,681,798 letters, 12,091,809 newspapers, 6,518,215 packets, and 284,154 parcels; revenue, £314,840.

The mails in South Australia carried 20,387,301 letters, 9,956,351 newspapers, and 1,386,624 parcels.

The number of letters forwarded through the post-office of Western Australia during 1900 was 13,162,358; newspapers, 6,992,278; packets, 3,449,779.

In Tasmania 10,590,454 letters, 6,636,880 newspapers, 317,411 postal cards, and 1,899,870 packets passed through the post-office in 1900; receipts, £84,539; expenses of postal and telegraph service, £99,864.

The length of telegraph-lines in New South Wales on Jan. 1, 1901, was 14,065 miles, with 41,494 miles of wire. The cost of construction was £1,132,626. The number of telegrams sent in 1900 was 3,219,907. Receipts were £518,401, and the net earnings were £174,895.

In Victoria there were 6,772 miles of telegraphs, with 15,533 miles of wire. The number of messages in 1900 was 1,906,506; net revenue, £110,353. There were 16,748 miles of telephone wires and 5,136 subscribers.

The length of telegraph-lines in Queensland on Dec. 31, 1900, was 10,221, with 19,308 miles of wire. The number of messages during 1900 was 1,231,155, not including 132,992 official messages and 194,136 foreign messages received; receipts were £104,441, and the postal and telegraph expenses were £370,175.

South Australia had 5,742 miles of telegraph and telephone lines on Jan. 1, 1901, with 17,543 miles of wire, including the line of 2,000 miles across the continent connecting Adelaide with the British Australian cable at Port Darwin. The Government derives a net profit from the telegraphs.

Western Australia had 6,052 miles of telegraph-line, with 8,872 miles of wire, on Jan. 1, 1901. The number of messages sent during 1900 was 1,167,197; net revenue, £75,014; expenses of posts and telegraphs, £248,877.

The telegraphs of Tasmania had a length of 2,090 miles, with 3,793 miles of wire, besides 438 miles of cable on Jan. 1, 1901. The number of despatches in 1900 was 255,793. There were 1,193 miles of telephone wire; receipts from telegraphs and telephones, £22,819.

The New Zealand section of the British Pacific

cable, the branching off at Norfolk island, was laid before the end of March, 1902, and a few days later the section from Norfolk island to Fiji was in place. From Fiji it was carried to Fanning island, near Hawaii, and there joined to the cable laid from West Coast inlet, British Columbia.

Defense.—The military forces of the 6 states forming the Commonwealth had a total strength on June 30, 1900, of 23,553 men, of whom 1,592 were paid, 14,291 partly paid, and 7,670 unpaid. New South Wales had in 1900 a regular force of 726 men, volunteer forces numbering 8,505, of whom 5,336 received some payment, and reservists and rifle clubs numbering 3,004 men. Victoria had a permanent force of 396 men, 3,404 militia, and 3,085 volunteers. In Queensland every able-bodied man is by law liable to military duty, and besides a regular force of 300 men there are about 2,500 militia who receive pay while undergoing drill, 1,200 volunteers to whom uniforms and arms are furnished, and 4,000 citizens organized in rifle clubs and provided with arms and ammunition by the state. South Australia has a defense force of 195 officers and 2,826 men, including reserves, besides which there are 1,017 members of rifle clubs and 353 armed police who may be called out for military service in an emergency. Western Australia has 5 battalions of rifles and 3 batteries of volunteer artillery, and 1 battery of permanent artillery stationed at Albany, the total force numbering 135 officers and 2,561 men. Tasmania has a volunteer defense force of 2,726 officers and men. Major-Gen. E. T. H. Hutton, commander of the military forces of the Commonwealth, reported to Sir John Forrest, Minister of Defense, that the total number of troops available was 29,571, consisting of 15,470 men in the garrison corps and a field force of 14,101 men with 60 guns. It was proposed to increase the latter to 28,748 men on the war footing, giving a total of 44,218, the field force to consist of 6 brigades of light horse and 3 brigades of infantry, with field-artillery and engineers in the latest approved proportion. The geographical position of Australia renders it less liable to attack than most parts of the British Empire, but Australian interests outside of Australia are peculiarly open to foreign interference.

It is impossible for an expedition from an enemy's base in Asia, Africa, or Europe to land in Australia unless the British navy has first been defeated. Nevertheless, it is important to guard against raids made for the purpose of extorting an indemnity, destroying commerce, or obtaining coal. Therefore the security of the naval bases must be insured, and arrangements are necessary to concentrate the available troops at any threatened point. Hence the early extension of the railroad into Western Australia is desirable. A military college for the training of officers, the development of rifle clubs, and the establishment of arsenals for the manufacture of arms and ammunition are recommended, and the sum of £500,000 is required to provide arms and complete the equipment of the field and garrison troops. The abolition of some of the militia and volunteer regiments and the absorption of their members into other corps, in conjunction with a heavy curtailment of the naval force, provided a way for a reduction in the military expenditure, as was promised to Parliament by the ministry. Proposals for military contributions toward the cost of imperial defense have not been well received in Australia. The suggestion that the states should contribute according to their population is regarded as a

species of taxation without representation. The financial limitations imposed by the Constitution preclude the Commonwealth from undertaking its full share of the defense of the Empire, but the Australians will equip themselves to defend their own shores.

The chief ports of Australia are fortified, and fortresses have been built at Thursday island and King George's Sound at the joint expense of the imperial and colonial governments. In the beginning of 1902 there were 12 vessels of the British royal navy stationed in Australasia, with headquarters at Sydney. Besides these there are the vessels built for Australasia under the Australasian naval force act of 1887, 5 cruisers of 2,575 tons and 2 torpedo gunboats of 735 tons, for which the Australasian colonies pay £35,000 a year as interest on the cost of construction and £91,000 for maintenance on condition that these vessels be not withdrawn in war time. But they have become obsolete, and other schemes are under discussion. The British Admiralty propose the abolition of the entire Australian fleet and the payment of an increased cash subsidy by Australia toward the cost of the imperial navy. In Australia opinion favors the formation of an Australian fleet that shall form part of the imperial navy and be under the commander-in-chief on the Australian station, a scheme recommended to the Commonwealth Parliament by Capt. Crosswell, naval commandant in Queensland.

The Commonwealth Parliament.—The Federal Parliament, as well as the parliaments of the principal states, was dominated to a great extent by the Labor party, which was represented by some of the ablest politicians and could control legislation, although it has not an actual majority.

The approval of Parliament was obtained for the principle of a fair day's wages for a fair day's work, a day of eight hours and a minimum wage, which was already fixed at 7s. a day in New South Wales, where the state Government undertook to give public employment to all laborers who could not obtain that rate from private employers. That Australia must be a white man's country was one of the prime demands upon the Commonwealth Parliament, because if Asiatics and other colored laborers are allowed to enter Australia in numbers they will soon demoralize the labor market. The Chinese were already effectually excluded by the enormous head-tax imposed by the state governments. Parliament was asked to exclude and expel Kanakas, Hindus, Japanese, and all others of alien race. The sugar growers of Queensland declared that their industry would perish if they were not allowed to employ Kanakas, who performed labor that white men could not be called upon to do, and who were kindly treated and able to save considerable sums out of their wages. The exclusion law against the Kanakas ordered the deportation of those already in Australia, disregarding the guarantees given to them and making no provision for getting them a living on their return to the islands from which they came. A law excluding Japanese was passed, although the conductors of the pearl-shell fisheries in Torres Straits threatened to remove their fleets to Dutch New Guinea and continue pearling with Japanese divers outside of the 3-mile limit. The Premier suspended the operation of the act, so far as it affects the pearl-shell fisheries, pending an inquiry. The earliest law against colored labor was one insisting that in carrying out contracts with the Government only white workers should be employed. This roused a protest from steam-

ship owners and a remonstrance from the Indian Government when applied to lascar sailors on mail-steamers. The emigration restriction act, which became law in the beginning of 1901, is so worded that it can be used to exclude any immigrants, white as well as colored, British-born as well as alien. No person shall be allowed to land in Australia who, when asked to do so by an officer—one specially appointed or any customs officer—fails to write out at dictation and sign a passage of 50 words in a European language dictated by the officer. The only exceptions are Australians returning from abroad, ambassadors, soldiers, and seamen in the British service, and crews of trading vessels during their stay in port. Any person found at large contrary to the provisions of the act may be fined £50 or imprisoned for six months. The act was enforced only against Hindus, Japanese, and other colored immigrants.

The principal subject of discussion in Parliament during the early months of 1902 was the tariff, which was intended by the Government to provide revenue in the first place, but to have a decided protectionist incidence. The free-traders in the House of Representatives were strong enough to abate the protective features, and the result was in most cases a compromise between the proposals of the Government and those of the Opposition. Thus the duty on Oregon timber used in mines was lowered from 1s. to 6d. per 1,000 feet, and that on boots and shoes was reduced one-half to 30 per cent. ad valorem. New Zealand timber was placed on the free list. An import duty of 14s. a gallon was placed on spirits alongside of excise duties of 11s. on domestic brandy and 12s. 6d. on domestic whisky and rum. Wines above 40 per cent. of alcoholic strength pay the same duty as imported spirits. Instead of 20 per cent. an import tax of 12½ per cent. was imposed on machinery. Imported cottons and linens were taxed only 5 per cent. of their value. Kerosene was made free, and the tea duties collected hitherto by the colonial governments were abolished, entailing heavy losses of revenue to some of the states. The protected manufacturers of Canada complained of the effects of Australian protection, and so did English manufacturers, but the Government made no attempt to discriminate in favor of parts of the empire, lest it should come into conflict with other nations. The Canadian provision was adopted for suspending duties in cases where they lead to the formation of trusts or combinations. After much discussion as to the policy and constitutionality of the measure it was decided that imports by the governments of the states should be dutiable. The Senate made amendments in over 100 duties, reducing the rates in all cases. The House of Representatives accepted half the amendments, the less important ones, and sent the bill back to the Senate, which abandoned some of its proposals, but repeated its request as to the others. This raised a constitutional question. The Federal Constitution empowers the Senate to ask the House of Representatives to make amendments in bills dealing with taxation. To press its requests after they had been considered was regarded by some as an assumption of coordinate powers with the House over money bills. The House of Representatives therefore, in agreeing to receive a second message from the Senate, made the reservation that it should be without prejudice as to its constitutional powers. In regard to the remaining items some minor concessions were made, and the tariff bill was finally passed by the Senate on Sept. 9.

An electoral bill was passed providing for woman suffrage. Proportional representation was rejected by the Senate. All colored aliens were disqualified.

The bill to establish a Federal High Court, consisting of the Chief Justice and four other judges, was not passed. The Senators examined various sites for the future Federal capital, but deferred the final selection in view of the immense cost of land and buildings involved. It was decided that in the mean time Parliament should sit alternately in Sydney and Melbourne. Lord Hopetoun requested an additional allowance to provide for the extra cost of keeping up residences in both capitals. Parliament voted £10,000 to recoup him for his expenses in entertaining the Duke of York, but rejected the Government bill to grant a supplementary allowance of £8,000 a year in addition to the annual salary of £10,000 pending the selection of a permanent capital. The postponement of this selection was considered a breach of the Constitution by the ministers, who intended to make the question the first business of the next session. Inasmuch as the salary of the Governor-General is fixed in the Constitution and can not be increased during the continuance in office of a Governor-General, such an allowance appeared to be unconstitutional. Besides, it is the present policy of the Australian governments to reduce expenses. The salaries of the state governors have been cut down, and the members of the state parliaments are to be reduced in number, especially in the legislative councils. Lord Hopetoun, who as Governor-General and when he was Governor of Victoria has spent more than his salary, sent in his resignation to the Colonial Secretary when Parliament declined to increase his pay, and it was accepted. Before he entered upon the Governor-Generalship the agent-general for New South Wales led him to expect that an extra allowance would be voted to enable him to reside in Sydney when Parliament was not sitting. Statesmen of some of the other colonies were in favor of such a dual residence, and the New South Wales Parliament passed a resolution that he should have an allowance of £10,000 in addition to his salary for the purpose. Hence Lord Hopetoun considered the action of the Commonwealth Parliament a breach of promises that had been held out and derogatory to the dignity of his office as representative of the sovereign. Before selecting his successor Mr. Chamberlain asked to have a provision made for the maintenance of Government houses in both Sydney and Melbourne, and Parliament agreed to allow the next Governor-General £5,500 per annum. Meanwhile Lord Tennyson was appointed acting Governor-General, and sworn in on July 17. After returning to England Lord Hopetoun was advanced in the peerage by having conferred upon him the title of Marquis of Linlithgow.

Subjects of legislation to be considered at the next session are a decimal coinage system based on the sovereign, a bill dealing with industrial disputes, and a banking law which would render unlikely a financial crisis such as that of 1893. Old-age pensions can not be dealt with by the Commonwealth Parliament at present. State property connected with the transferred services will be valued and the Commonwealth will become responsible to the individual states for a portion of the state indebtedness equivalent to the transferred property and interest at the rate of 3½ per cent. For public works the Federal as well as the state legislators made appropri-

tions exceeding the Government estimates, though some of the state premiers considered it the duty of the Government to provide employment in unfavorable times. A conference of state Premiers was held at Sydney in the middle of May. Mr. Barton went to England to take part in the conference of colonial ministers that was to be held in connection with the coronation. During his absence the Attorney-General acted as Premier of the Commonwealth. The Commonwealth Government prepared to take over the administration of British New Guinea. It is proposed that the northern territory of South Australia be transferred to the Federal Government, which shall complete the railroad from Adelaide to Port Darwin, selling land to pay the cost.

New South Wales.—The Legislative Council had 69 members in 1901, who are appointed for life. There are 125 members in the Legislative Assembly, who are elected in as many districts by the votes of all male British subjects of full age who have resided one year in the state and three months in the district. The Governor at the beginning of 1902 was Vice-Admiral Sir Harry Holdsworth Rawson, appointed Jan. 29, 1901. The Cabinet of Ministers at the beginning of 1902 was composed as follows: Premier, Colonial Secretary, and Minister of Railways, John See; Colonial Treasurer, Thomas Waddell; Attorney-General and Minister of Justice, Bernhard Ringrose Wise; Secretary for Lands, William Patrick Crick; Secretary for Public Works, Edward William Sullivan; Minister of Public Instruction and of Industry and Labor, John Perry; Secretary for Mines and Agriculture, John Kidd; Vice-President of the Executive Council, Francis Bathurst Sutton; without portfolios, James Hayes and Walter Bennett.

The net revenue of the Government for the year ending June 30, 1900, was £9,970,677, of which taxation produced £2,618,066, land revenue £2,116,076, Government services £4,992,521, and miscellaneous sources £244,014. Of the revenue from taxation the import and excise duties made £1,736,374, and the stamp-duties, land and income taxes, and licenses, £881,692. The net expenditures were £9,888,977, of which £2,102,794 were for railways and tramways, £722,110 for posts and telegraphs, £2,310,271 for interest on the public debt, £27 for immigration, £769,576 for instruction, and £3,984,199 for other public works and services. The public debt, four-fifths of which was incurred to build railroads, tramways, telegraphs, sewerage, water-works, and irrigation works, amounted on June 30, 1900, to £65,332,993, paying the average interest of 3.63 per cent., 2.93 per cent. being returned in the profits of the public works, which yielded 3.45 per cent. of their capital cost. Further loans amounting to £19,630,135 were authorized.

The State Assembly met on May 28. Social legislation had the first place in the ministerial program. A women's franchise bill was passed, and a bill for municipal reform. The question of reducing the Assembly to 94 members is to be submitted to a referendum. Parliament has instituted a compulsory arbitration court. The first sittings of the court were to be devoted to the establishment of a minimum rate of wages, the limitation of the hours of labor, and the regulation of child labor. The whole industrial system of the state has been brought under the act. Trade-unions, originally unlawful associations, inasmuch as they acted in restraint of trade, were legalized in New South Wales by the

act of 1881, which enables any 7 persons or more to form a trade-union and be registered as such, and confers on trade-unions the right to hold property and to sue, with liability to be sued. The industrial arbitration act of 1901 provides that any trade-union or association of trade-unions or any branch of a union shall be entitled to register as an industrial union of employees; and conversely that any person, association, or company employing on an average 50 employees per month is entitled to register as an industrial union of employers. Each industrial union on registration becomes a body corporate and has a common seal and perpetual succession. As soon as the act went into effect the trade-unions already in existence applied for registration with enthusiasm. The employers reluctantly and with hesitation also formed industrial unions—the pastoralists, the mine owners, merchants, manufacturers, and masters of the various trades. The provisions of the act placing the control of every business in the hands of a court made it a matter of necessity for employers to take steps to be represented in the court, which consists of a judge of the Supreme Court nominated by the Governor as president and 2 members appointed by the Governor from lists submitted respectively by a body of delegates from the trade-unions and a body of delegates from the industrial unions of employers. Organizing into unions is a voluntary act, yet if either employers or employed fail to nominate delegates the Governor may appoint on the tribunal such persons as he may see fit. When technical questions come before the court, the court may appoint 2 assessors representing employers and employed respectively. The court has power to hear and determine any industrial dispute or industrial matter or any application under the act brought before it by an industrial union. A person not a member of a union can come into court for the remedy of a grievance sustained through a decision of the tribunal, but an industrial dispute where one of the parties is not a member of an industrial union can only be referred to the court in the discretion of the registrar. Any person entitled to refer a dispute or to apply for an order of the court goes to the registrar, who summons all parties to attend. The court has full power to compel the attendance of witnesses, the production of books and papers, etc. The suspension of work by a strike or a lockout without reference of the dispute to the court entails a fine of £1,000 or two months' imprisonment. The dismissal of an employee for belonging to a union or because he is entitled to the benefit of an award subjects an employer to a penalty of £20. The court has power to prescribe a minimum rate of wages in any particular trade; to direct that unionists shall be employed in preference to non-unionists; to appoint a tribunal to determine whether an employer may employ non-unionists; to declare any regulation, custom, term of agreement, condition of employment, or dealing whatsoever in relation to an industrial matter to be a common rule of the industry affected and to direct in what way and to what extent such common rule shall be binding upon all persons engaged in that industry, whether they are before the court or not. Any union disobeying an order of the court is liable to a penalty of £500 and any individual to one of £5, and the court may specify the persons to whom such penalty shall be paid, and if the property of a union is insufficient to satisfy the award the individual members are liable up to £10. The power of the court includes all or any matters

relating to the wages, allowances, or remuneration of any persons employed or to be employed in any industry; to the hours of employment, sex, age, qualifications, or status of employees and the mode, terms, and conditions of employment; to the employment of children or young persons or of any person or persons or any class of persons in any industry or the dismissal of or refusal to employ any particular person or persons or class of persons; to any established custom or usage of any industry, either general or in any particular locality; to the interpretation of any industrial agreement. The court may regulate its own procedure in every respect. It may admit and call for such evidence as it thinks to be the best available, whether strictly legal evidence or not. Costs may be assessed on either party, though each party must pay the attorneys and agents whom it employs. The court may dismiss a proceeding where it thinks that the matter should and can be amicably settled. It may bring before it as parties any persons it thinks proper. It may sit in any locality and may call in the aid of expert assessors and compel the presence and testimony of any witnesses it sees fit to call. The president of the court has extensive powers of settling all preliminary matters in order that a dispute may be disposed of the more speedily.

Victoria.—The 48 members of the Victorian Legislative Council are elected for six years by freeholders, occupants of property rated at £25 a year, and members of the learned professions. The Legislative Assembly has 95 members elected for three years by universal male suffrage. The number of electors for the Council in 1901 was 130,672; for the Legislative Assembly, 276,314. The Governor is Sir George Sydenham Clarke. The ministry constituted in September, 1901, was composed as follows: Premier, Treasurer, and Minister of Labor, A. J. Peacock; Chief Secretary and Minister of Railways, W. A. Trenwith; Attorney-General, Sir Samuel Gillott; Minister of Agriculture, J. Morrissey; Minister of Public Instruction, W. Gurr; Minister of Lands, D. J. Duggan; Minister of Public Works and Health, W. M. McCulloch; Solicitor-General, A. Wynne; Minister of Mines and Water-Supply, J. B. Burton; without portfolios, R. McGregor and E. J. Crooke.

The public revenue in the year ending June 30, 1900, amounted to £7,460,855, of which £2,984,592 came from taxation, £3,008,521 from railroads, £586,061 from posts and telegraphs, £388,255 from Crown lands, and £493,426 from other sources. Of the tax revenue £1,972,216 were derived from customs, £329,377 from excise, £108,222 from the land tax, £126,478 from duties on estates of deceased persons, £18,660 from a duty on bank-notes, £170,600 from the stamp-duty, £43,968 from tonnage dues, and £215,071 from the income tax. The Government expenditure was £7,293,136, of which £1,852,088 was for the public debt, £1,801,954 for railroads, £259,869 for other public works, £521,918 for posts and telegraphs, £655,579 for public instruction, £320,118 for pensions, £299,610 for charitable institutions, £312,759 for police and prisons, £201,611 for defense, £95,032 for customs and harbors, £68,879 for Crown lands, £198,850 for mining and agriculture, £171,838 for law courts, £231,189 for general Government expenses, and £301,842 for other purposes.

The funded debt on June 30, 1900, amounted to £48,380,859, of which £36,740,813 were borrowed to build railroads, £8,342,895 for water-works, £778,775 for state school-buildings, and

£2,518,376 for various public works. The average interest on the debt is 3.83 per cent. The local debts in Victoria amount to £10,659,300. The local revenues amount to £1,573,626, and expenditures to £1,602,377.

The ministers offered their resignations collectively in November, 1901. No immediate action was undertaken, and when the letter was at last presented they proposed to withdraw their resignations on the ground that circumstances had altered. They were therefore retained in office. A popular agitation impelled the ministry to go further than was intended in framing a measure for reducing expenditure on Parliament. The Labor party alone in Victoria, as in New South Wales, opposed the reduction of the number of representatives or the curtailment of their salaries, on the ground that it would weaken the representation of the working classes. The Government brought in a bill reducing the number of members in the Assembly and the Council, and limiting the ministers to 6. The qualification of voters for the Legislative Council was altered to simple registration as a ratepayer. Adult suffrage for both sexes was proposed, and provision was made for a dissolution of both houses after a joint session has failed to settle a deadlock. To meet a deficit of £229,000 in the year's accounts a loan of £250,000 at 3 per cent. was raised locally at the issue price of 94. After the assemblage of the state Parliament on May 27 the ministers handed in their resignations. Mr. Irvine, who led the victorious Opposition, formed a new Cabinet on June 8 as follows: Premier and Attorney-General, Mr. Irvine; Treasurer, Mr. Shiels; Solicitor-General, Mr. Davies; Minister of Railroads, Mr. Bent; Minister of Education and Health, Mr. Reid; Minister of Public Works and Agriculture, Mr. Taverner; President of the Board of Lands, Mr. McKenzie; Minister of Mines, Mr. Cameron; Chief Secretary and Minister of Labor, Mr. Murray; without portfolios, Messrs. McLeod, Kirton, Pitt, and Sachse. The new Cabinet proposed to reduce the number of members in the Assembly from 95 to 56 and in the Council from 48 to 28 and the number of ministers to 7. Provision was made for the settlement of deadlocks similar to that in the Federal Constitution. These proposals were satisfactory to Parliament, but when, in view of a probable deficit of £650,000, the ministers proposed a reduction of salaries in the public service they encountered a fierce opposition. The railroad men threatened to strike if Parliament approved the retrenchment scheme. On Sept. 9 the Cabinet was defeated in the Assembly by 44 votes to 33 on the proposal to reduce salaries. The ministers appealed to the country. The dissolution caused the factories act and the decisions of wages boards fixing the wages in many trades to lapse, thereby incensing the trade-unionists. The Government wished to prolong the operation of the temporary act for another year, but the Legislative Council insisted on discussing the whole subject. A commission was appointed to consider legislation of a permanent character. Meanwhile wages boards were empowered to fix minimum wages in the various trades. Employers who paid less were liable to a penalty. Nevertheless, they often evaded the act by various subterfuges.

Queensland.—The Legislative Council has 42 members, nominated for life. The Legislative Assembly consists of 72 members elected by the ballots of all males of full age who have at least resided six months in Queensland. Property owners and lessees of pastoral lands can vote

in every district in which they have lands. There were 97,739 electors on the registers in 1901. The Governor is Major-Gen. Sir Herbert Charles Chermiside, appointed in 1902. The Cabinet at the beginning of 1902 consisted of the following members: Prime Minister, Secretary for Mines, Chief Secretary, and Vice-President of the Executive Council, Robert Philp; Attorney-General, A. Rutledge; Secretary for Agriculture, D. H. Dalrymple; Home Secretary, J. F. C. Foxton; Secretary for Public Instruction, John Murray; Secretary for Public Lands, W. B. O'Connell; Secretary for Railways and Secretary for Public Works, John Leahy; Treasurer, Robert Cribb; without portfolio, George Wilkie Gray.

The revenue of the Government during the year ending June 30, 1901, was £4,327,345; expenditures, £4,855,533. Of the revenue £1,363,844 were derived from customs duties on imports, £201,160 from stamp-duties, £141,108 from excise and export duties, £66,814 from a duty on dividends, £52,525 from licenses, £321,927 from rent of pastoral lands, £263,303 from other rents and sales of land, £1,246,764 from railroads, £310,355 from posts and telegraphs. Of the expenditures £1,415,180 were for interest on the public debt, £310,511 for public instruction, £1,056,132 for operating railroads, £376,191 for post and telegraphs, £116,312 for public land administration, £53,141 for the Department of Agriculture, £194,894 for the Colonial Treasurer's Department, £88,792 for endowments to municipalities and divisions. The expenditure from loans during the year was £1,212,020, for railroads, rivers and harbors, telegraphs, water-supply, defense, etc. The revenue for 1902 was estimated at £3,908,500, exclusive of £325,734 retained by the Commonwealth, and expenditure at £3,887,899. The public debt on Jan. 1, 1901, amounted to £35,898,414.

The Queensland Government announced the intention of reducing the number of ministers and of members of the Legislature. An act enabling the Government to repurchase estates suitable for dairying for the purpose of cutting them up into small holdings for close settlement supplements a previous measure dealing with agricultural lands. Another act enables the state to grant special homestead areas adjoining each other to groups of settlers. According to another bill, pastoral holdings are to be reclassified in connection with an extension of the leases. Provision is made in Queensland, as in other states, for advances to be made to farmers, the loans to be expended only on improvements under official supervision. When the Kanaka exclusion bill was passed by the Commonwealth Parliament Premier Philp, in the interest of the sugar-planters, made an appeal that it should be reserved for the approval of the Imperial Government, but the Governor-General, on the advice of the Commonwealth ministry, signed it nevertheless. The planters of Queensland in their effort to defeat the purpose of the Labor party to exclude alien races so angered their opponents that they nearly lost the protective duty on sugar that was given in compensation for the cessation of Kanaka labor. The Commonwealth Parliament decided that no white laborers can be employed in the tropical lands if colored laborers are employed on the same plantations. The general election in Queensland took place in March. The Government party elected 38 members and the Opposition 30, of whom 24 are representatives of the Labor party. The sugar-planters are determined not to employ white labor so long as they can retain their blacks.

In five years the federal law requires Queensland to deport all Polynesians to the places from which they originally came. The state Government decided that when conditions on shore render it unsafe for islanders to land at their old homes they shall be brought back to Queensland, although from the beginning of 1902 the Federal Government ceased to issue licenses authorizing the employment of additional Kanakas. Farmers who employ white labor in growing sugar are entitled to a bonus of £2 a ton from the Federal Government. The planters have received the protective duty of £3 a ton, the promise of which made them eager to enter the federation, yet they are willing to see the union dissolved if they can not obtain the repeal of the exclusion act, which the Labor party of southern Queensland was most influential in carrying through with the support of labor politicians of other colonies, but against the wishes of the Queensland Government. The state Government is involved in the financial success of the sugar industry, having advanced £500,000 under the sugar-works guarantee act of 1893 to farmers for the erection of mills, most of which are in arrears and have been kept going by further subsidies. Other undertakings for which the great debt of Queensland was incurred have proved unremunerative, so much so that £1,000,000 of the £1,500,000 interest due on such debts had to be made good in 1901 out of the general revenue. With the protective duty and the bounty the prospect of raising sugar-cane with white labor is promising, but the high prices at which unoccupied land suitable for sugar is held by the owners deters small farmers from entering the field. The smaller industry of pearl-shell fishing can probably be carried on by white fishermen, as it was once. Neither the officials nor the people consider it a benefit to Queensland now, because the capitalists engaged in it are absentees and the Japanese divers take their wages back with them to their own country.

South Australia.—The Legislative Council consists of 24 members, one-third of whom are replaced every three years by the votes of freeholders, leaseholders, and householders occupying premises rated at £25 a year. The House of Assembly contains 54 members, which number will be reduced to 41. They are elected by universal suffrage. The franchise was extended to women in 1894. The number of registered voters in 1900 was 153,268. The Governor is Lord Tennyson, appointed in 1899. The ministry in office at the opening of 1902 was composed as follows: Premier and Chief Secretary, J. G. Jenkins; Attorney-General, J. H. Gordon; Treasurer, R. Butler; Commissioner of Crown Lands, L. O'Loughlin; Commissioner of Public Works, R. W. Foster; Minister of Education and Industry, T. H. Brooker.

The state revenue for the year ending June 30, 1901, was £2,824,212, and the expenditure £2,846,577. For 1902 the revenue was estimated at £2,585,758, of which customs produce £612,000; estimated expenditure, £2,562,701. Besides customs, railroad receipts, internal revenue, posts and telegraphs, and lands furnish the main part of the public receipts, and the chief items of expenditure are interest on the debt and the operating expenses of railroads and other services, only 10 per cent. being devoted to administration, courts, police, and defense. The public debt on June 30, 1901, amounted to £26,131,780, more than half of which was borrowed to build railroads, telegraphs, and water-works. The railroads yield a net profit of 3½ per cent.

Under the new Constitution of South Australia the members of the Legislature were reduced nearly one-third. The general election, which occurred in May, showed no change in the relative strength of parties except a slight loss in the Labor party. The Cabinet, reduced to 4 members by the change in the Constitution, was reconstituted at the end of March as follows: Premier and Chief Secretary, J. G. Jenkins; Attorney-General and Minister of Education, J. H. Gordon; Treasurer and Minister of Lands and Agriculture, R. Butler; Commissioner of Public Works, R. W. Foster. The revenue of South Australia was affected more severely than that of the other colonies by the causes that operated unfavorably in all, the drought and the fall in the prices of metals. The wheat yield was small and railroad receipts declined. The budget showed a deficit of £239,000, which had to be met by the issue of treasury bills. In order to balance the budget for the coming year the Government proposed additional taxation of incomes and new stamp-duties in conjunction with economies in railroad administration and the public service.

Western Australia.—The Legislative Council has 30 members, elected for six years by freeholders possessing property of the value of £100, householders occupying premises worth £25 a year, ratepayers assessed for £25 a year, or holders of leased land or licenses on which they pay the Government £10 a year. The Legislative Assembly contains 50 members, elected by persons of either sex who are twenty-one years of age and residents or owners of property or leaseholders in the district. The Governor is Sir Arthur Lawley. The ministry in office at the beginning of 1902 was composed as follows: Premier and Attorney-General, G. Leake; Colonial Treasurer and Colonial Secretary, F. Illingworth; Minister for Works, Cornthwaite H. Rason; Minister for Lands, Adam Jameson; Commissioner of Railways, W. Kingsmill; Minister of Mines, H. Gregory.

The revenue for 1900 was £3,010,005, and the expenditure £2,898,654. Of the revenue customs produced £987,185. The remainder comes mainly from railroads, the post-office, mining licenses, and leases of public lands. The debt on June 30, 1901, amounted to £12,709,430, requiring the payment of £486,800 for interest and £429,227 for the sinking-fund. The general election took place in January after the assumption of the premiership by Mr. Leake, whose electoral promises included the reduction of the number of members in both houses of the Legislature, electoral reform, a board of management for the gold-fields, a water scheme, the establishment of a harbor trust, a factories act, and new railroad construction. After the death of Mr. Leake a new ministry was formed on June 30 as follows: Premier and Attorney-General, Mr. James; Commissioner of Railways, Mr. Kingsmill; Minister of Mines, Mr. Gregory; Commissioner of Crown Lands, Mr. Jameson; Director of Public Works, Mr. Rason; Colonial Secretary and Treasurer, Mr. Gardener. Western Australia was exempt from the drought which affected the other states. The gold product for 1902 increased notably. The state revenue in 1902 was £3,688,048. Immigration increases, and agriculture, as well as mining, advances steadily. The water-works to supply Coolgardie were completed before the end of 1902.

Tasmania.—The Legislative Council numbers 19 members, elected for six years by possessors of freehold or leasehold property worth £10 or £30

a year respectively and by professional practitioners and holders of academic diplomas. The House of Assembly consists of 38 members, elected for three years by British subjects resident in the state for twelve months. There were 9,430 electors for the Council in 1901 and 41,286 electors for the House of Assembly. The Governor is Sir A. E. Havelock. The Cabinet consisted in the beginning of 1902 of the following members: Premier and Attorney-General, Sir N. E. Lewis; Chief Secretary, G. T. Collins; Treasurer, B. S. Bird; Minister of Lands and Works, E. Mulcahy.

The revenue for 1900 was £1,054,980, and expenditure £923,731. Of the revenue £466,218 came from customs. The revenue for 1901, including the sum retained by the Federal Government, was estimated at £865,071, and expenditure at £855,000. The public debt on Jan. 1, 1901, amounted to £8,511,005, of which £3,527,632 pays 3½ per cent. and the rest 4 per cent., the whole having been raised to construct railroads and other public works.

The transfer of the customs to the Commonwealth reduced the revenue of Tasmania, while it cheapened many commodities for the people. New taxes on incomes and inheritances, a graduated land tax on estates worth over £10,000, and additional stamp-duties were not sufficient to equalize revenue and expenditure, in spite of drastic economies. The Government proposed not only to reduce the number of members in the Legislature, but to amalgamate the two chambers, 10 members to be elected on the Council franchise and 20 on the Assembly franchise.

British New Guinea.—The governments of Queensland, Victoria, and New South Wales, which jointly guarantee the cost of administering British New Guinea within the limit of £15,000 a year, have had a voice in the affairs of this territory, which was proclaimed a British protectorate in 1887 at the solicitation of the Queensland Government. It embraces the southeastern end of the island of New Guinea, and has an area of 90,540 square miles, containing a native population of about 350,000. The Europeans number 1,000, including gold-diggers, pearl-shell collectors, storekeepers, officials, and missionaries. The Commonwealth Government has proposed to provide £20,000 per annum for the next five years toward the expense of administering the territory, and on this condition the Imperial Government is prepared to resign the control of the administration. The present head of the local administration, who has the title of Lieutenant-Governor, is George Ruthven Le Hunte. Congregationalist, Roman Catholic, Wesleyan, and Anglican missionaries in different sections have done something to instruct and elevate the natives. Coconut groves have been preserved and extended, and trade with Europeans is increasing. Still savagery and cannibalism render the island unsafe for whites. Tobacco and coffee have been planted by Europeans. It is unlawful to acquire land from natives or to supply them with liquor or firearms, but land can be purchased from the Crown for 2s. 6d. an acre. The revenue in 1900 was £13,831, and expenditure £19,315. Alluvial gold is mined with machinery. There are about 200 diggers in the fields. Articles of food, clothing, tobacco, and hardware are imported from Queensland and New South Wales. Trepan, copra, gold, pearls, pearl shells, and sandalwood are exported. The value of imports for the fiscal year 1900 was £72,286, and of exports £56,167. Pearl and trepan collecting are the principal

source of profit to white adventurers on the New Guinea coasts, and for these occupations native laborers are recruited. These laborers have in many cases been starved, defrauded, and ill treated, causing them to run away, entailing upon them severe punishment, which has resulted in fights from which the whites have suffered. At some parts of the coast the natives are still addicted to savage raids and cannibal feasts, to which two white gold-diggers fell victims in February, 1901, and the missionary James Chalmers and his party in the April following. Late in the same year 20 persons were murdered and devoured on the Waria river. The Government staff is too small to afford protection over an immense territory or to mete out punishment. The Church of England mission, with a European staff of 26, has immediate control over 15,000 natives, and 1,000 children attend 14 schools. Under the teaching of missionaries the natives become ashamed of cannibalism, and though there are lapses among converts, the influence of civilization spreads rapidly among the people, who have considerable natural intelligence. While cannibal raids are still as frequent as ever in Dutch New Guinea and on the border, in British territory they grow less every year. The different missionary societies have apportioned the territory among themselves. The Anglicans on the northeast coast have the region that was the latest to be opened up, but which on account of the gold discoveries has become the center of interest to the whites.

AUSTRIA-HUNGARY, a dual monarchy in central Europe, composed, under the fundamental law of Dec. 21, 1867, of the Empire of Austria and the Kingdom of Hungary, inseparable constitutional monarchies, hereditary in the male line of the dynasty of Hapsburg-Lorraine and in the female line in the event of the extinction of the male line. The legislative power in affairs common to both monarchies, namely, foreign relations, military and naval affairs, with the exception of the national territorial armies, common finance, commercial and railroad affairs concerning both monarchies, the customs tariff, the coinage, and the administration of the occupied Turkish provinces, is exercised by committees of the legislative bodies of both monarchies, called the Delegations, which meet alternately in Vienna and Budapest, the Austrian and Hungarian capitals. The Delegations are composed of 20 members from each of the upper houses and 40 members from each of the popular chambers, elected by the respective bodies for each annual session. Each Delegation meets and votes separately, and in case of a disagreement the two Delegations come together and decide the matter by a joint vote. The common ministers are responsible to the Delegations and may be impeached for unconstitutional or illegal acts. The Emperor of Austria and King of Hungary is Franz Josef I, born Aug. 18, 1830, proclaimed Emperor of Austria on Dec. 2, 1848, when his uncle, Ferdinand I, abdicated in consequence of a revolution; crowned King of Hungary on June 8, 1867, when the ancient constitutional rights of the kingdom were restored. The heir presumptive is the Emperor-King's nephew, the Archduke Franz Ferdinand, born April 21, 1865, son of the late Archduke Karl Ludwig and the Princess Annunciata, daughter of the former King of Naples. The ministers of the whole monarchy at the beginning of 1902 were as follow: Minister of Foreign Affairs and of the Imperial House, Graf Agenor Maria Adam Goluchowski; Common Minister of War, Gen. Edmund, Freiherr von

Krieghammer; Common Minister of Finance, Benjamin de Kallay.

The Common Budget.—The expenditure for common affairs in 1899 was 328,756,000 crowns (1 crown = $\frac{1}{2}$ florin = 20.3 cents). The revenue from customs was 116,988,000 crowns; contribution of Austria, 145,272,000 crowns; contribution of Hungary, 66,496,000 crowns. The preliminary accounts for 1900 make the total expenditure 337,348,000 crowns, of which 124,950,000 crowns were obtained from customs; of the remainder Austria paid 139,333,000 crowns and Hungary 73,065,000 crowns. The approved estimates for 1901 make the total expenditure 337,000,000 crowns, customs yielding 125,039,000 crowns of this sum, leaving Austria to provide 156,979,000 crowns and Hungary 82,319,000 crowns. For 1902 the sanctioned estimates of expenditure amount to 365,181,966 crowns, 321,704,948 crowns for ordinary and 43,477,018 crowns for extraordinary purposes, appropriated as follows: 10,551,062 crowns for ordinary and 203,995 crowns for extraordinary expenses of the Ministry of Foreign Affairs, making a total of 10,754,357 crowns; 275,858,619 crowns for ordinary and 20,019,103 crowns for extraordinary expenses of the army, making 295,877,722 crowns; 30,803,200 crowns for ordinary and 15,887,620 crowns for extraordinary expenses of the navy, making 46,690,820 crowns; 4,174,307 crowns for expenses of the Ministry of Finance; 317,760 crowns for the Board of Control; 7,367,000 crowns of extraordinary expenditure for the military occupation of Bosnia. The customs revenue for 1902 was estimated at 110,541,299 crowns; receipts from the Government departments, 6,191,677 crowns; matricular contributions of the two halves of the monarchy, 254,640,667 crowns. The Ausgleich negotiated in 1887, fixing for ten years the proportional contributions of the two monarchies to the common expenditure and adjusting the customs and the financial relations in general, was continued provisionally after its expiration, no agreement having been reached as to a new arrangement. A joint commission in November, 1899, arrived at a compromise according to which Hungary should pay 34.4 per cent. and Austria 65.6 per cent. of common expenditure in excess of receipts from customs. The Austrian Reichsrath and the Hungarian Parliament failing to ratify this agreement, it was left to the decision of the Emperor-King to frame a *modus vivendi*. He decided on Dec. 30, 1899, that until July 1, 1901, the scheme of the joint commission should have application.

The general debt, consisting of debts incurred by the Empire before 1868, amounted on July 1, 1901, with the floating debt of 95,796,985 crowns, to 5,434,428,306 crowns. The share of Austria in the annual charges was 166,382,255 crowns for interest and 22,646,305 crowns for amortization; Hungary's share was 60,298,646 crowns for interest and 279,016 crowns for amortization. Since the creation of the dual monarchy no loans have been issued in common. There were 224,000,000 crowns of state notes in circulation on Jan. 1, 1901, which are guaranteed jointly. Provision is made for their retirement before Sept. 1, 1903. The Austro-Hungarian Bank had 1,404,023,320 crowns of bank-notes in circulation, which must be protected by a reserve of 40 per cent. in silver or gold. The state notes will be replaced by 5-crown silver pieces to the amount of 64,000,000 crowns and by 10-crown bank-notes, which as well as the silver pieces will be fully protected by gold. The gold basis was adopted for Aus-

tria-Hungary in 1892. A stock of gold was accumulated by the Austrian and Hungarian governments, and the amount of gold coined has been considerable. In 1900 only 6,872,000 crowns of gold coins were struck at the Austrian mint, which turned out 46,368,000 crown pieces in silver. The Hungarian mint in the same year coined 10,970,000 crowns in gold and 19,200,000 crowns in silver.

The Army.—The common army consists of 15 army corps, composed, with some exceptions, each one of 2 divisions of 2 brigades of infantry, 1 brigade of cavalry, 1 brigade of artillery, and 1 section of train. There are 62 brigades of infantry and 8 brigades of rifles; 5 cavalry divisions, with 18 brigades of cavalry; and 14 brigades of artillery, and 14 mountain-batteries. The 102 regiments of infantry are drawn from as many recruiting districts, in addition to which the Tyrol and Vorarlberg furnish 4 regiments of Tyrolian jägers, 3 districts of the Adriatic littoral furnish marine troops, and 4 districts of Bosnia and Herzegovina furnish regiments which are incorporated in the Austro-Hungarian army. The infantry have the Mannlicher rifle of the model of 1895, of 8-millimeter caliber, with a magazine holding 5 cartridges. The cavalry, consisting of 15 regiments of dragoons, 16 regiments of hussars, and 11 regiments of uhlans, are armed with sabers and repeating carbines. The field-artillery, consisting of 14 regiments of corps and 42 regiments of divisional artillery, have guns of tempered bronze, those of the field-batteries having a caliber of 9 centimeters, the mountain guns a caliber of 7 centimeters. The peace effective for 1901 of the common army was 3,597 superior and staff officers, with 2,736 men; 1,697 officers and 7,153 men attached to the military establishments; 9,428 officers and 161,602 men in the infantry of the line; 1,019 officers and 16,536 men in the Tyrolian jägers and rifle battalions, 1,890 officers and 45,906 men in the cavalry; 1,647 officers and 25,586 men in the field-artillery; 422 officers and 7,786 men in the fortress-artillery, organized in 6 regiments and 3 separate battalions; 495 officers and 8,445 men in the pioneers, of which there are 15 battalions; 89 officers and 1,490 men forming 1 regiment of 12 companies of railroad and telegraph troops; 79 officers and 2,964 men in the hospital corps; 417 officers and 3,309 men in the train; 584 officers and 9,935 men attached to the depots; 2,415 officers and 20,996 men forming 38 infantry regiments, and 246 officers and 4,231 men forming 6 cavalry regiments and 3 squadrons of Austrian Landwehr—total, 2,661 officers and 25,068 men; and 2,239 officers and 20,996 men forming 28 infantry regiments and 390 officers and 4,231 men forming 10 cavalry regiments of Hungarian Honved—total, 2,629 officers and 25,927 men. Total peace strength, 26,070 officers and 333,808 men, with 63,424 horses and 1,048 guns. The annual contingent of recruits for the common army is 103,100 men; for the Austrian Landwehr, 10,000 men; for the Hungarian Honved, 12,500 men. The Landwehr and Honved, in which the period of service is twelve years, are called out for instruction only. The term of active service is three years in the common army and seven years more in its reserve. In addition to the recruits taken for active service both the common army and the separate national armies have lists of substitutes or Ersatz troops who can be called out to fill any vacancies that occur. All who are not drawn for service either in the common army or in the Austrian or Hungarian national army or are not inscribed in the Ersatz reserves

are enrolled in the Landsturm and may be called out by the Emperor-King's order to fill gaps in either the common army or the national Landwehr of their own country, but Austrians may not be ordered to fight beyond the frontiers of Austria nor Hungarians outside of Hungary without a special legislative act of their Parliament.

The Navy.—The Austro-Hungarian navy is small, being designed principally for the defense of the Adriatic seaboard; but it is kept in a high state of efficiency. The *Custoza*, *Erzherzog Albrecht*, and *Tegetthoff*, of 5,900 to 7,400 tons, engined to steam 14 knots, are iron-clad battle-ships, with broadside batteries, built between 1872 and 1878, which have been refitted and re-armed with powerful batteries of 11-inch, 10-inch, 9½-inch, and smaller guns. Kaiser Max, *Don Juan de Austria*, and *Prinz Eugen*, of 3,600 tons, dating from the same period, have a heavy armament, and are good for coast defense, but too slow and not sufficiently protected to figure in the line of battle. The turret-ship *Erzherzog Rudolf*, of 6,900 tons and 12-inch armor, having a speed of 16 knots, and armed with 3 12-inch, 6 4½-inch, and 2 2½-inch guns, was built in 1887; and in the same year was turned out the *Erzherzogin Stefanie*, of 5,100 tons, with 9-inch armor, carrying 2 12-inch, 6 6-inch, and 2 2½-inch guns, and having a speed of 17 knots. The *Monarch*, *Wien*, and *Budapest*, of 5,600 tons, with 10½ inches of Harvey armor, engines of 8,000 horsepower making 17 knots, 4 9.4-inch guns in their fore and aft turrets, 6 5.9-inch quick-firers in casemates, and 14 1½-inch quick-firers, were launched in 1895 and 1896. Of the same type improved are the more powerful *Habsburg*, *Arpad*, and *Babenburg*, launched in 1900, 1901, and 1902, having a displacement of 8,300 tons, 8.6 inches of Krupp armor, engines of 11,000 horsepower, and a main armament of 3 9.4-inch guns in turrets and 12 6-inch guns in casemates. Three new battle-ships have been begun which will have a displacement of 10,000 tons, 10 inches of armor, engines of 14,000 horsepower, and an armament of 3 11-inch and 14 6-inch guns. The armored cruiser *Maria Theresa*, launched in 1893, of 5,200 tons displacement, has a belt of 4-inch armor, engines of 9,000 horsepower capable of steaming 19 knots, and an armament of 2 9½-inch and 6 6-inch breech-loaders and 11 quick-firers. Of improved design is the *Kaiser Karl VI*, launched in 1900, displacing 6,100 tons, protected with 10.6-inch plates, having engines of 12,000 horsepower capable of making 20 knots, and armed with 2 9.4-inch guns and 8 5.9-inch quick-firers. Greater speed, dirigibility, cruising radius, and weight and energy of fire are to be attained in a cruiser of 7,400 tons which will have 8.7-inch armor and engines of 12,300 horsepower, and besides the fore and aft guns will carry 10 6-inch quick-firers. The protected cruisers *Kaiserin Elisabeth* and *Kaiser Franz Josef I*, launched in 1890, can make 19 knots with engines of 9,000 horsepower, and carry also the 2 9.4-inch breech-loaders, with 6 6-inch quick-firers. There are 6 protected cruisers of earlier construction, 4 coast-guards, 12 torpedo-gunboats, 4 monitors on the Danube, and a formidable flotilla of torpedo-boats, consisting of 32 of the first, 31 of the second, and 8 of the third class. The personnel of the navy in 1901 consisted of 563 officers, 180 cadets, 15 paymasters, 62 surgeons, 157 engineers, 94 mechanics, 173 employees, and about 8,000 sailors.

Commerce and Production.—The special imports into the Austro-Hungarian customs terri-

tory, which includes Bosnia and Herzegovina, were valued at 1,696,400,000 crowns in 1900, and the value of the special exports at 1,942,000,000 crowns. The imports of raw cotton were 144,136,000 crowns in value; of coal, 112,317,000 crowns; of wool, 88,886,000 crowns; of silk, raw and manufactured, 74,324,000 crowns; tobacco, 55,551,000 crowns; machinery, 51,978,000 crowns; hides and skins, 49,468,000 crowns; coffee, 48,100,000 crowns; flax and jute, 45,972,000 crowns; books and prints, 39,042,000 crowns; copper, 35,510,000 crowns; eggs, 27,405,000 crowns; wine, 24,892,000 crowns; corn, 19,099,000 crowns; hogs, 8,327,000 crowns; wheat, 4,212,000 crowns; rye, 897,000 crowns; lard and bacon, 366,000 crowns. The exports of lumber and wood manufactures were 254,295,000 crowns in value; of sugar, 186,551,000 crowns; of eggs, 99,262,000 crowns; of lignite, 69,560,000 crowns; of cattle, 61,768,000 crowns; of horses, 54,948,000 crowns; of glass and glassware, 52,733,000 crowns; of barley, 51,786,000 crowns; of malt, 50,802,000 crowns; of gloves and shoes, 46,675,000 crowns; of woolen manufactures, 41,087,000 crowns; of coal, 23,050,000 crowns; of poultry, 21,387,000 crowns; of barrel staves, 19,626,000 crowns; of geese feathers, 18,879,000 crowns; of beans, 15,876,000 crowns; of hops, 14,210,000 crowns; of beer, 12,134,000 crowns.

The values in crowns of the imports from and exports to the principal countries in 1900 were as follow:

COUNTRIES.	Imports.	Exports.
Germany	658,375,000	1,018,840,000
Great Britain	149,194,000	202,897,000
Italy	114,297,000	146,967,000
United States	162,823,000	87,985,000
Russia	89,149,000	71,661,000
Switzerland	56,299,000	68,630,000
India	84,242,000	46,647,000
France	53,964,000	68,490,000
Turkey	41,924,000	63,618,000
Roumania	32,227,000	43,211,000
Servia	42,218,000	24,174,000
Egypt	27,675,000	26,172,000
Brazil	43,489,000	5,364,000
Netherlands	16,343,000	27,442,000
Belgium	26,087,000	14,888,000
Greece	17,174,000	18,887,000
South America	24,072,000	4,241,000
Dutch East Indies	20,473,000	228,000

The area under cultivation in Austria in 1900 was 28,243,198 hectares, of which 10,624,851 hectares were under farm crops, 7,127,327 acres in meadow and pasture, 9,777,935 hectares planted with forest trees, 371,242 acres in gardens, 242,063 acres in vineyards, and 106,445 acres covered with fish ponds and lakes. The yield of wheat from 1,065,000 hectares was 14,741,000 hectoliters; of barley from 1,234,000 hectares, 20,525,000 hectoliters; of oats from 1,899,000 hectares, 37,021,000 bushels; of rye from 1,701,000 hectares, 19,906,000 hectoliters; of pulse from 282,000 hectares, 3,144,000 hectoliters; of buckwheat from 164,000 hectares, 2,158,000 hectoliters; of corn from 385,000 hectares, 5,426,000 hectoliters; of other cereals from 91,000 hectares, 1,370,000 hectoliters; of potatoes from 1,168,000 hectares, 117,020,000 quintals; of sugar-beets from 240,000 hectares, 52,282,000 quintals; of other beets from 175,000 hectares, 27,648,000 quintals; of wine from 253,000 hectares, 5,213,000 hectoliters; of hops from 19,000 hectares, 90,000 quintals; of tobacco from 3,700 hectares, 53,000 quintals; of hemp from 33,000 hectares, 52,000 quintals; of flax from 72,000 hectares, 227,000 quintals. The production of coal in Austria in 1900 was valued at 47,795,000 florins; of lignite, 56,317,000 flor-

ins; of pig-iron, 41,152,000 florins; of lead, 2,361,000 florins; of silver, 1,954,000 florins; of zinc, 1,582,000 florins; of quicksilver, 1,248,000 florins; of copper, 769,000 florins. The total product of the mines was valued at 116,727,240 florins; value of furnace products, 49,987,900 florins. The production of coal in 1899 was 109,925,000 centners; of lignite, 215,399,000 centners; of iron ore, 18,944,000 centners; of salt, 3,302,000 centners; of graphite, 336,000 centners; of silver, 39,572 kilograms; of copper, 8,811 centners; of zinc, 67,415 centners; of iron, 10,002,067 centners; of lead, 106,503 centners; of quicksilver, 5,104 centners. The value of fish caught in 1900 was 1,584,268 florins in summer and 1,076,652 florins in winter fishing. The production of beer in 1899 was 19,573,547 hectoliters; of alcohol, 1,538,189 hectoliters.

In Hungary the crop of wheat in 1900 from 3,564,000 hectares was 41,432,000 centners; of barley from 1,080,000 hectares, 12,362,000 centners; of oats from 1,082,000 hectares, 11,061,000 centners; of rye from 1,114,000 hectares, 10,793,000 centners; of pulse from 893,000 hectares, 3,008,000 centners; of buckwheat from 25,000 hectares, 167,000 centners; of corn from 2,588,000 hectares, 37,174,000 centners; of mixed grain from 141,000 hectares, 1,463,000 centners; of other cereals from 71,000 hectares, 572,000 centners; of potatoes from 575,000 hectares, 48,622,000 centners; of sugar-beets from 92,000 hectares, 19,857,000 centners; of other beets from 176,000 hectares, 43,794,000 centners; of wine from 260,000 hectares, 1,944,000 centners; of tobacco from 40,000 hectares, 599,000 centners; of hemp seed from 67,000 hectares, 282,000 centners; of rape seed from 34,000 hectares, 251,000 centners. The production of silk cocoons, in which 87,825 families were engaged, was 1,354,120 kilograms in 1900, valued at 2,517,267 crowns. Bees were kept in 12,042 villages, producing 38,508 centners of honey and 2,884 centners of wax; total value, 3,820,217 crowns. The forest in 1900 had an area of 9,040,677 hectares, of which 2,414,985 hectares were oak, 4,731,803 hectares were beech, and 1,893,889 hectares were pine. Exports of forest products in 1899 were valued at 86,411,000 crowns, and imports at 14,984,000 crowns. The value of lignite raised in Hungary in 1900 was 34,331,000 crowns; of coal, 14,486,000 crowns; of iron ore, 9,002,000 crowns; of ores containing lead, copper, silver, and gold, singly or in combination, 5,137,000 crowns. The value of gold produced was 10,721,000 crowns; of silver, 2,306,000 crowns; of pig iron, 37,772,000 crowns; of copper, 260,000 crowns; of lead, 836,000 crowns; of coal briquets, 1,157,000 crowns; of antimony, regulus, and antimony ore, 801,000 crowns; of pig pyrites, 727,000 crowns; of other mineral products, 1,453,000 crowns; total value of minerals and ores, 63,142,000 crowns; of furnace products, 56,037,000 crowns. The quantity of beer brewed in Hungary was 1,448,252 hectoliters in 1900; of alcohol distilled, 1,058,862 hectoliters; of sugar produced, 2,504,501 centners. The total value of the special imports into Hungary for 1900 was 1,110,354,000 crowns; of exports of Hungarian produce, 1,327,484,000 crowns. The imports of cotton goods were 124,518,000 crowns in value; of woolen goods, 81,233,000 crowns; of silk goods, 28,194,000 crowns; of wine, 24,124,000 crowns; of coal, 20,316,000 crowns; of ready-made men's clothing, 19,424,000 crowns; of machinery, 18,892,000 crowns; of women's garments, 18,855,000 crowns; of boots and shoes, 18,044,000 crowns; of tobacco, 17,889,000 crowns; of refined sugar, 16,933,000 crowns.

The exports of flour were 156,628,000 crowns in value; of cattle, 92,361,000 crowns; of wheat, 84,646,000 crowns; of hogs, 59,477,000 crowns; of rye, 47,807,000 crowns; of eggs, 34,497,000 crowns; of wine, 32,336,000 crowns; of corn, 31,744,000 crowns; of oats, 30,465,000 crowns; of horses, 28,608,000 crowns. Of the total imports 21.95 per cent. were raw products and 78.05 per cent. manufactures, while of the exports 60.78 per cent. were raw products and 39.22 per cent. were manufactures. Of the imports 79.51 per cent., 882,834,033 crowns, came from Austria, and 71.55 per cent. of the exports, 949,759,656 crowns, went to Austria. From Germany the value of 54,533,108 crowns was imported, and exports to Germany amounted to 141,200,927 crowns. The imports from Great Britain were 15,956,251 crowns in value, consisting mainly of cotton cloth and tobacco; the value of exports to Great Britain, consisting principally of wheat flour and barley, was 28,031,318 crowns. The largest commercial intercourse, after these countries, is with Servia, France, Switzerland, Italy, and Roumania.

Navigation.—The number of vessels entered at Austrian seaports during 1899 was 107,590, of 13,160,544 tons; cleared, 107,511, of 13,148,482 tons. Of the vessels 88 per cent., with 90 per cent. of the tonnage, were Austrian, Italy having the next largest percentage, and then Greece. At the port of Trieste 8,468 vessels, of 2,164,927 tons, were entered, and 8,487, of 2,166,289 tons, were cleared. The Austrian commercial marine on Jan. 1, 1900, comprised 12,039 vessels of all kinds, of 244,301 tons, with 33,503 sailors. Of the total number, which included 199 steamers, of 190,620 tons, 154, of 198,322 tons, were ocean vessels, 1,483, of 23,631 tons, were coasters, and 11,002, of 22,348 tons, were fishing vessels and other small craft.

At Hungarian ports 19,223 vessels, of 2,223,302 tons, were entered and 19,218, of 2,226,733 tons, were cleared during 1900. At Fiume were entered 10,739 vessels, of 1,681,151 tons; cleared, 10,732, of 1,684,329 tons. The commercial fleet of Hungary on Jan. 1, 1901, consisted of 61 ocean vessels, of 63,002 tons, 154 coasting vessels, of 6,063 tons, and 223 fishing vessels, etc., of 332 tons; total, 438 vessels, of 69,397 tons, of which 78, of 56,391 tons, were steamers.

Railroads, Posts, and Telegraphs.—There were 11,700 miles of railroad in Austria on Jan. 1, 1900, of which 4,713 miles were Government railroads, 1,989 miles were private lines operated by the Government, 4,998 miles were owned and operated by companies, and 62 miles were foreign railroads. The number of passengers carried in 1899 was 142,296,000; tons of freight, 114,512,000; gross receipts, 296,837,000 florins; expenses, 193,412,000 florins; capital cost, £246,915,000.

In Hungary the total length of completed railroads on Jan. 1, 1901, was 17,108 kilometers, of which the Government owned 7,662 kilometers and operated 6,491 kilometers of companies' lines, while 2,955 kilometers were owned and operated by companies. The number of passengers in 1900 was 64,412,000; tons of freight, 42,577,000; gross receipts, £11,472,000 sterling; expenses, £6,222,000; capital, £112,056,000.

The number of letters and postal cards that passed through the Austrian post-office during 1900 was 1,055,791,710; samples and printed matter, 137,626,510; newspapers, 107,738,700. The receipts were 107,718,310 crowns, and expenses were 98,411,819 crowns.

The number of letters and postal cards that passed through the Hungarian post-office was

319,770,000 in 1900; newspapers, 115,994,000; samples and printed matter, 51,906,000; money and postal orders, 21,018,000, of the value of £46,794,000 sterling; registered letters and parcels, 20,016,000. The receipts of the postal, telegraph, and telephone services were 47,103,000 crowns; expenses, 39,912,000 crowns.

The total length of telegraph lines in Austria in 1900 was 24,480 miles, with 107,750 miles of wire. The number of messages in 1900 was 15,057,176. There were 266 telephone exchanges and 105 interurban circuits, with a total length of 79,750 miles of wire. The number of conversations in 1900 was 95,262,595. The telegraph-lines of Hungary had a total length of 22,824 kilometers, with 114,831 kilometers of wire. The number of messages in 1900 was 14,370,439. There were 50 telephone exchanges, with 45 interurban circuits and connections with Vienna and Berlin. The total length of telephone wire was 74,093 kilometers. The number of conversations was 37,301,358.

The Triple Alliance.—The alliance between Germany, Austria-Hungary, and Italy, which expires in May, 1903, was prolonged in its original form for a further period of six years by a new treaty signed at Berlin on June 26, 1902. A dual alliance between Germany and Austria-Hungary, arranged in a conference between Prince Bismarck and Count Andrassy in 1879, bound each of the contracting powers to come to the assistance of the other with its military and naval forces in case of an attack on two sides at the same time, an attack of France and Russia against Germany, with or without Italy, or an attack of Russia and Italy against the Austro-Hungarian dominions. There existed previously the Dreikaiserbund between the Emperors of Germany, Austria-Hungary, and Russia, an understanding reached in 1873, which the *entente cordiale* between France and Russia unsettled. Nevertheless the first German Emperor was reluctant to agree to the Austro-German military pact, deeming it incompatible with his political and family relations to the Emperor of Russia. After it was carried through Prince Bismarck always insisted that a good understanding with Russia was an essential element of German policy, and after the dual alliance was expanded into a triple alliance by the adhesion of Italy, this military pact was uniformly represented as purely defensive, a guarantee of peace, an insurance against any disturbance of the existing equilibrium. When the relations between Italy and France became strained in consequence of the French occupation of Tunis, Italy was easily persuaded to abandon her position of isolation and join, in 1883, the alliance of the central powers. Italian Irredentism in respect to the coast provinces of Austria thereby received a check and ceased to be a danger to the peace of Europe. A tariff war with France further estranged Italy from her former ally. The terms of the dual alliance were after a time disclosed to the public, but those of the tripartite treaty have always been kept secret, though it may be inferred that Germany can only call upon her allies for active assistance in the event of a double attack, but will assist if necessary either one of them which is attacked from one side only. The burden of armaments has borne most severely upon Italy, the one of the three powers which had most to make up in developing its military strength with the weakest material resources. The heavy strain of taxation and the unlikelihood that Italy would receive compensation on the Adriatic, the only field for national expansion, for any sacri-

fices she might make for her allies, has caused a considerable revulsion of public feeling at times in Italy, but never sufficient to cause the successors of Crispi to abandon the alliance which he formed. A better feeling toward France and better trade relations did not alter the policy of the Italian Government. The economic difficulties of Italy, however, led that Government, before the alliance was renewed for twelve years on May 6, 1891, to press for favorable commercial terms. The complaints of Italians regarding the excessive burden of the military and naval armaments that Italy has kept up in her ambition to maintain her position among the great powers drew from the responsible statesmen of the allied powers the admission that the treaty does not compel Italy to mobilize any specified number of army corps or to bring her armed strength up to any particular standard. When the Franco-Russian *entente cordiale* matured into the dual alliance between the French Republic and Russia as an open rejoinder to the triple alliance, stress was laid on the pacific nature and conservative purpose of the dual alliance by its authors and its value in insuring peace as a counterpoise to the triple alliance, and those concerned in the latter reiterated their peaceful intentions. Just as the continuance of the political friendship and dynastic intimacy between Germany and Russia did not preclude the conclusion of the Austro-German alliance and subsequent Dreibund, an agreement made later between Austria and Russia to maintain the *status quo* in the Balkans was held to be perfectly compatible with the obligations of Austria toward her allies. In the same principle, when a rapprochement was attained in the spring of 1902 between Italy and France by an agreement on the part of the latter to respect the Italian sphere of interest in Tripoli, this separate understanding was not regarded as inconsistent with the fresh renewal of the triple alliance. Italy urged the need of advantageous terms for Italian products in the new commercial treaties as a necessary condition to her preserving the military strength that makes her alliance valuable, and pledges may have been made or assurances given without any such stipulations being embodied in the treaty of alliance, which the successive German Chancellors have averred is not complicated with economic questions. Count von Bülow likened the triple alliance to an insurance company rather than to an association for profit, and repeated the declarations that it is purely defensive and pacific, that it entails no obligations on the members to maintain their military or naval forces at a prescribed level, and that it is no artificial combination, but corresponds to a natural and historical balance of power, tending now even more than in the beginning to the preservation of the peace of the world, since the political combinations of the present go beyond the limits of Europe and the basin of the Mediterranean, the interests of the great powers embrace the whole world, and none of them can wage war in Europe without reflecting on far-reaching hazards in other quarters.

Count Goluchowski, when announcing on the meeting of the Delegations in May the approaching prolongation of the triple alliance, spoke of the dual alliance as its complement and an assistance in the fulfilment of its pacific task and of the extension of such political arrangements for the maintenance of the *status quo* to extra-European questions, as exemplified by the Anglo-Japanese treaty guaranteeing the integrity of China and Korea, just as the Austro-Russian *entente* insures the integrity of the Balkan coun-

tries. Special agreements made by individual powers belonging to the different groups concerning specific interests which affect them alone, as evidenced by the confidential relations existing between France and Italy or the satisfactory development of Austro-Russian relations resulting from the agreement of 1897, are not opposed to the general principles which brought about the union of the principal groups. The agreement of France to respect Italy's aspirations in Tripoli, and perhaps also to intervene in no way to frustrate her ambitions in Carniola and Istria and in Albania, Italy leaving to France a free hand in Morocco, deprives of all its force and practically ends the Anglo-Italian Mediterranean agreement, leaving England without a supporter for her claims to a share in the division of Morocco and with no ports save her own as naval bases from which to conduct operations in the Mediterranean unless she shall enter into a similar alliance with Spain. It was England herself who caused the defection of her ally and the Franco-Italian rapprochement when in bargaining over protectorates and spheres of influence in various parts of the world she conceded to France the Hinterland of Tripoli; a concession which France has used to purchase the friendship of Italy and the isolation of England in the matter of more vital interests, probably by resigning the French claim to this region to Italy. It is said that in connection with the old treaty Italy entered into an engagement to send in the event of an aggressive war on Germany and Austria, an army corps through the Tyrol to take up a position with the German army on the Rhine and an army corps through Hungary to be placed under the command of King Carol of Roumania and to invade Bessarabia alongside of Austrian and Roumanian troops. These obligations are supposed to have been omitted from the military agreements and plans of campaign adopted when the new treaty was signed, which itself was officially stated to be identical with the original treaty of alliance, and like it is to be kept secret, although the Austrian and Italian governments are believed to be willing to disclose its terms. The idea that a political alliance can subsist concurrently with a commercial war has been repudiated by Hungarian statesmen more outspokenly than it has in Italy. Austria-Hungary, however, obtained no pledges for fair treatment of Hungarian exports, especially those that under Agrarian pressure are in danger of being shut out from the German market when the commercial treaties are renewed. No positive assurances were given either to Austria or to Italy regarding the German tariff, which will depend on the action of the Reichstag. The renewal of the military convention with Germany without modification was therefore viewed in Hungary as a temporary engagement which will not be again renewed if the Germans frame a hostile tariff. The Italian people took a similar view. The Slavs of Austria were decidedly averse to the renewal and look upon it as a mere alliance between the ministerial chancelleries which lacks the approval of the nations concerned. In Chinese affairs Germany acted with Russia and France, and the triple alliance had no significance. It gives to Austria-Hungary and to Italy an outward prestige and importance that they would not have if they stood alone; still it has not been to them the source of strength and welfare that Germany has made of it for herself. As to the practical application of the military convention, the danger of such wars as it contemplates is much more remote now than when

it was originally concluded. The French people do not renounce their hope of recovering their lost provinces, yet the impulse of revenge no longer stirs the nation, since Germany has given up the attitude of truculent provocation for one of studied courtesy, which the French Government is constrained by national feeling to receive but coolly. No more have the Italians abandoned their aspirations for the unredeemed Italian lands and the shores of the Adriatic, nor does the Hapsburg monarchy cease to contemplate the prospect of an Austrian port on the Mediterranean, nor has Russia resigned her secular ambition to hold the seats of the Eastern Empire or given up the role of guardian of all the Slav peoples. The chance, however, of a new war over the Eastern question seems less likely than a peaceful division if the Turks are to be driven out of Europe. Germany from the start refused to support the ambition of Austria. When the triple alliance was new Bismarck declared that to Germany the Balkan peninsula was not worth the bones of a Pomeranian grenadier. A collision of the great Continental armies in central Europe over Alsatia, Luxemburg, Belgium, the Germans of Esthonia, the Esths of Prussia, or any other question seems impossible. So well protected are the frontiers, so destructive the modern weapons, so enormous the forces that an attack would be like national suicide. The renewal of the triple alliance was followed by a meeting of the German Emperor and the Czar, who was visited by the President of the French Republic in return for his journey to France. The King of Italy paid a visit to the Czar and stopped in Berlin, but did not go to Vienna.

The Ausgleich.—The acrimonious conflict between the Austrian and Hungarian governments over the renewal of the Ausgleich, which has been kept up almost uninterruptedly for six years, reached a critical stage in the summer of 1902, when negotiations were broken off until the Emperor intervened between the two Prime Ministers. Dr. von Körber gave warning that Austria had made the last concessions in regard to the autonomous tariff, and yet the Hungarian Parliament still insisted on its demands. The Austrian Reichsrath, which came to a deadlock six months before over the language question and was brought into working order again only by a threat from the Prime Minister to suspend the Constitution, gave the Government united support in its insistence on the Austrian views, and it was the general feeling that in the concessions already offered Austria sacrificed her interests to such an extent that the Ausgleich when concluded on such terms would be the last one. The danger of an immediate disruption of the customs union seemed to be averted. Meanwhile the continuance of the deadlock placed Austria-Hungary at a disadvantage in respect to the negotiations with other nations for the new commercial treaties, for until the fiscal relations of the two halves of the monarchy were settled there was no adequate basis for these negotiations. The dissensions over the tariff involved many technical questions. In the main the Hungarians desired to protect their agriculture by the imposition of high duties on foodstuffs and raw materials, while the Austrians wanted to be guaranteed against arbitrary interpretations by the Hungarian authorities that would give an unfair advantage to the industries of Hungary which the state helps in the effort to wrest the domestic market from the Austrian manufactures by granting subsidies, remitting taxes, and allowing discriminating railroad rates in con-

tradition to what the Austrians hold to be the spirit of the customs union. In Hungary there is a strong party in favor of an independent customs territory, and in Austria the idea of the economical separation of the two monarchies has taken root, though in the latter country more effort would be required to adjust business to such a condition.

Austria.—The legislative authority for the empire is vested in the Reichsrath, but each province possesses a large measure of autonomy and has its Landtag to legislate on all matters not reserved by the Constitution for the Reichsrath, which has general authority to legislate on all matters concerning rights, duties, and interests that are common to all the lands represented in the Reichsrath. The Reichsrath is composed of a Herrenhaus and an Abgeordnetenhaus. The Herrenhaus contains 18 princes of the imperial family, 67 heads of the territorial families, 5 cardinals, 6 prince-bishops, and 140 members nominated for life. The Abgeordnetenhaus contains 425 members elected for six years—85 by large proprietors, 118 by towns, 21 by chambers of commerce and trade councils, 129 by rural communes, and 72 by the general male population paying 4 florins in direct taxes or otherwise qualified. The ministry in office at the beginning of 1902 was composed as follows: President of the Council and Minister of the Interior, Dr. E. von Körber; Minister of National Defense, Graf Zeno von Welsersheimb; Minister of Finance, Dr. E. Ritter Böhm von Bawerk; Minister of Railroads, Dr. H. Ritter von Wittek; Minister of Justice, Baron A. Spens von Booden; Minister of Public Instruction and Worship, Dr. W. Ritter von Hartel; Minister of Commerce, Baron G. von Call von Culmbach and Rosenberg; Minister of Agriculture, Baron K. de Giovanelli; without portfolios, Dr. A. Rezek and Dr. Leonard Pietak.

Area and Population.—The area of Austria is 115,903 square miles. The population according to the census of Dec. 31, 1900, was 26,150,597, or 226 to the square mile. The increase in ten years was 2,214,802, giving a yearly rate of 0.93 per cent. The area of the individual provinces and their population in 1890 and 1900 are given in the following table:

PROVINCES.	Square miles.	POPULATION.	
		Dec. 31, 1890.	Dec. 31, 1900.
Lower Austria.....	7,654	2,661,799	3,100,498
Upper Austria.....	4,631	785,881	810,246
Salzburg.....	2,767	173,510	192,763
Styria.....	8,670	1,282,706	1,356,494
Carinthia.....	4,006	361,006	367,337
Carniola.....	3,856	496,958	506,150
Coastland.....	3,064	695,384	756,546
Tyrol and Vorarlberg.....	11,324	928,769	961,949
Bohemia.....	20,060	5,948,094	6,318,697
Moravia.....	8,583	2,276,870	2,487,706
Silesia.....	1,987	605,649	680,422
Galicia.....	30,307	6,907,816	7,315,816
Bukovina.....	4,085	646,591	730,195
Dalmatia.....	4,940	537,426	593,783
Total.....	115,903	23,805,413	26,150,597

The number of marriages in 1900 was 214,214; of births, 967,939; of deaths, 658,680; excess of births, 309,259. The number of Austrian emigrants who sailed from German and Dutch ports in 1900 was 94,611, of whom 91,768 were destined for the United States, 178 for Brazil, and 131 for the Argentine Republic. The population of the chief towns on Dec. 31, 1900, was as follows: Vienna, 1,674,957; Prague, 201,589; Lemberg, 159,877; Gratz, 138,080; Trieste, 134,143; Brunn,

109,346; Krakau, 91,323; Pilsen, 68,079; Czernowitz, 67,622; Linz, 58,791.

Finances.—The revenue for 1902 was estimated at 1,685,966,357 crowns, from the following sources: Reichsrath and Council of Ministers, 1,705,936 crowns; Ministry of the Interior, 2,951,314 crowns; Ministry of Defense, 854,578 crowns; Ministry of Instruction and Worship, 14,447,716 crowns; Ministry of Finance, 1,183,733,249 crowns; Ministry of Commerce, 129,342,120 crowns; Ministry of Railroads, 281,813,370 crowns; Ministry of Agriculture, 36,109,822 crowns; Ministry of Justice, 2,554,558 crowns; pensions, 2,974,834 crowns; state debt, 1,246,500 crowns; debt administration, 21,500 crowns; sale of state property, 1,078,352 crowns. The total expenditures for 1902 were estimated at 1,685,117,944 crowns, distributed as follows: Imperial household, 9,300,000 crowns; Imperial Cabinet Chancery, 179,338 crowns; Reichsrath, 2,688,569 crowns; Supreme Court, 49,724 crowns; Council of Ministers, 3,089,629 crowns; contribution to common expenditure, 263,479,377 crowns; Ministry of the Interior, 68,033,678 crowns; Ministry of Defense, 60,823,851 crowns; Ministry of Instruction and Worship, 79,008,269 crowns; Ministry of Finance, 275,499,513 crowns; Ministry of Commerce, 130,413,080 crowns; Ministry of Railroads, 242,592,720 crowns; Ministry of Agriculture, 46,050,002 crowns; Ministry of Justice, 71,337,631 crowns; Board of Control, 460,800 crowns; pensions, 60,276,080 crowns; subventions and donations, 16,618,110 crowns; state debt, 353,913,528 crowns; debt administration, 1,304,045 crowns. Extraordinary expenditures amounting to 562,000,000 crowns for railroad construction and similar objects will be spread over five years ending with 1905. The total receipts of the Government in 1899 amounted to 932,775,000 florins, or 1,865,550,000 crowns, and expenditures to 970,401,000 florins, or 1,940,802,000 crowns.

The national debt on June 30, 1901, amounted to 3,621,157,782 crowns, including a floating debt of 13,017,082 crowns. The annual charge for interest and amortization was 150,813,218 crowns. The annual charge for interest and amortization of the general debt falling to Austria's share was 189,028,560 crowns.

Politics and Legislation.—The Pan-Germanic propaganda has been openly carried on in Austria with funds collected in Germany. The extremists of the German Liberal party, especially the politicians who have borne an active part in the war of languages, those representing German constituencies in Bohemia, go to the length of advocating the annexation of German Austria, and Bohemia and other of the Slav lands as well, to the German Empire. Those who dream of a greater Germany expect to absorb the Italian coast provinces also so as to make Germany a Mediterranean power, and in the north Holland and Flanders and the Baltic provinces of Russia. In 1902 an earnest campaign was begun among the Saxons of Transylvania, who are smarting under the present Magyarizing policy of the Hungarian Government, which proceeded to repress the agitation with more energy than the Austrian Government has shown. The *Los von Rom* movement in Austria, the conversion of Roman Catholics to the Evangelical creed, is purely political in its origin and intent, yet numerous German pastors have gone to Austria to propagate their faith. The Austrian authorities have taken no steps to abate the German demonstrations, merely regarding them as a phase in the race and language con-

flict, calling for no interference with either the German or the Czech agitators except when they come to blows. Since the Austrian Government refrains from repressing the treasonable utterances of its own citizens it can not call upon Germany to take action against those who inspire and aid the agitation from over the border. Therefore Count Goluchowski could describe the attitude of the Prussian, Saxon, and Bavarian governments as perfectly correct. In March the Pan-Germanic group in the Reichsrath created a scandal by offering cheers for the Hohenzollerns. The Pan-Germanic League, after setting on foot the German agitation in Transylvania, encountered such resistance that the movement was abandoned. The Germans and the Young Czechs in the Reichstag several times had violent altercations. The suggestion of a commercial alliance of European nations to carry on a general tariff war against the United States had its origin among the Pan-Germans. The pearl-button and several other peculiarly Austrian industries have been seriously affected by the starting of competing establishments in America. In Germany the official and the general popular opinion was antipathetic toward the machinations of the Pan-Germans in Austria, and Bismarck's words were recalled that if Austria did not exist it would have to be invented. A conflict about a high school at Cilli rekindled the animosities between Slavs and Germans. The town is composed of a German population, but it is the center of a district in which the Slovenes greatly predominate. It was proposed that instruction in the Slovene language, which was used in some of the lower classes, be discontinued there and transferred to some other town. When this motion was defeated by a majority consisting of Czechs, Poles, and German Ultramontanes, the German People's party and other factions of the Germans declared war on the Slavs. The ministry found a way of solving this difficulty by granting the Slovenes satisfactory compensation and to the Germans their demand, which was in accord with the principles of the language ordinances which the Czechs asked to have reenacted. When another question of the sort was brought up in the Reichsrath before this one was settled, the Germans on being defeated in the vote made a riotous uproar which broke up the sitting. The nationality feud in Bohemia rendered the proceedings of the Landtag quite sterile. The Czechs demanded the recognition of a Bohemian constitution, the Germans the establishment of German as the state language.

In the early part of the year occurred labor riots in Trieste, which were brief, but of an extraordinarily violent character because of the intervention of anarchists of the Italian type. The stokers on the Austrian Lloyd steamships having struck work, the trade-unionists of the city, who have a united labor association, threatened a general sympathetic strike, which was speedily set in motion, first by the workmen in the shipyards, then by the employees on the street-cars and the railroads, and finally by the gashouse workers. All traffic and business stopped. The union leaders warned the strikers against violence, but agitators induced some of them to enforce the cessation of work by throwing missiles into premises where production was going on and to attack the residence of the Statthalter. The police and military proceeded to suppress violence with energy and were in turn attacked furiously. The result was that the troops used their firearms twice, killing and

wounding 40 rioters, while numerous injuries were inflicted with bayonets. Many arrests were made, and the Government justified the severity of the measures taken on the ground that the disturbances were revolutionary. Among the persons arrested were well-known anarchists.

Hungary.—The legislative authority is vested in a Parliament consisting of the House of Magnates and the House of Representatives. The House of Magnates is composed of 17 royal archdukes, 55 ecclesiastical dignitaries, the 10 bannerets of the kingdom, the Count of Presburg, the 2 keepers of the crown, the 2 presidents of the administrative court, the president of the royal table of Budapest, 3 delegates of the Diet of Croatia-Slavonia, the Governor of Fiume, 7 princes, 169 counts, and 49 barons sitting as hereditary members, 50 members nominated for life by the King, and 27 members elected by the House of Magnates. The House of Representatives consists of 413 members elected for five years or the duration of Parliament by the counties and towns of Hungary and 40 delegates

population in active military service, which numbered 114,811, making the total population of Hungary 19,207,103.

The number of marriages in 1900 was 169,687; of births, 768,673; of deaths, 531,189; excess of births, 237,484. The number of emigrants in 1900 was 54,767, of whom 41,320 passed through German ports and 13,447 through other European ports. The population of the principal towns on Dec. 31, 1900, was as follows: Budapest, 732,322; Szeged, 102,991; Szabadka, 82,122; Debreczen, 75,006; Pozsony, 65,867; Zagreb, 61,002; Hodmezo-Vasarhely, 60,883; Keckskemet, 57,812; Arad, 56,260; Temesvar, 53,033; Nagyvarad, 50,177.

Finances.—The revenue of the Hungarian Government in 1900 was 1,042,023,000 crowns from ordinary and 155,013,000 crowns from extraordinary sources; total, 1,197,036,000 crowns. The revenue for 1901 was estimated at 1,056,582,297 crowns, and expenditure at 1,056,556,417 crowns. The estimated revenue for 1902 was 1,086,870,018 crowns, of which 1,035,800,608

THE NEW HUNGARIAN HOUSES OF PARLIAMENT—THE FRONT ON THE DANUBE.

elected from among its own members by the Diet of Croatia-Slavonia.

The Council of Ministers constituted on Feb. 25, 1899, was composed as follows: President of the Council, Koloman Szell; Minister of National Defense, Baron Geza Fejervary; Minister of Finance, Dr. Ladislaus de Lucaks; Minister of Worship and Public Instruction, Dr. Julius de Wlassics; Minister of Agriculture, Dr. Ignatius Daranyi; Minister of Croatia-Slavonia, Ervin de Czeh; Minister of Justice, Dr. Alexander Ploss; Minister of Commerce, Dr. Alexander Hegedus; Minister of the Imperial Cabinet, Count Emanuel Szechenyi.

Area and Population.—The area of the Hungarian dominions, including Croatia and Slavonia, is 322,310 square miles. The population enumerated on Dec. 31, 1900, was 19,092,292, an increase of 1,742,894 since 1890. Hungary proper, with an area of 108,258 square miles, had 15,656,904 inhabitants, 163 to the square mile; the town of Fiume, having an area of 8 square miles, had 38,139; Croatia and Slavonia, with an area of 16,773 square miles, had 2,397,249, or 149 to the square mile. These figures do not include the

crowns were from ordinary and 51,069,410 crowns from extraordinary sources. Of the ordinary revenue 218,000 crowns were from pensions, 2,510,331 crowns from state debts, 201,466 crowns from restitution of loans to various portfolios, 331,392 crowns from redistribution of advances from guaranteed railroads, 2,000 crowns from the Ministry *ad latus*, 7,915,915 crowns from the Ministry of the Interior, 698,365,837 crowns from the Ministry of Finance, 279,920,940 crowns from the Ministry of Commerce, 38,579,910 crowns from the Ministry of Agriculture, 5,358,413 crowns from the Ministry of Worship and Instruction, 1,797,989 crowns from the Ministry of Justice, and 598,415 crowns from the Ministry of National Defense. The ordinary expenditures were estimated at 992,204,074 crowns, transitory expenditures at 34,360,047 crowns, investments at 60,184,962 crowns; total expenditure, 1,086,749,083 crowns. Of the ordinary expenditure 9,300,000 crowns were for the civil list, 179,338 crowns for the Cabinet chancery, 3,533,018 crowns for Parliament. 72,640,295 crowns the Hungarian contribution to common expenditure, 41,325 crowns for pensions charged to common expendi-

ture, 20,593,597 crowns for Hungarian pensions, 260,989,781 crowns for the national debt, 27,356,467 crowns for debts of guaranteed railroads assumed by the state, 156,896 crowns for guaranteed railroad interest, 8,681,409 crowns for loans chargeable to separate departments of Government, 16,540,741 crowns for the administration of Croatia-Slavonia, 335,640 crowns for the Accountant-General's office; 563,962 crowns for the administration of courts, 1,026,720 crowns for the minister-presidency, 144,632 crowns for the Ministry *ad latus*, 93,360 crowns for the Ministry of Croatia-Slavonia, 42,783,046 crowns for the Ministry of the Interior, 177,342,111 crowns for the Ministry of Finance, 194,695,480 crowns for the Ministry of Commerce and Industry, 46,156,457 crowns for the Ministry of Agriculture, 34,878,386 crowns for the Ministry of Public Worship and Instruction, 36,379,523 crowns for the Ministry of Justice, and 37,791,890 crowns for the Ministry of National Defense.

The national debt of Hungary amounted at the end of 1901 to 5,186,323,000 crowns, of which 2,284,580,000 crowns were consolidated debt, 2,174,802,000 crowns annuities, 23,263,000 crowns treasury bonds, 168,446,000 crowns debts of various ministries, and 535,232,000 crowns arrears outstanding.

Politics and Legislation.—Whereas under the former ministries commerce and industry were nourished at the expense of the agriculturists, the amalgamation of the old National party with the Liberals under Szell has so strengthened the Agrarian element in the present Ministerial party that everything must bend to the agricultural interests. Minister Hegedüs was unable to accomplish any of his plans for the advancement of commerce, except such measures as were apparently prejudicial to the expansion of trade, such as one restricting commercial agents. He lost the confidence of commercial and manufacturing circles when he was obliged to shelve all his promised reforms, and when he ascribed his failure to the opposition of the Agrarians he drew their wrath upon himself. On Feb. 27, 1902, he gave in his resignation. The former chief of the National party, Horansky, was appointed his successor. The new Minister of Commerce died before he could show his ability, and for some weeks the different groups of the Liberals struggled for the portfolio. The Prime Minister found a solution by conferring it on one of the Dissident Liberals, Prof. Ludwig Lang, who accepted on May 9. In March an arrangement was made by the Minister of Finance, sanctioned by Parliament on April 9, for the conversion of the 1,100,000,000 crowns of 4½ per cent. Hungarian bonds into 4 per cent. rentes, which was effected by the agency of the Vienna Rothschilds and Berlin bankers. The Pan-Germanic movement among the Swabians or Saxons of Hungary distressed and alarmed the Hungarian patriots because in the movement for unification and conformity while the Roumanians were rebellious and the Croats stuck for their nationality and conformity, the Germans stood by the Magyars. The disaffection of the Germans was regarded as factitious, incited by agitators paid by the Pan-Germanic League, some of whom came from Germany. The ministry has adopted measures for regulating and restricting emigration. A new law forbids any Hungarians to emigrate so long as duties to the state, including military service, and family obligations remain unfulfilled. Emigration agencies and transportation companies will be under strict control, and misleading statements or advertisements designed

to induce persons to emigrate will entail severe punishment. The Croats, who oppose any exercise of Hungarian dominion over their little country, which they would enlarge by the absorption of Bosnia and Herzegovina and a union with Dalmatia, are so divided by differences in religion that their national patriotism is stultified by internal discord. The dream of a greater Serbia embraces Croatia and Slavonia, Dalmatia, and the Servian districts of southern Hungary, as well as the occupied provinces, Montenegro, Novi Bazar, northern Albania, and a large slice of Macedonia. The Catholics of Croatia alone call themselves Croats, while the Oriental Orthodox are content to be called Servians. The newspaper organ of this latter party reproduced from a Belgrade journal an article ridiculing a message from a Croatian society to the Emperor Franz Josef in which he was addressed as King of Croatia. The effect of this publication was the wrecking of the newspaper office, the Servian bank, and all stores and places of business belonging to Orthodox citizens of Agram. The police used their swords without being able to quell the riot. The military were called out, and when order was restored after two days over 100 persons were found to be seriously injured. Similar disturbances occurred in other towns, and at night on Sept. 2 the mob, reinforced by a large number of peasants, attempted to lynch an officer of Servian nationality. On the following day martial law was proclaimed in Agram. The Catholic Croats aspire to be a separate kingdom under the Hapsburg monarchy, and a party of the Dalmatians would amalgamate their province with an independent Croatian nation, as was proposed by the Opposition in the Dalmatian Diet. The Orthodox Greek Croats detest the Magyars even more heartily than do the Catholics, but they would cast their fortunes with greater Serbia. The Servians deny to the Croats a distinct nationality and decry the servile ambition that would be content with foreign rule, while the Croats describe the Servians as merely a degenerate and schismatic offshoot of their race. Even after the military held strict watch over Agram and the passion of the mob subsided the animosity provoked among this excitable people by a newspaper diatribe, in which the keenest thrust was the denial of a future for the Croatian nation, lingered and had serious results. The Servians, who have a large part of the local trade, were systematically boycotted, and Servians in the employ of Croats were dismissed.

Bosnia and Herzegovina.—The Turkish vilayets of Bosnia and Herzegovina were taken under the military occupation and civil administration of the Austro-Hungarian Government by the authorization of the Congress of Berlin which framed the treaty of July 13, 1878. The Christian population of the sanjak of Novibazar is protected by Austro-Hungarian troops, while the civil administration is Turkish. The revenue for 1902 was estimated at 44,846,281 crowns, the expenditure at 44,582,296 crowns, not including the expenses of the military occupation, which are borne by the Austro-Hungarian Government. The population in 1895 consisted of 673,246 Oriental Orthodox Christians, 548,632 Mohammedans, 334,142 Roman Catholics, 8,213 Jews, 3,596 Evangelicals, and 263 others. Sarajevo, the capital, had 38,083 inhabitants. Of the population 88 per cent. are dependent on agriculture, growing corn, wheat, and other cereals, potatoes, sugar-beets, flax, and hemp. Forests cover 45 per cent. of the surface. Prunes and

marmalade were exported to the amount of 5,040,000 crowns in 1900, and cattle of the same value. Iron, copper, salt, manganese, and quick-silver are mined. There are 628 miles of railroads. The line, 105 miles in length, to Cattaro in southern Dalmatia was opened in July, 1901. There are 1,660 miles of telegraph-line, with 3,615 miles of wire; the number of messages in 1900 was 447,648. The number of letters and postal cards carried in the mails was 11,084,575. Young men at the age of twenty are liable to be called into

the army. There are 4 infantry regiments of Bosnian troops and 4 reserve battalions, the total force being 6,711 men. The Austrian troops of occupation numbered 20,110 men in 1902. The population increases at a yearly rate of nearly 2 per cent. The people complain of taxation, but the tithe, which is the heaviest direct tax, has not been materially increased since 1900, nor very greatly since 1883. The revenue has increased under Austro-Hungarian administration to more than three times what it was in Turkish times.

B

BAPTISTS. Baptists in the United States.

—The American Baptist Year-Book for 1902 gives the following statistics of the regular Baptist churches in the United States: Number of associations, 1,691; of churches, 44,453; of ministers, 30,561; of members, 4,269,063; of baptisms during the year, 207,515; total amount of contributions, \$14,138,195; value of church property, \$89,389,992. These figures indicate an increase for the year of 11 associations, 494 churches, 35,837 members, 10,280 baptisms, \$347,895 in contributions, and \$1,243,600 in value of church property. A slight gain is also shown in the aggregate of contributions per capita and increase of 2,011 Sunday-schools, 3,638 teachers, and 48,649 pupils.

The Baptists have in the United States 9 theological seminaries, with 74 teachers, 1,018 students, real estate valued at \$1,185,538, and \$2,759,976 of endowments; 103 universities and colleges, with 1,920 professors, 28,620 students, \$17,984,798 of property, and \$18,289,749 of endowments; and 91 academies, with 737 teachers, 12,967 students, \$4,023,022 of property, and \$1,301,115 of endowments.

One hundred and seventeen newspapers and periodicals are published in affiliation with Baptist churches.

The members of the Baptist churches in the United States are thus classified according to sectional and to racial affiliations: Northern Baptists, 1,059,753; Southern white Baptists, 1,628,710; Southern negro Baptists, 1,580,600. Compared with similar returns for 1901, these figures show gains in one year of 3,766 Northern Baptists, 21,339 Southern white Baptists, and 10,742 Southern negro Baptists. Allowances should, however, be made for probable inaccuracies in the count of the negro Baptists.

American Baptist Publication Society.

—The seventy-eighth annual meeting of the American Baptist Publication Society was held in St. Paul, Minn., May 22 and 23. The receipts for the year from sales in the publication department had been \$694,795. In the missionary department \$114,610 had been received from churches, individuals, income from invested funds, and bequests, exceeding the receipts of the previous year by \$5,628; yet through the increase of missionary work and the enlargement of beneficence an additional deficiency of \$6,422 had been incurred, making the total indebtedness \$25,047. The receipts for Bible work had been \$11,941. In addition to these amounts there had accrued to the missionary department \$10,300 in annuity funds, and \$40,000, a special gift, from an anonymous donor. The whole amount received during the year from all sources had been \$939,981. More of the books published by the society had been sold during the past year than in any previous year of its history. Among the publications of

which special mention was made were the American Commentary on the New Testament, with a corresponding work on the Old Testament in course of preparation, and a series of Baptist histories, handbooks, and biographies. Twenty-seven new publications had been issued during the year.

American Baptist Home Mission Society.

—The seventieth annual meeting of the American Baptist Home Mission Society was held in St. Paul, Minn., May 24 and 26. Although the year had closed with a nominal debt of \$13,629, it was regarded as having been one of exceptional prosperity. The total receipts had been \$614,223, of which \$4,212 had come from Sunday-schools and \$2,262 from Young People's Societies. The receipts from legacies had been \$78,348; \$8,150 had been added to the permanent fund and \$40,553 to the conditional fund, while \$67,776 had been put into enlarged facilities for the schools. The expenditure had been greater in consequence of the enlargement of both educational and missionary work; of it \$207,965 had gone for missions and \$110,229 for education. Within the last five years 175 churches which had been aided by the society had become self-supporting. The church at Monterey, Mexico, was approaching that point, and the church at Santiago, Cuba, had voluntarily assumed a part of the support of its pastor. Twelve hundred and seventy-eight missionary laborers and teachers had been supported wholly or in part by the society, viz., 45 in the New England States, 75 in the Middle and Central States, 229 in the Southern States, 878 in the Western States and Territories, 10 in Canada, 20 in Mexico, 1 in Alaska, 6 in Cuba, and 9 in Porto Rico. Three hundred and two missionaries and 13 teachers had labored among the foreign populations (French, Scandinavian, and German), 58 missionaries and 210 teachers among the colored people, 24 missionaries, and 30 teachers among the Indians, 15 missionaries and 12 teachers among the Mexicans, 5 missionaries and 1 teacher among the Cubans, 7 missionaries and 2 teachers among the Porto Ricans, 4 teachers among the Mormons, and 595 missionaries among Americans. The society aided in the maintenance of 33 schools established for the colored people, the Indians, and the Mexicans; besides 7 day-schools for the Chinese, 1 day-school in Utah, 2 in New Mexico, 1 in Cuba, and 2 in Porto Rico; in all, 46 schools. Steady progress had taken place in the general character of the work done in the schools receiving the support of the society. Special emphasis had been placed upon industrial training at several of the schools, and it was believed that superior work in this line was being done. Eighty churches had been aided during the year by gift or loan, or both. The amount of money in the gift fund available for the erection of meeting-

houses had been \$25,511, and this had been distributed among 74 churches.

American Baptist Missionary Union.—The eighty-eighth annual meeting of the American Baptist Missionary Union was held in St. Paul, Minn., May 21 and 22. The financial receipts of the year from all sources had been \$680,518, of which \$385,295 had come in the form of donations and \$115,861 through the woman's societies. These receipts had been sufficient to meet the appropriations for the year's work, and to afford a surplus of \$2,840 to be applied to the reduction of the deficit of \$38,279 brought over from two years before. One hundred and seventy-eight missionaries were employed. The missions in heathen lands returned 112,000 members, and those in "nominally Christian" lands 117,000 members; and 16,823 converts had been baptized during the year. A marked increase was noted in the number of candidates of high qualifications offering themselves for missionary service abroad; and the society was assured of being able to obtain additions to its working force commensurate to the means that would be supplied for supporting new laborers. Twenty candidates were awaiting appointment.

The missions were in Europe, including those in northern and southern France, Germany, Sweden, Spain, Russia, Finland, Denmark, and Norway, and in heathen lands—Burma, Assam, South India (Telugus), China, Japan, Africa, and the Philippine Islands. They returned: Missions in Europe, 1,187 preachers, 1,039 churches, with 117,099 members, and 92,575 pupils in Sunday-schools; missions in heathen lands, 481 missionaries, 1,299 native preachers, with 3,325 native helpers, 1,008 churches, having 111,650 members, and 35,321 pupils in Sunday-schools; giving in all 2,486 preachers, 2,047 churches, 228,749 members, and 127,896 pupils in Sunday-schools. The 16,283 baptisms returned during the year included 7,786 in Europe and 8,497 in heathen lands; and the \$571,447 contributed by the mission churches were made up of \$464,250 contributed by European churches and \$107,197 by those of the missions in heathen lands. Further, the missions in heathen lands returned 1,473 schools, with 37,385 pupils. Ten schools for the higher education, including theological schools, were returned in the heathen field. The figures show an increase for the year of 93 churches, 4,184 baptisms, 15,824 members, 8,173 pupils in Sunday-schools, and \$56,120 in contributions, and a decrease of 23 preachers.

An account was given in the report of the Executive Committee of the conferences the committee had held with representatives of the auxiliaries and the women's societies for the consideration of their relations to one another and of the conclusions which had been reached.

The chairman of the Executive Committee, Mr. C. W. Perkins, gave an address to which much importance was attached, explaining the methods of business of the committee and the manner in which the funds of the society were distributed. The Executive Committee is composed of 15 members, 8 of whom may be ministers, while 7 must be laymen; these members live within a convenient distance of Boston, Mass. With the exception of the two days of the annual meeting of the society, the committee is practically the American Baptist Missionary Union. It has absolute control of all the property of the union, both personal and real. It meets at the office in Boston every two weeks. The executive officers at the rooms consist of the secretaries and the treasurer. The work of the

home secretary is the collecting of funds in the United States, and includes the supervising and directing of the district secretaries, the seeking and examination of candidates for missionary appointment, and all the correspondence which naturally takes place in the United States. The foreign secretary conducts the correspondence with foreign countries. The treasurer attends to the disbursement of money under the direction of the Executive Committee. The accounts of the treasurer in the United States are made up annually on April 1. The accounts for the foreign field are made up on Oct. 1; and the financial year of this country and of foreign countries differ, therefore, by six months. The Executive Committee meets after the adjournment of the general meeting, and considers and prepares a list of appropriations for the coming year, beginning with the 1st of the next October. Into that budget is put every expenditure which can be foreseen or estimated, and the whole is appropriated at one time; and to this amount additions may afterward be made, as emergencies arise, from time to time. Hence, when the treasurer reports a debt on April 1, it does not necessarily mean that he has no money in the treasury, but simply that he has not in hand sufficient money to meet all his payments to the 1st of the next October—six months in advance. A mission treasurer is connected with each one of the missions. When the budget has been made out, the foreign secretary notifies each missionary of the amount which he has at his disposal for all purposes for the coming year, beginning Oct. 1, and the treasurer notifies each of the mission treasurers what amount he is authorized to pay to each missionary. The Missionary Union becomes thus, in effect, a foreign banking-house. It keeps its own account in London, draws its own bills of exchange, and does its own financing. The credit of the union is unquestioned. The invested funds of the union consist of \$600,000, which were given on the condition that they should be invested and the income only expended; and \$380,000 subject to annuities. The union owns real estate in nearly every country in which it works, having an estimated total value of from \$800,000 to \$1,000,000. In educational work the union has confined itself as far as possible to the preparation of ministers, native workers, and evangelists in the lands in which it labors. Theological schools, colleges, and preparatory schools are established where they seem to be absolutely necessary and can be advantageously used to that end. It has 7 theological schools and 4 colleges. In many countries the union is obliged to print its own literature; and in some of these the written and printed language, the inhabitants having never had such, was made by its missionaries. Medical work and hospitals are conducted in subordination to the missionary and spiritual work. In all its operations the Executive Committee is simply seeking to bring the religion of Jesus Christ to the knowledge, and if possible to the acceptance, of those people who have not heard it.

Relations of the Woman's Societies.—At the mid-year meeting of the boards of all the Baptist missionary societies (Northern), held in New York in December, 1901, a joint committee was appointed, consisting of representatives of the American Baptist Missionary Union and the four Woman's Baptist Foreign Missionary Societies of the East, the West, of Oregon, and of California, to consider whether a closer relationship could be established between the parent organization and its auxiliaries. A pre-

liminary meeting of this committee was held in Boston, Jan. 28, 1902, at which the three Western societies were represented by letters; and after further correspondence a final meeting was held Feb. 19, at which the three larger societies were represented by delegates, and those of California and Oregon by letter. A report was unanimously adopted at this meeting, and afterward approved by the board of the societies concerned, in which the absolute need of "woman's work for women" was asserted. The belief was expressed "that the educational work in missions which the woman's societies are doing in our own country through the instruction of children in bands and Sunday-schools, the preparation and distribution of literature, and the stimulation of a more thorough study of missions by our circles of women and girls, with their training in habits of benevolence, is a sufficient reason for the existence of these societies, and we would deprecate any change which might interfere with their sense of individual responsibility." A continued separate organization of the woman's societies of the East and the West was regarded as desirable, but a union of the societies of Oregon and California with that of the West was advised. Respecting the unity of the work of all the societies, the report continues: "We consider that there is already one treasury for the foreign work, we regard the woman's societies in the light of helpful and efficient auxiliaries, whose several treasuries are only places of deposit for funds to be used in the foreign mission work, which funds are duly sent to the treasury of the Missionary Union, and are finally administered by the Executive Committee of the union. The title to all property in foreign countries, acquired by the payment of money collected by the woman's societies, is held by the Missionary Union; all women candidates are appointed and their fields are designated by the Executive Committee, and their salaries are paid by order of the Executive Committee through the treasury of the Missionary Union; every appropriation for the foreign work of the woman's societies is submitted to the Executive Committee, and can become operative only with their approval. The woman's societies also appropriate large sums for educational, medical, and evangelistic work, at the request of the Executive Committee, to support work where the woman's societies have no representative." The woman's societies method of raising funds "quietly among the women through collectors and by means of envelopes or mite-boxes" was commended as preferable to that of making promiscuous appeals to the whole congregation.

Joint Conference of Societies.—A joint conference of the American Baptist Missionary Union, the Publication Society, and the Home Mission Society was held at St. Paul, Minn., May 12, to hear reports and consider questions concerning the relations of the three societies. The report of the Commission on Systematic Benevolence, which was referred to this meeting from the several societies, related the history of the work of the commission, and closed with a recommendation that it be discontinued; whereupon the presidents of the several societies were requested to appoint a committee of 7 members for each on Christian stewardship for three years, whose duty it shall be to foster the work already done by the Commission on Systematic Benevolence, and whose distinctive work shall be to supervise a campaign of education in the fundamental principles of Christian stewardship among the churches. Contingent upon its secur-

ing a sufficient guarantee fund for three years by special subscription this committee was authorized to appoint a superintendent to give his whole time to the work, but who should in no respect be regarded as a special representative for any one of the societies. It was decided that in connection with the anniversaries each year, a session should be devoted to hearing the annual report of this committee and to the consideration and discussion of the whole question of Christian stewardship. The committee of 3 members from each of the 3 societies on collecting agencies reported concerning the investigations they had made, recommending the continuance of the policy of the employment of district secretaries, but adversely to the combination of the offices, so that one man shall represent the 3 organizations in a given territory, while suggesting that an experimental trial of the plan might be made in a selected district. The plan called the "wheel plan," under which causes are each exclusively presented in rotation, in a given territory, at proper intervals, was unanimously approved by the committee and recommended by the conference. Other recommendations of the committee related to conferences between the several secretaries and the committees of arrangement of State conventions and local associations, looking to avoidance of congestion and friction, and to the plan of appointing associational secretaries as the local advisers and helpers of the district secretaries. The 3 societies and the 4 woman's missionary societies were advised to appoint a committee to formulate a plan for combining all their publications in a single monthly and a bulletin, each representing all the denominational missionary interests—this committee to report in 1903. By agreement of the 3 societies a committee of 15 was provided for, to consist of 7 ministers, 5 laymen, and 3 women, to whom all matters respecting the relations between the societies shall be referred, whose duty it shall be to ascertain such facts as whether there be any lack of proper adjustment and proper cooperation as to fields of labor, collecting and other agencies, and methods of work; whether there may be improvement in their mutual relations for more harmonious, effective, and fruitful service; whether changes are needful or desirable in their forms of organization, in their constitutions, by-laws, agencies, and methods of work; and if changes are needed, recommending what they shall be.

Following the recommendations of a conference held in 1901 in connection with the anniversaries at Springfield, Mass., the constitutions of the 3 principal societies were so changed as to make the qualifications for membership in them alike.

Woman's Societies.—The twenty-fifth annual meeting of the Woman's Baptist Home Mission Society was held in St. Paul, Minn., May 19 and 20. The occasion was celebrated as the "silver anniversary" of the society, and the proceedings were marked by the reading of historical papers and addresses, relative to the general organization, the State and local branches, and the several fields of work. The labors of the society were in practise distinctively directed to the women and children, with the purpose of Christianizing and consequently elevating the homes of the people. The agencies it used were house-to-house visitation, schools for children, children's meetings, Bible bands, women's (or mothers') meetings, parents' conferences, and training classes for workers. The work had been carried

on during the quarter of a century now completed at a total cost of \$1,122,654; in addition to which goods and supplies valued at \$223,173 had been distributed. The receipts for the past year had been \$88,561. One hundred and twelve centers of work were established in 34 States and Territories of the United States, 3 states of Mexico, Cuba, Porto Rico, Canada, among Americans in frontier States, among the Indians, and among Chinese, Syrian, Bohemian, Jewish, Scandinavian, and negro populations in the United States. The woman's society in northern California had given up its separate organization and become one with this society.

The twenty-fourth annual meeting of the Woman's American Baptist Home Mission Society was held in Boston, Mass., May 7 and 8. The receipts for the year had been \$34,733 for the general work and \$4,798 for the Alaskan work; but deficiencies were left in the accounts of both branches amounting together to \$3,094. The larger portion of this sum was obtained during the meetings, whereby the debt was reduced to \$805. The labors of the society were prosecuted among the negroes of the South, among the Indians, among foreign populations, and in Porto Rico and Alaska.

The thirty-first annual meeting of the Woman's Baptist Foreign Missionary Society of the West was held in St. Louis, Mo., May 6 and 7. The receipts for the year had been \$42,000 for the general work of the society and \$1,700 for the home for missionaries' children. The society had under its care 220 schools, 231 teachers, 6,771 pupils, and 100 Bible women, 2 hospitals, and 2 dispensaries, in which 9,818 patients had been treated, with 387 outside patients. The report of the joint Committee on the Relation of the Missionary Union and its Auxiliary Woman's Societies, recommending the continuance of woman's work as now carried on, was approved, and the Woman's Baptist Missionary Societies of California and Oregon were invited to unite organically with this one.

Young People's Union.—The Baptist Young People's Union of America held its eleventh annual meeting in Providence, R. I., July 10 to 13. Mr. John H. Chapman, of Illinois, was chosen president for the year. The report of the Board of Managers showed that all outstanding obligations, including a debt of \$20,000, had been paid. There had been a total return in the past year of 10,927 examination papers, and in ten years of 108,189. The net receipts for the year had been \$17,982, besides \$40,196 in the business department of the Baptist Union. The assets amounted to \$33,271.

Southern Baptist Convention.—The Southern Baptist Convention met in its forty-seventh annual session at Asheville, N. C., May 8. The Hon. James P. Eagle, ex-Governor of Arkansas, was chosen president. The report (eleventh) of the Sunday-School Board showed that the total receipts for the year had been \$89,345, or \$10,964 more than in the preceding year. The reserve fund had been increased by \$6,000, and stood at \$50,000, safely invested. Twelve thousand dollars additional had been set aside to start a building fund, and the house and lot in which the board transacted its business were included in the table of assets. The appropriations for the year aggregated \$15,886, not including the missionary boxes. By the "Book Endowment Plan" gifts of \$500 constitute a fund, bearing the donor's name, to be applied to publishing books, which is used continuously in the issue of new books as fast as it is restored

by sales. The list of Sunday-school periodicals had been enlarged. An annual lecture course on Sunday-school work was provided for at the Louisville Theological Seminary. The Bible department was increasing in importance every year. An agency for the circulation of mission literature was maintained by this board and the Home Mission Board jointly at Baltimore, Md. The Home Mission Board had received \$98,950 cash during the year, an increase of \$12,045 over the receipts of the previous year, besides special gifts, subject to annuities, of \$1,500. The church building and loan department, established about two years previously, had received less than \$100 additional to the \$4,110 received during the first year of its operation. It had made a number of loans, of from \$150 to \$400 each, for periods of from three to five years. Work in the mountain regions was done in cooperation with the State mission boards, mainly in the establishment and maintenance of schools, which were mostly in the charge of preachers serving in the county adjacent, and of other teachers. Thirteen schools were maintained, and others would be established as circumstances might allow. In cooperative work among the negroes the board had expended \$1,917 in the States of Georgia, Kentucky, Missouri, North Carolina, and Virginia, the American Baptist Home Mission Society and the State boards paying like sums. Sixteen missionaries had been employed, who had held 116 institutes and reported 408 baptisms. The board had also cooperated with the National Baptist Convention (colored) in the support of two general missionaries, expending \$1,350. Five stations besides Havana were maintained in Cuba, with 5 missionaries and 8 teachers. The year's receipts of the Foreign Mission Board had been \$173,849, and the board entered the new year with a balance in bank of \$13,379. The missions in China, Japan, Africa, Mexico, Italy, and Brazil returned 139 churches, with 171 outstations, 115 missionaries, 38 ordained native preachers, 133 native helpers, 7,821 members, with 1,439 baptisms during the year, and native contributions amounting to \$18,356. Two training-schools for young preachers were maintained in China, 1 in Africa, 1 in Italy, 1 in Mexico, and 2 in Brazil. Publication societies were established at Rio, Brazil, and Canton, China. Twenty of the 25 missionaries ordered sent out by the previous convention had been sent, and 6 more were under appointment. The Southern Baptist Theological Seminary reported a prosperous year. While other seminaries were complaining of a falling off in the number of students, this institution had gained 12, and now had 243. The report of the Committee on Cooperation, which was unanimously adopted, recommended that associational members to the convention be regarded as messengers to their associations and requested to represent the work of the convention; that a statistical secretary be appointed; and that the secretaries of the State boards and the State boards constitute a committee on cooperation to make suggestions for uplifting the people of the South.

The contributions of the Woman's Missionary Union Auxiliary to the Southern Baptist Convention had been \$54,776 in cash and \$33,153 in boxes.

Education Society.—The American Baptist Education Society, holding its session for 1902 in connection with the meetings of the Southern Baptist Convention, met at Asheville, N. C., May 8. The report showed that grants had been made during the year to 10 institutions of \$127,-

000 in all, conditioned upon \$346,000 more being secured; 11 institutions had successfully completed their efforts to secure the supplementary amounts required, reporting a total of \$476,000 pledged; and payments had been made by the society to 15 institutions, of \$67,955—a sum which was supplemented by \$213,942 collected by the institutions. Within the past twelve years the society had paid in grants to institutions \$1,069,522, while the aggregate of collections reported (including \$400,000 by the University of Chicago) was \$2,081,625; making the aggregate increase \$3,151,148. A favorable report was made of the meeting of the trustees of the Southern Baptist Theological Seminary on the admission of woman missionaries as students of the seminary. Two hundred and fifty students had matriculated in the institution, 50 of them being from outside the bounds of the Southern Baptist Convention.

Negro Baptists.—The negro Baptists numbered in 1860 not more than 400,000; but at the end of 1901 they had increased till their number was returned at 1,800,000, and 1,600,000 was regarded as a safe estimate, after exaggerations were allowed for. They have about 16,000 churches and 10,500 ordained ministers, many of the ministers serving several churches. Their numbers in the States where they are most numerous are: In Alabama, 182,075; in Texas, 137,639; in North Carolina, 140,205; in South Carolina, 140,107; in Mississippi, 200,118; in Georgia, 221,442; in Virginia, 227,208. During 1901 75,000 baptisms were reported and estimated among them. Marked intellectual progress had taken place among them during the past forty years. While in 1860 the minister who could read the Bible was an exception, in 1900 the exception was the man who could not read it. In the cities and large towns generally there were able, cultivated ministers, who preached to intelligent congregations meeting in excellent and well-furnished houses of worship, while the Sunday-schools were studying the International lessons; but in the rural regions progress was slow and the conditions were not such as were desirable. But the general eagerness of the negro Baptists to provide for the education of their children was seen in the fact that nearly all the 26 schools aided by the American Baptist Home Mission Society were crowded to overflowing. The enrolment in these and in some other schools not receiving aid from the society was about 7,500. The negro Baptists have well-organized State conventions and local associations, through which a considerable missionary and educational work is done. The National Baptist Conference, organized about 1886, has a foreign mission board, which in 1901 raised about \$6,000 for all purposes; a home mission board, with its own subordinate publication board that had been at work about five years; and an educational board of about the same age, which has not as yet undertaken any distinctly school work. Another body, the Lott-Carey Convention, in some of the Atlantic coast States, in 1901 raised nearly \$3,000 for missionary work in Africa. Negro Baptist conventions in 6 States have been in cooperation with the American Baptist Home Mission Society and the Mission Board of the Southern Baptist Convention, primarily for the benefit of ministers who have had only meager educational advantages. This work had been very beneficial. Plans for broader cooperation were now under consideration.

The colored National Baptist Convention met in Birmingham, Ala., Sept. 17. The Rev. E. W.

Morris, D. D., presided. Prominence was given to the foreign mission work, and much interest was manifested in it. The National Baptist Publishing House reported a prosperous and profitable work and success in the independent publication of its own literature. One of the sessions of the meeting, at which an address was delivered by Mr. Booker T. Washington, was marred by a disaster resulting from a panic, in which 104 persons of the crowded audience were killed and 9 others injured.

The annual meeting of the Lott-Carey Foreign Missionary Society, held in Washington, D. C., in September, was attended by more than 150 delegates. The financial reports were satisfactory and indicated a flourishing condition.

Baptist Convention of Ontario and Quebec.

—The annual Convention of the Baptist Churches of Ontario and Quebec met in Montreal, Oct. 15. In his annual address the retiring president, A. McNee, Esq., spoke of the material prosperity of the churches, of the educational advantages they enjoyed with their 6 institutions for the higher learning, of the importance of a clear, candid, large, liberal, and symmetrical presentation of their distinctive doctrines, avoiding narrowness and dogmatism, and, in view of the movements toward organic union in other families of churches, of the desirability of making an earnest effort to "consolidate all those bodies more or less intimately related to the Baptists, and whose differences are superficial rather than vital." The Rev. J. L. Gilmour, B. D., was chosen president of the convention. The educational report related to the condition of McMaster University, with Woodstock and Moulton Colleges, in which 500 students were enrolled. The current account of these institutions showed a surplus of \$2,523 in excess of expenditure. The Forward Movement fund showed a debit balance of \$14,083, against which there were unpaid subscriptions, estimated to be good, amounting to about \$8,000. The other institutions of higher learning were Acadia College, Nova Scotia (under the jurisdiction of the Convention of the Maritime Provinces), Feller Institute in Quebec, and Brandon College in Manitoba. The Publication Board reported a total of \$42,404 assets. A net profit of \$502 was returned, and had been distributed among certain benevolent causes. The Sunday-School Committee returned 36,450 enrolled pupils, with an average attendance of 24,998, with 4,472 officers and teachers, and contributions of \$4,287 to various missions and \$12,897 for school purposes. Of the 427 schools, 16 were mission schools and 2 union schools. The advisability of appointing a superintendent of Sunday-school work was recommended by the convention to the consideration of the boards interested in this subject, and to the committee. The Church Edifice Board, with a permanent fund of \$9,500, had received \$2,718, and had made loans amounting to \$2,385. During its history it had helped 91 churches with loans aggregating \$43,000. Four churches had repaid their loans in full during the year. The total disbursements of the Committee on Western Missions (Manitoba, the Northwest, etc.) had been \$6,337. Seventy-three men were engaged in work in the missions, which returned 98 churches and 300 preaching stations. Fourteen German and 6 Scandinavian churches were mentioned. The Board of Home Missions had assisted 124 pastors and 50 students, who had been serving 290 churches and preaching stations. The churches had given \$10,297 to missions, returning, according to the representations of the report, 44 per cent. on an annual invest-

ment in them of \$23,044. Eight new churches had been or were being erected, 5 had declared for self-support, 22 had reduced their applications for aid, 12 new churches had been organized during the year, and 726 baptisms were returned. The total receipts of the board had been \$27,980, and the expenditures \$30,382. The report on the state of religion showed that in all the churches 18 ministers had been ordained during the year, 2,201 persons had been baptized, and that the present number of members was 43,940, showing a net gain of 689 members. Throughout the denomination there had been 1 baptism to every 17 members. The churches had expended \$390,865, of which \$313,845 were on work at home and \$77,020 on work abroad; showing an average of \$7.22 per member on work at home and \$1.76 on work abroad, or a total average of \$8.98 per member; besides which special contributions had been made to extraordinary objects.

The main strength of the convention is in Ontario and the Western provinces. In Lower Canada the Baptists have 31 English-speaking churches, with 2,100 members. Of the 19 churches comprising the Eastern Association, 11 are assisted by the Home Mission Board. Besides the English-speaking churches there are 10 French churches, with about 500 members, making the whole number of members in the province of Quebec about 2,600.

Convention of the Maritime Provinces.—The annual Baptist Convention of the Maritime Provinces met in Yarmouth, Nova Scotia, Aug. 23, the sessions being preceded by a ministers' institute on the preceding day. The Rev. Dr. E. M. Saunders was chosen president of the convention. A communication was received from the Free Baptist General Conference declining to consider favorably the proposals of the Baptist convention to cooperate in the work of education and of foreign missions. The Foreign Mission Board reported that its total receipts had been \$18,370, of which \$4,862 had come from the churches, \$8,875 from the Ladies' Aid Societies, and the rest from invested funds and other sources. The accounts showed a deficit of \$1,379 for the year, making an accumulated deficit of \$5,627. Additional contributions of \$1,800 were made to the foreign mission fund during the sessions of the convention, making it possible to show a reduction of the deficit. The report of home missions showed but little if any advance. Favorable reports were made by the university and its associated institutions, particularly by the Ladies' Seminary, the faculty of which was to be enlarged. A decline was noticed in the number of students preparing for the ministry in attendance at the university. Additional contributions were reported to the fund of \$60,000, upon the completion of which a gift of \$15,000 was promised to Acadia College by Mr. John D. Rockefeller. The general receipts for all purposes showed an increase for the year of \$2,000 in Nova Scotia, but a decrease of more than \$1,000 in New Brunswick and Prince Edward Island. More than half of the contemplated Century fund of \$60,000 had been completed. A commission of 6 brethren, 2 in each province, was constituted to have charge of the raising of funds for all the denominational objects. Estimating for non-reporting churches, the number of members was returned as more than 51,000, and 1,598 baptisms were reported.

Baptists in Great Britain.—From the British Baptist Handbook for 1902 it appears that the gain in membership of the British Baptist churches for 1901 was 7,330, compared with

about 12,000 the year before, making the present total membership 372,998. The gain in Sunday-school attendance was 4,000, giving a total of 532,219 pupils. The triennial statistics of Baptists in the world showed 4,454,699 Baptists church-members in all, making a gain in three years of more than 300,000, and of 748,000 in the last six years. Of this total gain in the latter period, 524,000 were in the United States, 41,000 in Great Britain and Ireland, and 183,000 in the rest of the world. There were about 280,000 Baptist church-members in the British colonies. Of these, 113,826 were in India, or about one-seventh more than in Canada.

The Baptist Union of Great Britain and Ireland met in its annual spring session April 27. The president for the year, the Rev. J. R. Wood, opened the meetings with an address in which he spoke of the place and influence of the minister and the danger to be apprehended from the presence of the commercial spirit in the Church. The report of the council referred to an increase of 7,320 members and 38 pastors in charge as having taken place during the year. The receipts as figured up in the cash summary had amounted to £95,012, of which £79,672 had been on account of the Twentieth Century fund. The expenditure had been £12,500. An increase of £3,426 appeared in the Home Mission fund, by which 109 churches in 21 associations, and 37 mission stations, with 79 mission pastors in all, had been aided. The aided churches had 5,560 communicants, with an average attendance of 9,095 persons, and 8,943 children in the Sunday-schools. The responses to appeals in behalf of the Annuity fund had been generous, and all annuities would be paid in full. The sum total of cash contributed and promises made to the Twentieth Century fund (intended to be £250,000) to the day of the meeting of the assembly had been £235,134; while £6,000 more had been promised contingent upon the whole amount being raised.

The capital of the Baptist Building fund stood at £54,521. During the year 41 churches had received grants, varying from £40 to £600 in each case, to the extent of £30,040. The loans repaid amounted to £12,389. Forty-four churches were waiting for loans to an aggregate amount of £15,220, or more than the probable income for the next fifteen months.

A resolution respecting the education bill protested against the measure as one which would lower the standard of national efficiency and perpetuate and extend the injustice of the appointment by private managers of the teachers of public schools, whose stipends it was proposed to pay entirely out of the public funds. The bill, in its main provision, was characterized as a further endowment of the Established Church, and the union would offer it a determined and unceasing opposition. Another resolution called on all friends of Sunday closing of public houses to press the demand for a comprehensive measure which would extend the blessing to the whole of England. A proposition for the establishment of a Baptist Union Sustentation fund, drawn up by the late Mr. William Chivers, was submitted to the assembly, and was referred to the committee for consideration. The plan contemplates the inclusion in the fund of the existing augmentation and home mission funds of the union; and the object of the fund is declared to be "to secure a minimum salary to all duly accredited ministers whose churches are connected with the fund, and to make provision for home evangelization in new or needy districts." The last business of the meeting was the announce-

ment of the completion of the Twentieth Century fund of £250,000, the final subscriptions having come in since the opening of the assembly.

The annual meetings of the Baptist Missionary Society were held in London, April 29 and May 1. The report represented that the purpose determined upon at the centenary meeting of the society several years before, to raise the annual income to £100,000, had never been carried out, but they had been forced to face each year a deficit of £10,000, which had to be met by special subscriptions. The deficit this year was £9,909, toward the removal of which subscriptions were taken during the meeting, whereby it was reduced to £3,700.

The general receipts of the Zenana Mission had amounted to £11,035, and the expenditures to £10,705. The mission staff numbered 63 missionaries in India and 5 in China. In India, visits were paid regularly to about 3,000 zenanas, 1,500 zenana pupils were under instruction, and 97 schools were taught, with nearly 4,000 pupils. The missionaries returning to China had been warmly welcomed back by the Chinese Christian women.

The Bible Translation Society returned a total income of £1,554, and a balance in hand of £101 after meeting all expenses. Progress was reported in the preparation and revision of versions of the Scriptures in Bengali, Oriya, Cingalese, and Dualla and other languages of the Congo.

The autumnal assembly of the union was held in Birmingham, Oct. 6-9, Tuesday, Oct. 7, being given to the meeting of the Baptist Missionary Society. At this meeting a farewell was given to 10 missionaries returning to their fields and 4 new missionaries going out; and a resolution was adopted pledging cooperation with the visitation of the churches which had been instituted for the purpose of securing sufficient funds to maintain an equilibrium between income and expenditure, and of obtaining further support to meet the new and promising openings that were presenting themselves and the increasing demands for reinforcements from fields already occupied. The address of the President of the Union, the Rev. J. R. Wood, was on The Church and the Nation. The treasurer of the Twentieth Century fund of £250,000 (which had all been subscribed) reported that the amount of £204,000 in cash had been received for it—£173,000 of the sum from England. A considerable additional amount was expected from Wales, and some from England. The education bill was the subject of an active discussion, and resolutions were unanimously adopted declaring that the members of the assembly maintained the objections against the bill offered in the spring meeting of the union for the following reasons:

"1. That the bill seeks to confirm and to perpetuate clerical control of elementary schools.

"2. That it provides no effective remedy for the grievous wrong which is done to non-conformists and other parents in 7,470 parishes where the only public elementary schools are those whose avowed object is the training of the scholars in the principles of the Established Church.

"3. That in the case of 11,777 Church of England and 1,045 Roman Catholic schools, while the entire cost of teaching staff and furniture and apparatus would be defrayed from the public purse, denominational managers would appoint and dismiss teachers and prescribe any form of religious instruction which they pleased; and

"4. That the bill violates the fundamental

principle of the Constitution that taxation shall be accompanied by popular control. They regard the bill as the product of an alliance between the Government and the High Anglican party and the Roman Catholic hierarchy, having for its main purpose the clericalizing of education at the cost of the just rights of all Free Church citizens and to the injury of Protestantism and non-conformity; and since this attempt occurs at the end of a series of sectarian aggressions in our national educational legislation, and as a fresh and unprovoked disturbance of the present arrangement, they are resolved to use their political influence to secure a system of national education in harmony with the principles of justice and efficiency, and in which every public elementary school shall be unsectarian and placed under the management of a board of which women may be members, and no citizen, teacher, or scholar be placed at any legal disadvantage on account of religious opinion.

"They now declare their solemn determination not to submit to this measure if it becomes law and to render it unworkable by every lawful means in their power. They are not surprised that very many of the opponents of the bill have resolved to suffer distraint of goods as a protest against this obnoxious measure, rather than pay the school rate, and they are for their own part resolved to adopt this course." A committee was appointed to consider the question of a sustentation fund. Addresses were delivered and papers read during the meetings on the problem of The Mid-Town Church and the growing alienation of the working classes from places of worship, The Problem of Suburban Work, The Missionary Dispensary, The Rural Baptist Church, Lay Preaching Power; and a public evening meeting was devoted to the Exposition of Free Church Principles.

Baptist Jubilee in New Zealand.—Jubilee celebrations of the foundings of the first Baptist churches in the colony were held in New Zealand early in the year. The Baptist Union was not formed till 1882. The returns from the associated churches showed that there were 34 churches in the union, with 3,679 members, and sitting accommodations for 9,790 persons.

BELGIUM, a constitutional, representative, hereditary monarchy in western Europe. The legislative power is vested in the Senate and the Chamber of Representatives. Senators are elected for eight years, one-third by provincial councils and two-thirds by the direct vote of the people. Half the Senators retire every four years. The Chamber contains 152 members, one to 40,000 inhabitants, elected for four years. Every male citizen twenty-five years of age possessing full civil rights and domiciled for one year in his commune has a vote. If he is thirty-five years of age, married or a widower with children, and pays 5 francs in direct taxes, he is entitled to 2 votes. If he possesses real property of the value of 2,000 francs or investments in the public funds yielding 100 francs a year, he may cast 2 votes. If he is a graduate of an institution of higher education or holds or has held public office or practises a profession implying the possession of higher education he has 2 votes; and if, in addition, he is the head of a household or an owner of property or public stocks, he has 3 votes. There were 1,452,232 individual electors in 1900 who cast 2,239,621 votes for Representatives and 1,227,720 who cast 1,994,153 for Senators. The number of Representatives is determined after each census, and the Senate consists of half their number.

The reigning sovereign is Leopold II, born April 9, 1835, who, on Dec. 10, 1865, succeeded his father, Leopold I, a prince of Saxe-Coburg, who was elected King of the Belgians by a National Congress on June 4, 1831, after the secession on Oct. 4, 1830, of Belgium from the Netherlands. A treaty was signed on Nov. 15, 1831, by Austria, Great Britain, Germany, Russia, guaranteeing the perpetual neutrality and inviolability of Belgium. The heir to the throne is Philippe, Count of Flanders, born March 24, 1837, the king's only brother, who has one son living, Prince Albert, born April 8, 1875.

The Council of Ministers appointed on Aug. 5, 1899, was composed as follows: President of the Council and Minister of Finance and of Public Works, Count de Smet de Naeyer; Minister of Foreign Affairs, Baron P. de Favereau; Minister of Justice, M. van den Heuvel; Minister of Agriculture, Baron van den Bruggen; Minister of the Interior and of Public Instruction, M. de Trooz; Minister of War, Major-Gen. A. Cousebant d'Alkemade; Minister of Railroads, Posts, and Telegraphs, M. Liebaert; Minister of Industry and Labor, Baron Surmont de Volsberghe, who resigned on Aug. 20 and was succeeded by Gustave Francotte.

Area and Population.—The area of Belgium is 11,373 square miles. The population in 1902 was 6,693,000. The census of that date makes it 6,693,810, or 589 to the square mile, an increase of 624,489 in ten years. The number of marriages in 1899 was 55,765; of births, 194,268; of deaths, 126,963; excess of births, 67,305. The number of divorces in 1899 was 563. The number of immigrants in 1900 was 29,231, and of emigrants 25,064; net immigration, 4,167. The population of the principal towns on Dec. 31, 1900, was as follows: Brussels, including suburbs, 561,782; Antwerp, 285,600; Liège, 173,708; Ghent, 160,949; Mechlin, 56,013; Verviers, 52,203.

Finances.—The ordinary revenue of the Government in 1899 amounted to 483,372,000 francs, and the ordinary expenditure to 570,442,000 francs. In 1900 the ordinary revenue was 491,905,000 francs. For 1902 the budget estimate of revenue was 489,040,050 francs, of which 26,438,000 francs are derived from property taxes, 21,629,000 francs from personal taxes, 9,000,000 francs from trade licenses, 1,600,000 francs from mines, 43,355,806 francs from customs, 68,725,640 francs from excise, 2,902,000 francs from various taxes, 30,200,000 francs from registration and other fees, 19,720,000 francs from succession duties, 8,000,000 francs from stamp-duties, 913,000 francs from fines, 2,105,000 francs from rivers and canals, 204,370,000 francs from railroads, 10,000,000 francs from telegraphs, 15,910,230 francs from posts, 1,510,000 francs from steamboats, 2,985,000 francs from domains and forests, 14,999,300 francs from profits of the Bank of Belgium and other chartered enterprises, and 4,677,074 francs from repayments. The total expenditure for 1902 was estimated at 488,344,403 francs, of which 133,781,107 francs were for interest and sinking-fund of the public debt, 5,115,276 francs for the civil list and dotations, 26,791,400 francs for the Ministry of Justice, 3,283,988 francs for the Ministry of Foreign Affairs, 30,160,181 francs for the Ministry of the Interior and Public Instruction, 12,412,756 francs for the Ministry of Agriculture, 16,448,800 francs for the Ministry of Industry and Labor, 160,327,494 francs for the Ministry of Railroads, Posts, Telegraphs, and Telephones, 55,205,371 francs for the Ministry of War, 34,498,820 francs for the

Ministry of Finance and of Public Works, 7,334,210 francs for the gendarmerie, and 2,076,000 francs for repayments, etc.

The national debt on June 30, 1901, amounted to 2,650,898,150 francs, of which 2,428,111,982 francs are loans raised at 3 per cent. interest, 2,826,536 francs represent the capitalized value of annuities, and 219,959,632 francs are the share of Belgium in the old debt of the United Netherlands, a perpetual debt on which 2½ per cent. interest is paid. The loans were raised almost entirely for the building of railroads and other useful and remunerative public works. They are redeemable by means of a sinking-fund. The revenue of the provincial administrations in 1898 was 18,819,013 francs, and expenditures 15,938,019 francs; provincial debts, 32,207,082 francs. The ordinary revenue of communes amounted to 118,742,538 francs, and expenditure to 117,144,576 francs; the extraordinary revenue to 59,278,223 francs, and expenditure to 62,172,216 francs.

The Army.—The standing army is raised partly by conscription, to which every Belgian is liable at the age of twenty, and partly by voluntary enlistment. The strength of the army on the peace footing in 1902 was 267 staff and superior officers, 1,921 officers, and 27,788 men in the infantry, 370 officers and 5,770 men in the cavalry, 633 officers and 8,682 men in the artillery, 152 officers and 1,703 men in the engineers, 78 officers and 963 men in the administrative departments, 210 surgeons, 41 veterinarians, and 71 officers and 2,903 men in the gendarmerie; total, 3,743 officers and 47,809 men, with 10,879 horses. The infantry soldiers carry Mauser magazine rifles of the model of 1889, of 7.65 millimeters caliber, holding 5 cartridges. The field-artillery have 204 Krupp breech-loading steel guns of 8.7 centimeters bore in the mounted and 7.5 in the horse batteries. Conscripts are allowed to furnish substitutes, which the Ministry of War provides on the payment of a maximum price of 1,600 francs. The nominal term of service is eight years in the active army and five years in the reserve. Unlimited leave is given after service with the colors for twenty-eight to thirty-six months. The war strength of the army is 143,000 men, with 28,600 horses. It is proposed to increase the strength to 180,000 men by shortening the term of service.

Commerce and Production.—Of the total area of Belgium 65.06 per cent. is cultivated, 17.70 per cent. is forest, and 17.24 per cent. is waste, marsh, river, road, and building and mineral land. Less than 19 per cent. of the people are dependent on agriculture. The production of wheat from 180,377 hectares in 1899 was 3,816,777 hectoliters; of barley from 40,242 hectares, 1,402,871 hectoliters; of oats from 248,693 hectares, 10,101,950 hectoliters; of rye from 283,375 hectares, 6,543,152 hectoliters; of potatoes from 184,690 hectares, 33,246,046 hectoliters; of sugar-beets from 54,099 hectares, 18,068,318 quintals; of other beets from 40,561 hectares, 17,383,656 quintals; of tobacco from 2,148 hectares, 34,087 quintals. The quantity of hops gathered was 63,911 quintals. The annual value of forest products is estimated at 22,000,000 francs. The value of quarry products in 1899 was 55,448,745 francs. The quantity of iron ore mined in 1899 was 201,445 tons, valued at 1,073,100 francs; the quantity imported from Luxembourg and other countries was 2,621,336 tons. There were 125,258 persons employed in the coal-mines, which produced 22,072,000 tons, valued at 274,444,000 francs. The production of pig iron was 1,024,576 tons, valued at 74,404,000 francs; of manufac-

tured iron, 475,198 tons, valued at 76,437,000 francs; of steel ingots, 731,249 tons, valued at 76,521,000 francs; of steel rails, 633,950 tons, valued at 90,154,000 francs. The value of zinc smelted in 1899 was 74,629,000 francs; of silver, 15,381,000 francs; of lead, 5,931,000 francs. The production of raw sugar was 244,722 tons; of refined sugar, 67,805 tons; of spirits, 678,460 hectoliters. The catch of cod, herring, etc., was valued at 4,537,998 francs.

The value of the general commerce in 1900 was 3,594,425,067 francs for imports and 3,297,509,775 francs for exports. The imports by sea amounted to 1,698,624,895 francs; by land and river, 1,895,800,172 francs; general exports by sea, 1,406,988,704 francs; exports by land and river, 1,890,521,071 francs. The imports for domestic consumption were 2,215,700,000 francs in value; exports of Belgian produce and manufacture, 1,922,900,000 francs; transit trade, 1,374,600,000 francs. The imports of cereals for domestic consumption in 1900 were valued at 297,872,000 francs; of textile materials, 214,904,000 francs; of resins and bitumen, 92,873,000 francs; of lumber, 85,515,000 francs; of minerals, 77,259,000 francs; of chemical products, 72,401,000 francs; of coal, 70,486,000 francs; of hides and skins, 64,696,000 francs; of machinery, 54,861,000 francs; of rubber, 52,057,000 francs; of drugs, 47,051,000 francs; of oil-seeds, 46,900,000 francs; of diamonds, 40,256,000 francs; of cotton goods, 37,079,000 francs; of colors and dyes, 35,904,000 francs; of coffee, 31,587,000 francs; of tallow, 30,557,000 francs; of wine, 30,251,000 francs; of yarns, 29,930,000 francs; of copper and nickel, 27,536,000 francs; of iron, 26,746,000 francs. The special exports of textile fibers was 112,235,000 francs in value; of coal, 111,796,000 francs; of linen and other yarns, 79,406,000 francs; of railroad cars, 78,601,000 francs; of glass, 76,840,000 francs; of wrought iron, 75,656,000 francs; of cereals, 65,413,000 francs; of raw sugar, 59,520,000 francs; of machinery, 57,711,000 francs; of zinc, 49,617,000 francs; of hides and skins, 47,856,000 francs; of chemical products, 44,343,000 francs; of cut diamonds, 43,005,000 francs; of rubber, 41,248,000 francs; of fertilizers, 34,183,000 francs; of minerals, 33,451,000 francs; of coke, 32,736,000 francs; of woolen yarn, 32,536,000 francs; of cotton goods, 30,844,000 francs; of horses, 29,361,000 francs; of colors and dyes, 29,172,000 francs; of resins and bitumen, 28,712,000 francs.

The special imports from and exports to the principal foreign countries in 1901 were valued in francs as follows:

COUNTRIES.	Imports.	Exports.
France.....	375,346,000	426,092,000
Germany.....	323,890,000	426,564,000
Great Britain.....	800,866,000	859,064,000
Netherlands.....	196,881,000	217,908,000
United States.....	266,674,000	76,860,000
Russia.....	125,532,000	31,468,000
Argentine Republic.....	118,563,000	20,989,000
Spain.....	41,384,000	36,666,000
Roumania.....	73,546,000	4,494,000
Sweden and Norway.....	58,296,000	17,768,000
Italy.....	27,123,000	32,121,000
Congo State.....	46,028,000	11,515,000
British India.....	39,862,000	17,564,000
Brazil.....	40,964,000	9,837,000
Australia.....	37,392,000	12,786,000
Switzerland.....	6,496,000	30,694,000
Chile.....	28,980,000	7,648,000
China.....	5,467,000	17,290,000
Egypt.....	3,485,000	14,628,000

Navigation.—The number of vessels entered at Belgian ports during 1900 was 8,619, of 8,500,772 tons; cleared, 8,620, of 8,476,874 tons. The merchant navy on Jan. 1, 1901, consisted of 4

sailing vessels, of 741 tons, and 69 steamers, of 112,518 tons. Of the vessels entered and cleared in 1900 Belgium owned 1,906 entered, of 1,380,390 tons, and 1,908 cleared, of 1,384,776 tons; Great Britain, 4,042 entered, of 3,804,974 tons, and 4,019 cleared, of 3,759,418 tons; Germany, 1,037 entered, of 1,679,067 tons, and 1,035 cleared, of 1,670,504 tons; Norway, 530 entered, of 319,102 tons, and 538 cleared, of 330,404 tons; Sweden, 237 entered, of 193,391 tons, and 243 cleared, of 203,141 tons; Denmark, 237 entered, of 235,310 tons, and 242 cleared, of 236,986 tons; Holland, 203 entered, of 203,777 tons, and 199 cleared, of 196,121 tons; Japan, 48 entered, of 197,055 tons, and 49 cleared, of 201,034 tons; France, 148 entered, of 148,730 tons, and 149 cleared, of 149,232 tons; Russia, 66 entered, of 67,113 tons, and 67 cleared, of 68,540 tons.

Railroads, Posts, and Telegraphs.—The total length of railroads in operation on Jan. 1, 1901, was 2,833 miles, of which 2,503 miles were operated by the Government and 330 miles by companies. The number of passengers carried during 1900 was 123,700,046 on the state and 15,428,041 on the companies' railroads; gross earnings, 209,194,311 francs on the state and 28,130,076 francs on the companies' railroads; expenses, 140,428,195 francs for the state and 11,828,518 francs for the companies' railroads. The state railroads cost 1,963,623,697 francs to build. Since the first railroad was constructed in 1834 the Government has received in net profits above all expenses for operation, maintenance, and interest on borrowed capital amounting for the whole period to 115,528,477 francs.

The post-office in 1900 carried 137,617,928 private letters, 25,365,408 official letters, 65,384,943 postal cards, 123,648,551 circulars, etc., and 134,724,720 newspapers; receipts were 25,242,483 francs, and expenses 13,498,196 francs.

The telegraphs of Belgium had on Jan. 1, 1901, a total length of 3,975 miles, with 24,940 miles of wire. The total number of despatches in 1900 was 14,411,487; receipts were 9,309,440 francs; expenses, 8,596,234 francs. There were 37,285 miles of telephone wires and 14,920 stations. The number of conversations in 1900 was 39,884,321.

Legislation.—The Chambers in the early part of the session of 1902 agreed to the Government's military reform bill, which reduces the term of service and increases the effective strength of the army 20 per cent. by an extension of the volunteer system. The antigambling bill, which suppresses the public gaming-houses in Ostend and Spa and all gambling clubs in Belgium, was finally passed by the Chamber of Representatives, March 22. A workmen's accident bill divides the risk between employer and employee. In case of temporary or permanent incapacity the workman receives half the amount of his average earnings, and this is paid to his family for a certain number of years if he is killed. Contributory negligence on the part of the injured workman does not absolve the employer from his liability for compensation. Employers are bound to insure themselves in a company approved by the Government or to deposit a sufficient insurance fund in the state savings-bank. A commission is appointed for the settlement of claims, which includes representatives of both employers and working men.

At meetings held at the People's Palace in Brussels and in all the industrial centers of the provinces the Socialists of Belgium decided to start a new movement for universal equal male suffrage. A manifestation in front of the Parliament buildings announced for Mardi gras was

frustrated by a strong cordon of troops and police who kept the demonstrating bands out of the neutral zone around the houses of Parliament, the royal palace and the ministries, within which political demonstrations are forbidden. The question was soon brought up in the Chamber. Liberals, Democrats, and Christian Socialists joined in the demand for a revision of the Constitution. From the various groups working for a change in the electoral law motions were offered in the Chamber for a similar change in the municipal and provincial voting franchise, which can be effected by the legislative action of Parliament without alteration of the national Constitution. Every such motion was rejected. The Moderate and Progressist sections of the Liberal party united on a program calling for the abolition of plural voting and for proportional representation, though the Moderates reserved the option of proposing a double vote either for heads of families or for men who have reached a certain age. The Premier said that the Government was determined not to alter the present system of plural voting, as a safeguard against the Socialists who threatened to use the extended franchise as an instrument to accomplish their ideals. The Socialist demonstrations grew threatening and violent when the Government refused to discuss a compromise. The Minister of War called out the reserves. Coal-miners began to strike and bomb outrages were committed against Clerical party leaders when the Chambers reassembled in April and the Socialists and Liberals were ready to press the question in Parliament. On the night of April 10, when mobs attempted to erect barricades in the streets of Brussels after a stormy debate in the Chamber, the troops fired volleys and used their bayonets. The Socialist leaders threatened a general strike if the Government used force to suppress the popular demonstrations. It became evident that the Government could no longer rely on the troops as heretofore to turn their weapons against the populace. The ministers still resisted the discussion of revision in Parliament, determined not to yield once more to popular tumults. The Socialists threatened to order a general strike and stoppage of business as well as a legislative deadlock. The Government insisted that provisional credits should be voted first sufficient for the needs of administration till the end of October. The number of members by which the Chamber should be increased, to correspond with the increase in the population, was also given precedence. The third Government measure was an extraordinary budget of 100,000,000 francs for public works. The Socialists carried on obstruction for five days without being able to prevent the first two points of the Government program from being acted upon. Their violent behavior in the Chamber and the street disturbances that followed estranged the Liberals, who were as desirous of electoral reform as the Socialists. Whenever in the opinion of the ministers a demand for a revision of the Constitution is ripe for action the two Chambers resolve themselves into a Constituent Assembly. After a general strike of working men had occurred in 1891 and another in 1893 in favor of universal suffrage a compromise was accepted by the Clerical party, which had then been in power since 1884 and still remains in power. The Constituent Assembly enacted the present franchise law giving a vote to every man twenty-five years of age, 2 votes to husbands or widowers of thirty-five having legitimate issue or to owners of real estate worth 2,000 francs, and 3 votes to those

possessing either of these qualifications who are university graduates or professional men. The number of qualified electors was increased from 135,000 to 1,400,000 with over 2,000,000 votes. This extension of the franchise admitted Socialists to the Chamber, but was unsatisfactory to the Liberals, who carried through a system of proportional representation in 1899. Until this was adopted the *scrutin de liste* frequently left the Liberals without representation in districts where they almost had a majority. The Belgian system of proportional representation is worked out by dividing the total vote for each list by the number of members to be elected; the quotient is the electoral divisor which regulates the division of seats among the candidates of the different parties by the number of times it is contained in the total number of votes cast for each party ticket. The result for the whole country in 1900 was to give still to the Clericals an unduly large proportionate representation. In a total ballot of 2,075,000 the Clericals cast 1,040,000 votes, the Liberals and Progressists 535,000, the Socialists over 500,000. In the allotment of seats the Clericals obtained 85, the Liberals and Radicals 33, the Socialists 33, the Christian Democrats 1, giving the Catholics a majority of 18 over the united Opposition parties, who polled a popular vote about equal to theirs and in the true proportion would have as many seats. Hence the old Liberals as well as the Radicals entered into coalition with the Socialists, willing to sacrifice, if necessary, to political expediency Janson's old scheme of allowing men who have reached the age of thirty-five or forty or married men to vote twice, and to accept the Socialist program of one man one vote, while the Socialists on their side agreed to adopt the favorite Liberal principle of proportional representation. The Socialists and Liberals proposed to lower the voting age to twenty-one and to alter the composition of the Senate. The Catholics proposed to couple woman suffrage with the Socialist plan of an equal franchise for all electors. This innovation was resisted by the Liberals, who anticipated that the influence the clergy can exert over the female mind, especially in the more ignorant classes, would secure to the Clericals a permanent majority. The Government bill increasing the number of Deputies from 152 to 166 and the number of Senators from 76 to 83 passed the Chamber on April 12 without opposition. The arrest of M. Vandervelde, the Socialist leader, on April 12 led to a serious riot in Brussels. The troops charged with fixed bayonets and fired volleys, while the rioters used revolvers and glass bombs filled with corrosive fluids. Disturbances occurred in other towns. This outbreak caused a breach between the Socialists and the Liberals, who wished to withdraw from the alliance and urged the Government to dissolve Parliament when the Socialists decreed a general strike. The strike began in the coal-mines and spread to all the trades. In three days more than 200,000 men quit work. On April 17 Count de Smet de Naeyer gave his decision not to bring forward equal suffrage because the majority of the people did not want it, because there was no chance of a two-thirds majority in the Constituent Assembly in its favor, and above all because the Government would not yield to mob rule and allow the proceedings of Parliament to be dictated from the street or the action of the Government to be influenced by strikes, intimidation, and violence. By 84 votes to 64 the Chamber on April 18 decided not to admit the question of revision to consideration. The un-

compromising negative of the Prime Minister made the business men of the country, whose affairs were at a standstill, as indignant against the Clericals as against the Socialists. The latter appealed to the King and announced that they would bring the question of revision before the Chamber until it should be considered. On April 19 at Louvain a mob drove the militia back into their quarters, where they loaded their rifles, and when again pressed hard they fired and killed and wounded a number of people. The people fired revolvers at another company, which replied with a volley, killing 7 and wounding 18. The strike was declared at an end by the council of the Labor party, and on April 21 the working men generally resumed their occupations. The Chamber voted the budget on April 25. The sum of 7,000,000 francs was voted to indemnify Ostend and Spa for the loss entailed by the suppression of gambling. The public-works budget was also passed. The session was closed on May 20. The elections for renewing one-half of the Chamber were held on May 25. There were 77 retiring members to be replaced, and 14 additional members were elected to bring up the number of Deputies to 166, as decreed in the recent act enlarging the Chamber to meet the increase in the electorate. In conformity with the same act 7 new Senators were elected. The new Chamber consisted of 95 Catholics, 35 Liberals, 34 Socialists, and 2 Christian Democrats, increasing the Clerical majority over the united Opposition from 20 to 24. Of the newly created seats 8 went to Catholics, 3 to Socialists, 2 to Liberals, and 1 to a Christian Democrat. The new seats in the Senate were divided between 4 Clericals, 2 Liberals, and 1 Socialist.

The Sugar Convention.—Several international conferences have been held with the object of bringing about a mutual agreement for the regulation or abolition of the bounties given by Continental governments to protect the production and encourage the export of beet-sugar. These bounties are accompanied by high revenue-producing excise duties and a surcharge on imports sufficient to shut out foreign sugar from the producing countries. The effect of these duties is to make sugar a luxury in countries where the most sugar is grown, twice as dear or more in France, Germany, or Austria as it is in England, where no duties have been imposed hitherto on its importation or consumption. England used to import and refine cane-sugar grown mostly in the West Indies. When Germany, France, Austria, and Belgium began to give bounties England could get sugar from the Continent for less than the actual cost of production. The importation of cane-sugar ceased altogether, and the British refineries went out of business. On the other hand, the manufacture of British jams, confectionery, and biscuits, cheapened by the low price of sugar, grew to enormous proportions and these articles were exported to all parts of the earth. Meanwhile Jamaica and other British West India islands, British Guiana, Mauritius, and other colonies which formerly supplied Great Britain with raw sugar languished and declined and the capital invested in sugar plantations was to a great extent lost or withdrawn. The poverty and distress in the island colonies and the falling off of the colonial revenues reached such a stage at last that the British Government granted large sums in aid. On the recommendation of a commission experimental stations were established for the purpose of developing seed cane by selection of a higher saccharine content, as has been done with the sugar-beet, and public

aid was given to encourage more scientific, economical, and thorough methods of extracting the sugar from the cane by the use of modern machinery. The colonies called upon the Imperial Government to impose countervailing duties upon bounty-fed sugar, as the United States Government has done for the protection of American sugar-growers. In the sugar-producing countries of Europe the bounties were a heavy fiscal burden which tended constantly to increase, because France or Germany or Austria at the first appearance of foreign competition in sugar immediately increased the bounty or raised the duty, which further reduced domestic consumption, and any change made by one country was outdone by the others. All these countries were competing for the English market, which was more valuable to them than all the other foreign markets together. Germany, the greatest sugar-producing country in the world, sold more sugar to England than the German people themselves consumed. Over a third of the German crop went to Great Britain, and a like proportion of the Austrian sugar, which found another good market in British India. Just as in the Continental nations the producers and refiners of sugar brought powerful pressure on their governments to bring about an increase in the bounties and protective duties and by all means to prevent a decrease, so the manufacturers of England and Scotland who used sugar became a strong and united interest fighting against the imposition of countervailing duties, supported by the general popular sentiment in favor of cheap sugar. To raise the price of this necessity of life by taxation was represented as a violation of the principle of free trade, though the friends of the colonists argued that duties equivalent to the bounties were necessary to secure free trade to the cane-growers. The manufacturing industries using beet-sugar, which were in Great Britain and were influential in Parliament and in the press, had grown into a bigger business than the production of cane-sugar in British colonies. The popular view was that, if the Continental governments chose to make a present out of their public funds to the British public by granting bonuses to their sugar-producers to enable the latter to sell sugar so much cheaper in the English market, the British public would be foolish not to accept the boon granted at the cost of foreign taxpayers. The impoverishment of the colonists, unable longer to pay the expenses of the colonial administration, the dearth of sugar and lessening consumption in the beet-growing countries, the overproduction of sugar and glutting of the foreign markets, and the embarrassing charge of the bounties were, however, growing evils that had at some time to be faced and could not at any time be ignored by publicists and statesmen. The first diplomatic conference convoked to deal with these conditions was held in London in 1888. The powers invited by Great Britain to meet to consider the abolition of bounties signed a convention on Aug. 30, 1888, in which they agreed in principle to the total suppression of open or disguised bounties on the exportation of sugar. They agreed to exclude from their respective territories any sugar coming from countries which continued to pay bounties on manufacture or export. Germany, England, Belgium, Spain, Italy, the Netherlands, and Russia signed the convention. France adhered to it in principle and reserved the right of signing later. Austria-Hungary promised adhesion if all important producing and consuming countries would agree to suppress bounties. The

definite adhesion of Austria and France was never secured, and therefore the system of bounties and prohibitive duties flourished more rankly than before. Ten years later the Belgian Government, at the instance of Germany and Austria and with the encouragement of Great Britain, invited the same powers to a new conference. The German and Austrian governments were willing to suppress bounties at once, which was desired by Great Britain. The Belgian and Dutch representatives proposed gradual abolition. France reserved the right to continue a system of indirect bounties, and Russia declined to discuss its system of drawbacks for exports, denying that it was of the nature of a bounty, while the Austro-Hungarian delegate pronounced it equivalent to a bounty on exportation. The conference came to an end without agreement, with the understanding that the Belgian Government should carry on a diplomatic correspondence with the other governments, and if the basis of an understanding could be reached through diplomatic channels the conference could be reconvened later. Sugar production had doubled since the earlier convention. In December, 1901, the representatives of the powers met in conference once more at Brussels. The situation had changed, chiefly in that England no longer viewed the bounty question with platonic wishes for the abolition of bounties, but indifference as to the time when they should be abolished, since the British people reaped the material profit so long as they were continued. The necessities of the British sugar colonies had reached the stage when the British Parliament had to come to their aid with substantial grants to offset the bounties. Reciprocity agreements had been made with the United States which afforded some relief, but this was likely to be temporary. The needs of the British treasury made a revenue from sugar imperative, and the tax could not be framed in utter disregard to these colonies. India was already permitted to impose a countervailing duty on bounty-fed sugar. The effect on the sugar trade of Austria would be disastrous. Overproduction caused a crisis in Germany and other countries. While the beet-growers were losing money the refining trust, or cartel, in Germany continued to make large profits. Germany is the greatest sugar-producing country in the world. The production in 1901 was 2,300,000,000 kilograms, of which 700,000,000 kilograms were consumed in Germany, 750,000,000 kilograms were exported to Great Britain, and 850,000,000 kilograms went to other countries. Great Britain also has taken about a third of the Austrian output, and only a third is consumed at home. Germany has given away 29,000,000 marks yearly in bounties, which did not save the growers and manufacturers of raw sugar from a serious crisis, although the cartel made a profit of 90,000,000 marks in the first year after its organization in June, 1900. By agreement between the refiners and the manufacturers of raw sugar, the latter received 55,000,000 marks, but this did not counterbalance the loss resulting from the reduction of the price of raw sugar from 205 to 155 marks a ton. On the other hand, the 53 refineries were able to divide their share as an extraordinary profit. A direct bounty on the exportation of sugar was given in Germany and Austria-Hungary, and since 1897 in France. In Belgium and in Russia indirect bounties were given to encourage the production of sugar. The excise tax duty, which limits home consumption in all European countries which produce sugar, was 20 marks per

100 kilograms in Germany and equally excessive in other countries. In France consumers, owing to the bounty system, had to pay 66 francs per 100 kilograms for an article normally worth 30 francs. In addition to the excise duty an import duty of 20 marks per 100 kilograms was charged in Germany and one of 22 crowns in Austria-Hungary. In France the surtax had been reduced to 10 francs and in Belgium to 5 francs. The cartel system was developed first in Austria and copied in Germany. It had the effect of increasing production, and at the same time further limiting home consumption. While fixing prices at a higher figure at home, manufacturers were obliged to lower them abroad beyond all precedent, and still could not find a market for the surplus stocks, which were never so large in Germany and in Austria. In December, 1901, the representatives of the powers met once in a conference at Brussels. The British as well as the Belgian government had endeavored to find a basis for negotiations in the preliminary correspondence, and the bounty-paying governments had to face the alternative of countervailing duties that would eventually restore the English market to the cane-growing colonies unless they voluntarily gave up the payment of bounties and reduced the prohibitory surtax on imports. In any case they had to look for an expansion of the home market to take the place of the English market, which was certain to be supplied henceforth, in great part at least, with cane-sugar. The consumption of sugar in Great Britain, including that of the manufacturing establishments, is 37 kilograms per head of population. In the United States it is 29 kilograms. In Germany the consumption per capita is 13.3 kilograms, in Austria only 8.4 kilograms.

The Agrarians in Germany made a mien as if they would defeat the ratification of the convention and talked of a tariff war with England. In the end the treaty was ratified and it was arranged to fix the excise duty at 14 marks, instead of 20 marks, which with the reduction of the import duty from 20 marks to 4.80 marks reduces the total tariff from 40 to 18.80 marks. In France it was lowered from 64 to 30 francs.

The sugar convention was signed at Brussels on March 5. The signatory powers undertook to suppress from Sept. 1, 1903, all direct and indirect bounties for the benefit of the production or exportation of sugar or of sweetmeats, chocolate, biscuits, condensed milk, or other articles containing a notable proportion of sugar; also to limit the surtax on imports to a maximum of 6 francs per 100 kilograms; and to impose a special duty on imports from countries which continue to grant bounties either for production or export, this duty to be at least equal to the amount of bounty given. Bounty-fed sugars may even be prohibited by any of the contracting parties, but the sugars imported from any of the contracting countries or from colonies belonging to them which do not give bounties and submit to the obligations of the convention must be admitted at the lowest import rates, and no discrimination shall be made between cane and beet sugar. Spain, Italy, and Sweden are freed from the obligation to give no bounties on production so long as they do not export sugar, and from the limitation of the surtax and the obligation to levy a countervailing duty. Bounties include, besides direct bonuses to exports or production, total or partial exemptions from taxation granted for a part of the manufactured product, profits derived from surplussage

of output or from the exaggeration of the drawback, and advantages derived from any surtax in excess of the maximum rates fixed by the treaty, which are 6 francs for refined and 5½ francs for other sugars. Revenue officers must supervise factories and refineries in each country. A permanent international commission of surveillance will be established in Brussels, which will exercise a general control, settle any litigious questions that may arise, and decide as to the admission of states that have not taken part in the conference. The convention was concluded for five years, to be continued thereafter by tacit agreement from year to year, any power having the right to withdraw by giving notice before Oct. 31. In case such notice is given by any of the contracting parties the Belgian Government will convoke within three months a new conference to decide on the measures to be taken. Great Britain made a special declaration that during the continuance of the convention no direct or indirect advantage would be given to the importation of colonial sugars into the United Kingdom. The Netherlands made the same engagement in respect to the Dutch colonies. Both Great Britain and the Netherlands agreed to submit the convention to their self-governing colonies and invite their adhesion. The ratifications were to be exchanged before Feb. 1, 1903.

France objected to the total abolition of bounties, wishing to retain an indirect bounty of 4.80 francs in order to balance the reduction in the duty. Germany, supported by Austria-Hungary, resisted the reduction of the surtax to 5 francs, on which England at first insisted, supported by Belgium and France. Germany also strove hard to have the date of the going into force of the convention postponed for one year longer. A proposition emanated from Great Britain to have the cartels suppressed by law, but it was withdrawn. The persons associated in the cartels in Germany and Austria and all others interested in growing beets or manufacturing sugar opposed vigorously all the features of the convention and met in conference at Berlin to discuss ways of defeating it. Opposition was also shown by the jam-makers and other British manufacturers. Roumania, which has hitherto imposed an import duty of 51 francs, desired to be placed in the category of the exempt non-exporting countries, but by decision of the conference will adopt the duty of 6 francs. The United States was not represented at the conference, nor were any of the countries producing cane-sugar, neither Cuba nor the British or Dutch colonies except indirectly by their home governments, which represent them diplomatically and have undertaken to influence them to sign the convention. Russia declined to take part in the conference. The Russian Government asserts that it does not promote the export of sugar, either by direct or by indirect bounties. It regulates the amount sold in the home market in order to prevent overproduction and to lessen the cost of production, and thereby increase consumption in Russia. The Ministry of Finance fixes each year the amount of sugar to be placed on the home market after payment of the ordinary excise duty of 1.75 ruble per pood, and this amount is apportioned among the various producers, each receiving permission to sell a certain quantity in Russia. Any producer wishing to sell more must pay an extra excise duty of 3.50 rubles per pood. He may, however, export as much as he pleases without paying any duty whatsoever. He may also arrange with any of his fellow producers to transfer to them any

part of the allotment that he is allowed to dispose of in Russia on payment of the ordinary excise tax. If therefore he can find a market for his sugar abroad he may sell at a premium his right to sell sugar in Russia. The United States Government has taken the view that this operates as an indirect bounty, and such is the opinion held by the governments that participated in the conference. The Russian Government, on the contrary, contends that it gives no sugar bounty, and therefore under the most-favored-nation clause other countries are precluded from imposing countervailing duties on Russian sugar; that it would be a breach of existing commercial treaties even if the Russian system of regulating the home market could legitimately be regarded as an indirect bounty. In a note to the governments which took part in the Brussels conference the Russian Minister of Finance said that if it could be proved that a system like the Russian interferes with the natural development of international competition the Russian Government would gladly take part with the other powers in considering by what means it would be possible to obviate such effects; but it would only consent to do this if the question were submitted for consideration in its full extent, and all the consequences of indirect measures, such as the giving of premiums, the regulation of production, and the action of syndicates of various kinds tolerated or protected by governments were made the subject of discussion, and it were admitted that the agreement arrived at should apply, not only to sugar, but to other products which play a part in international commerce. This offer, it was hoped, would show the readiness of the Russian Government to cooperate in protecting from artificial reduction the prices of sugar and other products on the international market. It was in effect a proposal to suppress or to regulate by international agreement the cartels, syndicates, or trusts which have been developed in Germany to a fuller extent than in other countries, not the sugar cartel alone, but the steel cartel and other combinations which regulate production and prices and the export of surplus products in all the main branches of industry which adopt various methods of selling cheap abroad in order to sell dear at home. The Russian import duty on sugar is 6 rubles per pood on refined, and 4.50 rubles on raw sugar. The Russian producers are therefore protected by a surtax of 4.25 rubles per pood, equivalent to 32.50 francs per 100 kilograms. The Russian Government upheld its argument that the application of countervailing duties against Russian sugar would be an infringement of treaties. It did not intend to carry on a general tariff war against all the powers at once, but would consider itself free to disregard treaty stipulations when it saw fit and to adopt such measures as would be advantageous to Russia in the case of any of them. Goods imported into Russia by industrial trusts would be the first to be subjected to discriminating treatment. India imposed countervailing duties on bounty-fed sugar after the failure of the Brussels conference of 1898, but they were not sufficient to keep out European beet-sugar, which constituted more than half of the Indian imports in 1902. Austrian sugar alone exceeded the imports from Mauritius, and this was supposed to be due to the operation of the sugar cartels as revealed in the discussions at Brussels. After the conclusion of the Brussels convention the countervailing duty was fixed by the Indian Government at a higher figure, against which

action the Austro-Hungarian and also the Russian Government raised a protest.

BOLIVIA, a republic in South America. The legislative power is vested in the Congress, consisting of a Senate of 18 members, elected for six years, and a House of Representatives containing 64 members, elected for four years. The President of the republic is elected for four years by the direct suffrage of the people, and is not re-eligible for the next succeeding term. Gen. José Manuel Pando was elected Constitutional President by a national convention at Oruro on Oct. 23, 1899. The Constitution, which had been suspended since April 14, 1898, was then again put in force. Col. Lucio Peres Velasco was elected First Vice-President and Dr. Anibal Capriles Second Vice-President. Congress has since held regular sessions. One-third of the Senators and one-half of the Representatives are replaced every two years. The Cabinet at the beginning of 1902 consisted of the following members: Minister of Foreign Affairs and Public Worship, Dr. Federigo Diez de Medina; Minister of Finance and Industry, Dr. Demetrio Calvimontes; Minister of the Interior, Anibal Capriles; Minister of Justice and Public Instruction, Andres S. Muñoz; Minister of War and Colonies, Col. Ismael Montes.

Area and Population.—The area, including the territories, is estimated at 734,390 square miles. The population, estimated from the incomplete returns of the census of Sept. 1, 1900, is 1,788,674. The department of La Paz, area 171,130 square miles, had 423,800 inhabitants; Oruro, area 21,350 square miles, had 88,081; Chuquisaca, area 39,890 square miles, had 196,143; Cochabamba, area 21,430 square miles, had 326,163; Tarija, area 34,610 square miles, had 77,887; Potosi, area 52,100 square miles, has an estimated population of 365,500; Beni, area 100,580 square miles, is estimated to have 38,700; Santa Cruz, area 87,700 square miles, has a population estimated at 210,800. The estimate of population for the territory of Madre de Dios, area 13,400 square miles, is 18,600, and for the Purus territory, area 192,200 square miles, the estimate is 45,000. The people are mainly of the native Indian race. There are numerous mestizos and very few of pure European blood. Many Indian tribes still retain their original organization and customs. La Paz has 57,000 inhabitants; Cochabamba, 21,886; Sucre, the political capital, 20,900.

Finances.—The revenue for 1901 was estimated at 7,965,350 bolivianos, the exchange value of the boliviano, or Bolivian dollar, being 36 cents. The chief part of the revenue comes from customs duties, estimated to produce 6,292,150 bolivianos. Excise duties, the mint, and licenses for trading in rubber are the other sources. The expenditure for 1901 was estimated at 7,152,359 bolivianos, of which 2,730,123 bolivianos were for the army, 1,173,100 bolivianos for public works, 929,658 bolivianos for the public debt charges, and 439,124 bolivianos for posts and telegraphs. The foreign debt, originally 6,550,000 bolivianos, has been reduced by applying 40 per cent. of the Arica customs to its extinction, and in 1900 only 818,813 bolivianos were outstanding. The internal debt amounted in 1901 to 4,004,020 bolivianos. The departments received in 1901 from land taxes, excise duties on coca, tobacco, and spirits, stamp-duties, and subventions from the National Government a revenue estimated at 2,152,359 bolivianos, and spent 2,178,600 bolivianos, mainly for police, justice, public works, education, and public worship.

The Army.—There is a standing military force of 2,560 men. The militia held in readiness

number about 30,000, and the regular and extra reserves 40,000, besides which there is a territorial guard of 10,000 men. According to a law made in 1892, military service in these various bodies of the National Guard is compulsory on all Bolivians between the ages of twenty-one and fifty years. The active army consists of 2 battalions of infantry, each of 4 companies of 220 men, armed with Mauser rifles of the Argentine model of 1893 and the Bolivian of 1898, having a caliber of 7 millimeters; 2 cavalry regiments; and 2 regiments of artillery. There is a garrison battalion in each department.

Commerce and Production.—Coffee is exported to Chile and the Argentine Republic. Sugar is grown to be distilled into rum, but the supply of this beverage is supplemented by imports from Peru. The production of coca, mostly in La Paz, is valued at 3,000,000 bolivianos a year. Cinchona is another important export. Large quantities of rubber are obtained in the Acre region and shipped down the Amazon. The production of silver, including the contents of concentrated ores, in 1899 was 11,155,190 ounces. The export of barillas, or tin ore, in 1900 was 10,080 tons, and of bar tin 1,591 tons. The annual production of copper barillas is 3,000 tons. Gold is washed by Indians, and companies have been formed to work some promising locations. Lead, zinc, antimony, bismuth, wolfram, salt, and petroleum are found. The total value of imports in 1900 was 13,344,116 bolivianos, and of exports 35,657,690 bolivianos. Imports of cotton goods were valued at 2,011,494 bolivianos; woolen goods, 1,549,409 bolivianos; provisions, 1,454,406 bolivianos; cattle, 1,004,294 bolivianos; machinery and hardware, 1,060,177 bolivianos; spirits and wines, 971,628 bolivianos; clothing, 731,053 bolivianos. The value of mineral exports was 23,794,268 bolivianos; of vegetable products exported, 11,249,295 bolivianos; of animals and animal products, 614,127 bolivianos. The exports of silver and silver ores were valued at 13,691,268 bolivianos; tin and tin ores, 8,579,539 bolivianos; copper ore, 1,025,030 bolivianos; bismuth, 271,702 bolivianos; lead, antimony, wolfram, gold, and zinc, 106,467 bolivianos; rubber, 10,403,959 bolivianos; coca, 563,713 bolivianos; coffee, 157,068 bolivianos. Silver is exported largely in the form of coin without being reported, and there are great quantities of rubber shipped from river ports unknown to custom-house officers. The principal merchants are Germans, who deal in English and other goods besides German. The imports from Germany in 1900 were valued at 3,109,521 bolivianos; from Great Britain, 2,265,344 bolivianos; from Peru, 1,710,306 bolivianos; from the Argentine Republic, 1,028,715 bolivianos. About 44 per cent. of the exports are destined for Great Britain, 35 per cent. for Germany, and 6 per cent. for France. The Government in 1899 established a custom-house on the Acre river, which flows into the Purus, at a newly established port called Puerto Alonso. The bulk of Bolivian commerce passes through the seaports of Arica and Antofagasta, formerly Bolivian, which were occupied by Chile after the defeat of the Peruvian and Bolivian alliance in 1880. The seaboard province of Bolivia which Chile retained as a pledge for the payment of an indemnity has an area of 29,910 square miles. The value of the nitrates obtained for the benefit of the Chilean Government since then from the coast provinces has been estimated at 700,000,000 bolivianos. In reply to the demands which the Bolivian Government has made for the fulfilment of the promise of Chile to restore a seaport to Bolivia

Chile has offered instead to pay 6,000,000 bolivianos in compensation. This proposition Bolivia has refused to consider.

Railroads, Posts, and Telegraphs.—A railroad from Antofagasta enters Bolivian territory at Ascotan, and has been extended to Uyuni and Oruro, with a branch to Huanchaca, the Bolivian sections having a length of nearly 500 miles. A railroad from La Paz to the Peruvian frontier, to connect with the Peruvian line now half built from the port of Mollendo to Lake Titicaca, is soon to be undertaken. A line from Santa Cruz to the river Paraguay is contemplated. Railroads from Oruro to Cochabamba and from Challapata to Colquechaca have been authorized, and a route has been examined for an international railroad into the Argentine Republic.

The total length of telegraph-lines is 2,454 miles. The number of letters, postal cards, newspapers, and other mail-matter carried in the mails in 1900 was 2,222,176 in the internal and 725,240 in the international service.

Boundary Dispute.—In the extreme north of Bolivia the valleys of the Acre and Yacu and of the upper Purus and Jurua have been claimed both by Bolivia and Brazil, and the Acre territory, which is one of the richest rubber districts remaining, has been disputed by Peru also. American traders have long sent parties into this region to gather rubber, which is taken in boats down the Amazon, the only outlet. When none of the governments which claim the territory exercised any authority there adventurers from various parts of the world attempted to set up an independent republic there, intending to exploit its natural wealth for their private benefit. They fell to quarreling among themselves, and others came in to contend for the prize. One dictator succeeded another until the interested governments, each of which protested against the recognition of the foreign usurpers, took steps independently of each other to assert sovereign rights and suppress the American and European claimants. Bolivian, Brazilian, and Peruvian officials entered with a force of soldiers and went through the form of assuming the administration; but they did not stay. When two of these forces came together, each disputed the right of the other to be there, and once or twice shots were fired. Whenever the Government forces retired the foreigners again set up their authority, and among them desperate conflicts arose. The shipments of rubber from this vast and wild country continued in spite of the occasional interference of the white desperadoes and of savage tribes. Men interested in the rubber trade were involved in the scheme to set up an independent jurisdiction. The chief object of the men who proclaimed the republic of Acre was to avoid paying 15 per cent. export duty which Bolivia levies on rubber. Although some of them were Brazilian citizens, the Government of Brazil did not favor the erection on its border of an irresponsible state of buccaneers whose treatment of the Brazilian natives whom they took into Acre to gather rubber was barbarous. The frontier between Brazil and Bolivia was submitted to arbitration. The Brazilian claim to the Acre territory was rejected by the arbitrator. What the rights of Peru were on these affluents of the Amazon and the Andean plateau remained undecided. In 1902 an arbitration treaty was arranged with Peru. Bolivia had already for two years or more exercised jurisdiction and maintained a custom-house in Acre. The Acre territory, triangular in shape, is bounded on the

north by the recently laid down frontier of Brazil, on the southwest by the yet to be determined Peruvian boundary, and on the southeast by a line running from the source of the Abuna to the Madre de Dios. A Bolivian expedition made its way with great difficulty, and not without considerable fighting, over the Andes, down the river Beni, up the Orton, across to the Acre, and down that river to the Brazilian frontier, where a custom-house was established and has since been maintained and defended by a military force, the expense of which is considerably greater than the revenue that can be collected. The revenue was in fact not collected, for to do so it is necessary to have a custom-house on each river and watch every outlet. The only means of communication with Bolivia is through swamps and forests and high and difficult passes over two mountain chains. Access from the Atlantic, on the other hand, is practicable by way of the Amazon up the Acre and the other rivers which traverse the territory, which are navigable by light-draft steamers. The rubber exported from the Acre and its affluents has reached 3,500 tons per annum, and from the other rivers 5,000 tons. Already three-quarters of the best Pará rubber is brought from this region, and the production is increasing yearly. As soon as the dispute with Brazil was settled by the award of the Acre and Yacu valleys to Bolivia the Bolivian Government was ready to deal with responsible capitalists who would form a chartered company to administer and police the territory and collect the revenues, as well as to develop and exploit its resources. A syndicate was formed by Sir Martin Conway and New York capitalists, who obtained from the Government of Bolivia, subject to confirmation by the Bolivian Congress, two concessions comprising the whole of the territory, about 120,000 square miles. The Acre concession covers the northern region which was in dispute between Bolivia and Brazil. The Cauapolican concession entitles the company to take up 15,000 square miles on the northeastern slope of the Andes and the plain at its foot as far as the junction of the Madeira river with the Beni. This latter district is believed to be very rich in minerals. Gold has been found in several places in promising quantities, and coal and petroleum are known to exist. This district Sir Martin Conway had explored himself. There are india-rubber forests on the mountain slopes and on the plains which contain both the known species of rubber-trees and are said to contain several others. These forests belong to private owners, who make little use of them. In the much more extensive Acre concession the valleys are covered with rubber forests. In the Andes are rich mineral deposits. On the slopes corn, potatoes, and grapes thrive, and on the great plains coffee, cacao, sugar-cane, coca, and vanilla, as well as rubber, are produced. The eastern slope is salubrious and suitable for colonization by white men. In the Acre concession the company assumes the fiscal administration under the laws of Bolivia and is to collect all customs and taxes. It has the sole right of purchasing from the Government at a stated price any rubber lands or other valuable sites not already the property of individuals. It has a monopoly of the right of navigation on the rivers, save against those to whom the right has already been conceded, and it receives all the mineral rights within the territory. Its profits are for sixty years to be free from all taxation, and it can import anything free of duty. Of the taxes and duties it collects it retains 40 per cent. and pays

60 per cent. over to the Government. The company undertakes to maintain a police force at its own expense, but the Government will furnish troops if they are necessary to defend the frontiers. At the end of thirty years the Bolivian Government may resume the fiscal administration, but the company may retain its privileges of trading and exploitation perpetually. The company can develop ways of communication of all sorts and charge tolls for their use. It undertakes to assist the Government to raise a loan on the security of the Government's share in the taxes and customs. In Caupolican the company receives an exclusive title to all valuable lands as soon as they are surveyed, is exempt from taxes and customs duties for fifty years, can charge tolls on roads and waterways for that period, must maintain a police force and establish a postal service, and pays to the Government 20 per cent. of the annual profits, while 20 per cent. more are to be expended in improving communications. The great rubber forests on the Beni, Madre de Dios, and Orton rivers, which have their outlet down the Madeira river, are outside these concessions and are already in the hands of individuals and companies which lose a good part of the rubber in the falls of the Madeira and pay heavy charges for transport. The Acre rubber goes down the Purus and the Yurua, while that from Caupolican is transported by a mule road, which is being improved, over the cordilleras to Lake Titicaca. A strip along the border of both Acre and Caupolican is the district which Peru disputes with Bolivia. What part of the areas can be claimed by Peru can only be determined by a survey of the frontier. Whenever the Bolivian Government has attempted to establish its authority in these regions Peru has raised a protest, and when the terms of the concession to American capitalists were made known the Peruvian Government strongly protested. On several occasions agreements have been signed between Bolivia and Peru in order to settle their differences, but they have never been finally ratified. The last agreement, concluded after the Brazilian arbitration and before the concession to the Anglo-American chartered company, seemed more likely to lead to a definite treaty. The Brazilian Government protested yet more vigorously against the lease to an American syndicate of a vast territory on the Amazon river, such syndicate to have powers of internal administration. Bolivia offered to transfer to Brazil one-fifth of the syndicate's holding in order to allay this opposition. The Brazilian Government replied on April 14, 1902, that the territory in question is still the subject of contention with Peru, and in no case would Brazil agree to a lease which gives to the lessee the use of military force and really gives up sovereign rights, so that if Brazil were a party to such an arrangement she would have to meet face to face authorities which she never can or will acknowledge. The Brazilian Government thereupon withdrew from the consideration of the Brazilian Congress a treaty of commerce and navigation with Bolivia which had been submitted to its approval, threatened to break off all diplomatic relations with Bolivia if the lease of territory in the Acre region were not rescinded, and announced that obstacles would be placed in the way of any development by the syndicate of this region by means of the affluents of the Amazon running through Brazilian territory. The United States Government, while making it clear that it could not interfere in behalf of the American syndicate beyond asking fair consideration, ten-

dered its good offices for the settlement of the boundary dispute.

BRAZIL, a federal republic in South America. The National Congress consists of a Senate of 63 members, 3 from each state and 3 from the federal district, elected for nine years by direct suffrage, one-third retiring every three years, and a House of Deputies containing 212 members, 1 to 70,000 of population, elected for three years. Every adult male Brazilian has the right to vote, with the exception of soldiers in active service, members of monastic orders, paupers, and persons who have been convicted of crime. The President of the Republic is elected by direct suffrage for four years. Dr. Manoel Ferraz de Campos Salles was elected President for the term beginning Nov. 15, 1898, and Dr. Francisco Rosa e Silva was elected Vice-President. The following ministers were in office at the beginning of 1902: Minister of Foreign Affairs, Dr. Olyntho de Magalhães; Minister of Finance, Dr. Joaquin Martinho; Minister of War, Marshal João Nepomuk de Medeiros Mallet; Minister of Industry, Alfredo Maia; Minister of the Interior and Justice, Sabino Barroso; Minister of Marine, Rear-Admiral J. Pinto da Luz.

Area and Population.—The area of Brazil is officially estimated at 3,218,130 square miles. A census taken in 1900 was rejected by the Government as defective, since it showed a decrease in population, whereas a considerable increase was expected. According to the census of Dec. 31, 1890, the population was 14,333,915, consisting of 7,237,932 males and 7,095,983 females. Rio de Janeiro had in 1900 about 750,000 inhabitants. The total population in 1890 comprised 6,302,198 white persons, 4,638,495 of mixed race, 2,097,426 negroes, and 1,295,796 Indians. The number of immigrants in 1898 was 53,822, including 33,272 Italians, 11,662 Portuguese, 5,943 Spaniards, 669 Austrians, 477 Germans, 247 French, 137 Russians, and 129 Swiss. The total number of foreigners domiciled in Brazil is estimated at 2,695,500, comprising 1,300,000 Italians, 800,000 Portuguese, 300,000 Germans, 100,000 Spaniards, 80,000 Poles, 10,000 French, 5,000 British, and 100,500 others.

Finances.—The estimated revenue in 1900 was 53,975,000 milreis in gold and 312,958,000 milreis in paper, and the estimated expenditure was 36,974,000 milreis in gold and 263,162,000 milreis in paper. For 1901 the revenue was estimated at 58,869,000 milreis in gold and 286,082,000 milreis in paper, and the expenditure at 37,510,000 milreis in gold and 244,514,000 milreis in paper. The budget for 1902 makes the revenue 42,877,000 milreis in gold and 257,361,000 milreis in paper, of which 33,430,000 milreis in gold and 130,580,000 milreis in paper were import duties, 1,000,000 milreis in gold and 72,744,000 milreis in paper were internal revenue, 34,870,000 milreis in paper were excise duties, 90,000 milreis in gold and 7,645,000 milreis in paper were funding bonds, 8,357,000 milreis in gold were receipts allocated to the guarantee of the paper currency, 2,920,000 milreis in paper were special revenue for the redemption of the currency, 6,000,000 milreis in paper were revenue for the amortization fund, 2,530,000 milreis in paper were for the port fund, and 72,000 milreis in paper were for a salvage fund. The expenditures for 1902 were estimated at 33,555,000 milreis in gold and 224,415,000 milreis in paper, of which 15,916,000 milreis in paper were for the Ministry of the Interior and Justice, 889,000 milreis in gold and 828,000 milreis in paper for the Ministry of Foreign Affairs, 23,200,000 milreis in paper for the Ministry of Marine, 45,579,000 mil-

reis in paper for the Ministry of War, 10,771,000 milreis in gold and 67,177,000 milreis in paper for the Ministry of Public Works, and 21,895,000 milreis in gold and 71,815,000 milreis in paper for the Ministry of Finance. The estimated surplus of 9,322,000 milreis in gold and 32,946,000 milreis in paper was to be devoted to redeeming paper currency, augmenting the guarantee fund, reducing the internal debt, and improving harbors. The actual receipts in 1901 were 36,234 contos, or 36,234,000 milreis, in gold and 236,304 contos, or 236,304,000 milreis, in paper, and at the end of the year there was a surplus of 27,387,000 milreis, reckoned in gold. The budget for 1903 estimates the revenue at 43,120,000 milreis in gold and 255,540,000 milreis in paper and the expenditure at 42,600,000 milreis in gold and 238,498,000 milreis in paper.

The external consolidated debt outstanding on Jan. 1, 1901, was 394,686,449 milreis, and the internal consolidated gold debt amounted to 27,259,000 milreis, making the total debt payable in gold 421,945,449 milreis. The internal consolidated debt payable in paper was 543,826,637 milreis, and there was a floating debt of 165,577,335 milreis. The paper money in circulation amounted to 689,000,000 milreis, making the total paper debt 1,398,403,972 milreis. The states owe about 50,000,000 milreis in gold.

The Army and Navy.—The active army had a nominal strength of 28,160 men in 1901, organized in 40 battalions of infantry, 14 regiments of cavalry, 6 regiments of field-artillery containing 24 batteries, 6 battalions of fortress artillery, 2 battalions of engineers, and 6 squadrons of train. The army is recruited by enlistment, and its actual strength was much smaller. Since 1875 military service in the National Guard is by law obligatory. Although the law has not been enforced, the National Guard is being reorganized and improved. The soldiers of the regular army are armed with Mauser rifles of the caliber of 7 centimeters. The gendarmerie numbers about 20,000 men.

The navy in 1901 consisted of 2 third-class battle-ships, 2 iron-clad coast-guards, 7 armored gunboats, 10 small cruisers, 18 gunboats, 10 first-class torpedo-boats, 11 second-class torpedo-boats, 2 submarine boats, 2 torpedo school-ships, and 2 monitors. The old battle-ships *Riachuelo* and *24 de Mayo* have 11-inch armor and carry in their turrets 4 9.2-inch breech-loaders, besides which they have 6 4.7-inch quick-firers, 2 3-pounders, and 15 machine guns. The French-built *Deodoro* and *Floriano*, of 3,162 tons, are plated with 13.7-inch Harveyized armor and armed with 2 9.4-inch guns, 2 6-inch howitzers, and 2 4.7-inch quick-firers. The *Tamandare*, built in Brazil in 1890, and the English-built protected cruiser *Barroso* have a strong quick-firing armament.

Commerce and Production.—The main product of Brazil is coffee, the supply of which has of late years exceeded the world's requirements. The fall in prices caused a commercial crisis in Brazil, but now the depression is more severely felt in other coffee-growing countries where the cost of production is greater. The supply of rubber from the valley of the Amazon increases, but it is brought from remoter districts. In Bahia and other states rubber-trees have been planted in anticipation of the exhaustion of the supply from the forests. The production of sugar in Pernambuco, Rio de Janeiro, Bahia, and other states was 250,000 tons in 1901. In Pernambuco rum is distilled in increasing quantities. In Minas-Geraes about 148,000 ounces of gold are

produced annually, and the production of diamonds in that state and in Bahia is about 40,000 carats. The export of manganese ore from Minas-Geraes is valued at 660,000 milreis. The exports of coffee in 1900 amounted to 8,924,469 bags of 132 pounds; of sugar, 2,573,338 bags; of cotton, 94,139,655 pounds; of rubber, 27,416 tons; of hides from Bahia, 290,581 tons; of tobacco from Bahia, 305,703 bales; of cacao, 221,974 bags; of piassava, 60,683 bales. The total value of exports in 1900 was about 340,000,000 milreis. The value of imports, consisting of cotton cloth, woollens, machinery, hardware, coal, flour, cattle, jerked beef, rice, codfish, salt pork, butter, corn, olive-oil, macaroni, tea, salt, petroleum, lumber, wine, etc., was estimated at 200,000,000 milreis. The serious agricultural and commercial crisis through which Brazil has been passing since the fall in the prices of coffee and sugar has been aggravated by a decline in the price of india-rubber. The coffee industry has adjusted itself to the new conditions and still competes successfully with all other coffee-growing countries. A general recovery is noticeable in the economical situation, and since the finances of the Government have been placed on a sounder basis European capital is expected to flow into Brazil again. The undeveloped resources of the country are enormous. Besides gold, which is now mined by English companies, the states of Minas-Geraes and Bahia contain nearly all kinds of minerals. Another field of enterprise yet untouched is presented in the virgin forests that cover the states of Pará, Amazonas, and Matto Grosso, full of valuable timber that can be easily floated down the deep rivers.

Navigation.—The number of vessels in the foreign trade entered at the port of Rio de Janeiro during 1900 was 843, of 1,522,754 tons, and 790, of 1,409,122 tons, were cleared; the number of coasting-vessels entered was 860, of 445,016 tons, of which 760, of 260,338 tons, were Brazilian. At Bahia 554 vessels in the foreign trade, of 1,140,978 tons, were entered, and 1,445 Brazilian coasting-vessels, of 240,386 tons. A law restricting the coasting-trade to Brazilian vessels has been in force since 1896. The merchant marine on Jan. 1, 1901, comprised 358 sailing vessels, of 79,807 tons, and 233 steamers, of 92,028 tons.

Railroads, Posts, and Telegraphs.—The railroads in 1899 had a total length of 8,718 miles, and 4,989 miles more were begun, 4,670 miles surveyed, and 8,440 miles projected. Many of the railroads were built with a guarantee of 6 or 7 per cent. interest on their capital from the Government, which has purchased some of these lines and leased others after having paid out large sums for guaranteed interest.

The post-office in 1899 carried 38,085,000 letters and postal cards and 29,250,000 pieces of printed matter and samples.

The telegraphs have a length of 12,630 miles of line, with 25,220 miles of wire. The number of despatches in 1898 was 2,662,711.

Politics and Legislation.—The congressional session which began on May 3, 1902, was the last one of the presidency of Campos Salles. When his term began gold payments were suspended and 788,000 contos of reis in paper money were in circulation. The rate of exchange for the paper milreis averaged 7 $\frac{1}{2}$ d. and Brazilian bonds were at 50 per cent. discount. There was due on the loan of 1897 the sum of £1,122,000 and £275,000 for war material, and the treasury owed 20,350 contos in bills and 11,000 contos to the Bank of the Republic, while the President

found only £81,713 with the Rothschilds in London and 5,500 contos in the treasury. There were, moreover, large deficits from previous years. To cut down expenses and provide more money was the only way to get the country out of its difficulties, and that was the program adopted by the Government at the risk of incurring unpopularity. The paper money has since then been reduced to 108,000 contos, the rate of exchange has risen to 12d., and Brazilian bonds have risen 35 per cent. The rest of the loan of 1897 has been repaid, no treasury bills were outstanding, and the Government had at the end of the financial year £2,000,000 credit in London and 12,000 contos and £300,000 sterling with the Bank of the Republic. The era of deficits has changed to one of substantial surpluses. With the funding loan of £8,750,000 the nominal amount of the debt was about £2,000,000 greater, but adding the amount of paper money redeemed to £4,500,000 of gold bonds and 6,200 contos of internal bonds, a considerable amount of debt has been wiped out. The San Francisco railroads were acquired by the Government by bonds paying 5 per cent., instead of the 7 per cent. stipulated, a saving of £136,000 per annum; and for the purchase of the other guaranteed railroads £9,900,000 of 4-per-cent. bonds were issued, only £500,000 more than would have been due on the guarantees if they had remained the property of the companies. The Government has leased some of the redeemed lines with advantage, the deficits of some had been turned into surpluses, and the surpluses of others increased.

The commercial agreement with Italy was continued till Dec. 31, 1902, pending a new arrangement. In return for concessions in favor of Italian products, for which on account of the large Italian population there is a growing demand in Brazil, the Brazilian Government asked for complete exemption from duty on Brazilian coffee; when this was refused, it offered to continue the minimum tariff for three years only in return for a large reduction in the Italian coffee duty. Germans complain that German immigrants and their descendants in Brazil encounter hostility more than the Italian settlers and are subjected to injustice; that in many cases the provincial government of Rio Grande do Sul had declared their land titles defective because the Brazilian landowners who sold the farms to their ancestors had failed to fulfil the terms on which the land had been granted. The German owners had therefore in some cases been ejected and in others had been compelled to buy the land over again without allowance being made for the improvements they had made themselves. Nevertheless, emigration to Brazil is encouraged by the colonial party in Germany in the hope that the German communities there will preserve a patriotic attachment to the empire and extend its influence.

Dr. Francisco Rodrigues Alves, who arranged with the European companies for the transfer of the guaranteed railroads to the Government, was on March 1 elected President of the republic for the term beginning Nov. 15, 1902, and Dr. Silvano Brandao was elected Vice-President. On Sept. 2 Dr. Joaquin Murtinho, who carried out the reforms for the restoration of the country's finances, desiring to enter the Senate, resigned the Ministry of Finance, which was taken over by Sabino Barroso, the Minister of the Interior, for the remainder of the presidential term.

BRITISH COLUMBIA, a province of the Dominion of Canada. Area, 383,300 square miles; population, about 177,000.

Politics and Legislation.—At the beginning of 1902 the Government was composed of James Dunsmuir, Premier and President of the Council; D. M. Eberts, Attorney-General; J. D. Prentice, Minister of Finance, Agriculture, and Education; W. C. Wells, Chief Commissioner of Lands and Works. The Department of Mines was vacant, and remained so until Feb. 27, when E. G. Prior, who had once been a member of the Conservative Government at Ottawa, was appointed minister. In politics the Government was a coalition, and the personal element remained during this year an important feature in British Columbia politics, although a feeling in favor of introducing direct party politics into the administration of provincial affairs grew steadily in force. A stormy session of the Legislature followed, with a fluctuating Government majority. Mr. Dunsmuir went to England after its adjournment to attend the coronation, and not long after his return he resigned the premiership in favor of Col. Prior, who on Nov. 26 announced the following as his Cabinet: Premier and Minister of Mines, E. G. Prior; Attorney-General, D. M. Eberts; President of the Council, W. W. B. McInnes; Minister of Finance, J. D. Prentice; Provincial Secretary and Minister of Education, Dennis Murphy; Commissioner of Lands and Works, W. C. Wells.

Meanwhile the Legislature had been opened on Feb. 20 by Lieut.-Gov. Sir Henri Joly de Lotbinière, after C. E. Pooley had been elected Speaker and Richard McBride chosen leader of the Opposition at a party caucus. The speech from the throne contained these passages:

"In view of the unfavorable conditions which affected the mining industry during 1901, it is especially gratifying to know that the output of the mines considerably exceeded that of any previous twelve months, and that the year closed with several detrimental causes removed, and with prospects of greatly increased activity and development. Negotiations with the authorities at Ottawa, begun last year, have been continued by my Government, and a conference has been agreed to for the further discussion of matters affecting the relations of the province of British Columbia and the Dominion of Canada under the terms of union. A report will be laid before you concerning the results of the commission to inquire into and adjust, where possible, freight rates on agricultural products. It is satisfactory to state, as a consequence, that substantial reductions have been made, and shipping facilities have been improved. It is also a matter of very great satisfaction that the agricultural industry in this province is so prosperous. To further the interests of the stock-raisers of the interior a measure will be submitted providing for the establishment of a system of cold storage in connection with abattoirs.

"The subject of fishery development is one which has been receiving greatly increased attention, and the efforts of my Government are in the direction of placing the industry on a more satisfactory footing. Steps will be taken with a view to the introduction of a fair measure of redistribution. Measures will be submitted for your consideration having for their object the encouragement of immigration and the settlement of unoccupied lands. A measure will also be submitted for the purpose of consolidating existing loan acts and obtaining authority thereunder for the issuance of a new loan.

"Under the authority of legislation of last session, agreements have been entered into with several companies for the manufacture of pulp

and paper, and negotiations are now being carried on for the establishment of these industries. Negotiations are being carried on for the purpose of securing the construction of a railway from Bute inlet to Yellowhead pass, to connect with the railway system on Vancouver island, and for the construction of the Coast Kootenay Railway. Legislation will be introduced dealing with taxation and assistance to hospitals. The estimates of revenue and expenditure have been carefully prepared with a view to the strictest economy being exercised, and will be submitted without delay."

An important piece of legislation during the session, which closed on June 21, was a measure increasing the number of members of the Legislature from 38 to 42. Vancouver received 1 more member, or 5 against Victoria's 4. The bill passed its second reading on March 25 by 32 to 3, and was declared by many Opposition members to be extremely fair. It eventually became law.

Railway Legislation.—The most important enactment of the session was the passing of a measure that temporarily settled the problem of aiding transportation through the northern part of the province and of meeting the popular demand for some form of competition with the Canadian Pacific Railway. By this act, which was presented on May 6 and finally passed, the old Victoria, Vancouver, and Eastern Railway project was merged in a new line—the Vancouver and Coast Kootenay Railway—and Messrs. Mackenzie and Mann, with their American supporter, J. J. Hill, received the reward of prolonged agitation. The measure provided for land and monetary aid to the Canadian Northern Railway, from Bute inlet to the eastern boundary of the province, and to the Vancouver and Coast Kootenay Railway Company. To aid the Canadian Northern, the Government was to pay for the first 50 miles of railway, beginning at or near Bute inlet, \$4,800 a mile; from the end of the said first 50 miles to the point nearest to Quesnel, \$4,000 a mile; from the said point nearest Quesnel to the eastern boundary of British Columbia, at or near Yellowhead pass, \$4,500 a mile; and also 20,000 acres of land for each mile of railway, the company to sell the land at the current price of Government lands, and to accept the cash subsidy in British Columbia 3-per-cent. inscribed stock.

For the Vancouver and Coast Kootenay Railway the Government offered \$4,000 a mile for the westerly 80 miles; for the next 100 miles, \$4,800 a mile; and for the other 110 miles, \$4,000 a mile. The railway was to connect with the Victoria Terminal Railway and ferry company's line for Victoria. The Canadian Northern was also to run a ferry to Vancouver island and a railway down Vancouver island to Victoria. The Government also introduced a bill to borrow \$3,000,000 to aid the railways, to pay the overdraft, and to carry on other public works.

The War.—On June 2 the following resolution was unanimously passed: "That this house, having heard with the greatest satisfaction that the war in South Africa has been brought to a successful termination, desires to extend to his Majesty's Government the most sincere and loyal congratulations upon the happy occasion."

In the course of his speech the Premier made the following remarks:

"It is at once a matter of pride and patriotic joy that we can join with the people of Great Britain and Britons everywhere in celebrating the successful outcome of a conflict in which our brave Canadian sons took so valorous and con-

spicuous a part, having among colonial troops won special distinction everywhere in South Africa and throughout the whole war. It is especially gratifying to us to know that among Canadians the boys of British Columbia were ever to the front in deeds of bravery and shared the hardest fighting and the longest and most memorable marches. The gallant charge at Paardeberg will live long in history, and is engraved in the hearts of the British people."

Finances.—The receipts of the province for the fiscal year ending June 30, 1902, were \$2,140,751, the expenditure \$2,475,334. The estimated receipts for the year ending June 30, 1903, were stated to be \$2,222,568; the estimated expenditure, \$2,486,127. The following are the details of the receipts for the first and second periods mentioned. The estimate of receipts included: Dominion of Canada—subsidy, grant, and interest, \$305,968.65; land sales (including estimated collections on overdue payments, \$40,000), \$80,000; land revenue (including rental of lands and water dues), \$37,000; timber royalty and licenses, \$80,000; timber leases, \$110,000; free miners' certificates, \$100,000; mining receipts, general, \$175,000; licenses, \$80,000; real-property tax (including estimated collections on arrears, \$80,000), \$210,000; personal-property tax (including estimated collections on arrears, \$60,000), \$140,000; wild-land tax (including estimated collections on arrears, \$75,000), \$130,000; income tax (including estimated collections on arrears, \$15,000), \$55,000; revenue tax, \$150,000; mineral tax, \$130,000; fines and forfeitures and small debt court fees, \$16,000; law stamps, \$14,000; probate fees, \$10,000; registry fees, \$80,000; printing-office receipts, \$15,000; interest on investment of sinking-funds, \$35,000; Chinese restriction act, 1884 (Dominion refund), \$40,000; fisheries, etc., \$35,000; succession duty, \$20,000; royalty and tax on coal, \$130,000; miscellaneous receipts, \$44,100.

The expenditures in 1901-'02 included \$411,440 upon the public debt, \$253,980 upon salaries, \$231,132 upon justice, \$41,325 upon legislation, \$124,380 upon the maintenance of public institutions and \$87,300 upon hospitals and charities, \$110,200 upon administration of justice, \$369,537 upon education, \$32,200 upon transport and revenue services, \$804,641 upon public works, and \$119,900 upon miscellaneous matters.

The Opposition denounced the Government very freely for extravagance and for fling up alleged deficits year after year. R. G. Tatlow and Dennis Murphy were the chief speakers on this subject, and the latter estimated the public debt of the province at the close of 1902 as being nearly \$10,000,000. Speaking on May 3, he explained this as follows: "The debt as it appears in the balance-sheet is about \$6,450,465.08; unrecoverable assets, principally payments of interest on railway bonds, the details of which he had given, were \$298,676.05; discount on diking items, \$400,000; total, \$6,749,141.13. To this must be added the overdraft for the current year. Taking the Finance Minister's own figures—he thought they were below the mark—this overdraft will on June 30, 1902, amount to \$1,600,000. The overdraft on June 30, 1901, was \$871,771.56, so that the increase during the current year will be in round numbers \$729,668. Adding this amount to the debt as already computed of \$6,749,141.13, the total net debt of the province on June 30, 1902, would be \$7,878,141.13. The Finance Minister intended to raise a new loan of \$3,000,000, of which, according to his own figures, \$1,600,000 would be eaten up by the overdraft, leaving the sum of \$1,400,000 to be added

to the net debt, which would therefore be, when this new loan was floated, \$4,278,141.13."

General Development.—The increase in development of British Columbia is shown by the following tables:

	1881.	1891.	1901.
Number of miners.....	2,798	4,591	10,000
Number of fishermen.....	1,850	3,798	23,000
Number of farmers.....	2,381	5,874	10,000
Number of houses.....	6,992	16,775	30,000
Population.....	49,459	98,175	177,272

	1871.	1881.	1891.	1901.
Revenue.....	\$192,000	\$397,085.06	\$1,088,237.95	\$1,605,920

	1871.	1881.	1891.	1901.
Exports.....	\$1,912,907	\$2,255,753	\$6,199,280	\$31,645,000
Imports.....	1,790,853	2,489,246	5,477,411	11,187,436

	1871.	1881.	1891.	1901.
	\$3,708,259	\$4,744,999	\$11,676,691	\$32,782,436

	1874.	1881.	1891.	1901.
Coal mined (tons).....	81,000	228,000	1,029,097	1,692,000

In the ten years 1890-1900 there were spent in hospitals \$528,000; education, \$2,388,138; roads, streets, bridges, wharves, \$3,790,775; works and buildings, \$2,425,280; surveys, \$330,473.

Mineral Production.—The total product of the mines of the province up to and including 1901 was \$172,241,988, of which \$80,000,000 was in gold and \$54,000,000 in coal and coke. The total production in 1898 was \$10,906,861; in 1899, \$12,393,131; in 1900, \$20,686,780. In the year ending Dec. 31, 1901, the placer gold produced was valued at \$970,100, the lode gold at \$4,348,603, the silver at \$2,884,745, the copper at \$4,446,963, the lead at \$2,002,733, the coal and coke at \$5,016,398, the miscellaneous minerals at \$417,238.

Education.—The report of the Superintendent of Education for the year 1900-'01 says the total enrolment during the year was 23,615, an increase of 2,084. Of this number, 12,069 were boys and 11,546 girls. The enrolment of the 5 high-schools was 584, an increase of 31; at the graded schools, 15,460, an increase of 1,647; and at the common schools, 7,571, an increase of 406. The average daily attendance of all schools was 15,334.

The expenditure for education proper during the year was: Teachers' salaries, \$213,088.23; incidentals, \$20,428.07; per capita grant to city districts, \$65,840.76; education office, \$12,205.81; normal school, \$1,944.30; total, \$313,507.18—less fees for teachers' examination, \$1,320—net expenditure, \$312,187.17. The expenditure for the construction of new schoolhouses, furniture, and repairs and improvements to school property was \$38,345.14. The average cost for each pupil in enrolment districts for principals and teachers was \$59.26, and the average monthly salary for rural teachers and monitors \$52.66.

The Chinese Question.—On Feb. 27 the report of the royal commission of 1901 to inquire into the question of Oriental immigration was submitted to Parliament. The decisions of this voluminous document may be briefly summarized.

The belief was expressed that the Chinese kept out immigrants who would become permanent citizens, and created conditions inimical to labor and dangerous to the industrial peace of the community where they resided, spent little of their money, and traded chiefly with their own people. The commissioners believed it was impossible for the province of British Columbia to take its place and part in the Dominion unless its population was free from any taint of a servile class not imbued with a sense of the du-

ties and responsibilities appertaining to citizenship. The estimated white population of British Columbia was 129,000, and 16,000 Chinese. The commissioners pointed out that British laws recognized that aliens can be kept out of the country, especially if as a class they are undesirable. The commissioners approved the views of the Legislature of British Columbia, alleging the probability of a great disturbance to the economic condition of the province and of grave injury being caused to the working classes by the large influx of laborers from China. They found that the capitation tax at \$100 was ineffective and inadequate. They were of the opinion that the further immigration of Chinese laborers into Canada ought to be prohibited, and in the meantime the capitation tax should be raised to \$500. Messrs. Clute and Foley recommended that the capitation tax should be raised at once, while Commissioner Munn recommended that \$300 should be imposed for two years, and if a prohibitive treaty be not obtained within that period, that it be then raised to \$500.

Boards of Trade Convention.—A convention was held at Kaslo during the week ending March 1, composed of representatives of the boards of trade of British Columbia. Resolutions were passed, including one from Trail in favor of increasing the duties on white lead and other manufactured lead products in Canada; another from Rossland regarding proposed popular safeguards against corporation control of fuel and its price in the Crow's Nest fields; one protesting against the injustice of the existing mineral tax, and asking the Government to reduce it so as to levy on the net value of the ore by deducting, in addition to the present freight and treatment charges, the cost of mining exclusive of capital expenditures. It was declared that further revenue might be obtained by rigidly enforcing the tax of 25 cents an acre now levied on non-working Crown-granted mineral claims, and also by increasing the fees for recording assessments.

Conservative Convention.—On Sept. 12-15 a gathering of representative Conservatives was held at Revelstoke. It was addressed by R. L. Borden, the Dominion party leader, and John Houston, M. P. P., was elected president of the Provincial Conservative Association. Charles Wilson, K. C., was selected as the provincial leader, and after speeches from Col. Prior, the Hon. T. Carter-Cotton, and the Hon. R. McBride, opposing leaders in provincial politics, a resolution was passed in favor of the introduction of Dominion party lines into provincial affairs. The following resolutions were also passed:

"That the policy of the party in matters of provincial roads and trails, ownership and control of railways, and the development of agricultural resources as laid down in the platform adopted in October, 1899, is hereby reaffirmed.

"That to encourage the mining industry the taxation of metalliferous mines should be on a basis of percentage on net profits.

"That Government ownership of telephone systems should be brought about as the first step in the acquisition of public utilities.

"That a portion of every coal area hereafter to be disposed of should be reserved from sale or lease, so that state-owned mines may be easily possible if their operation becomes necessary or advisable.

"That in pulp-land leases provisions should be made for reforestation; and that steps should be taken for a general preservation of forests by guarding against a wasteful destruction of timber.

"That the Legislature and the Government of the province should persevere in an effort to secure the exclusion of Asiatic labor.

"That the matter of better terms in the way of subsidy and appropriation for the province should be vigorously pressed upon the Dominion Government.

"That the silver and lead industries of the province be further encouraged by the imposition of increased customs duties on lead and lead products imported into Canada, and the Conservative members of the Dominion House be urged to support any motion introduced for such a purpose.

"That as industrial disputes almost invariably result in great loss and injury both to the parties directly concerned and to the public, legislation should be passed to provide means for an amicable adjustment of such disputes between employers and employees."

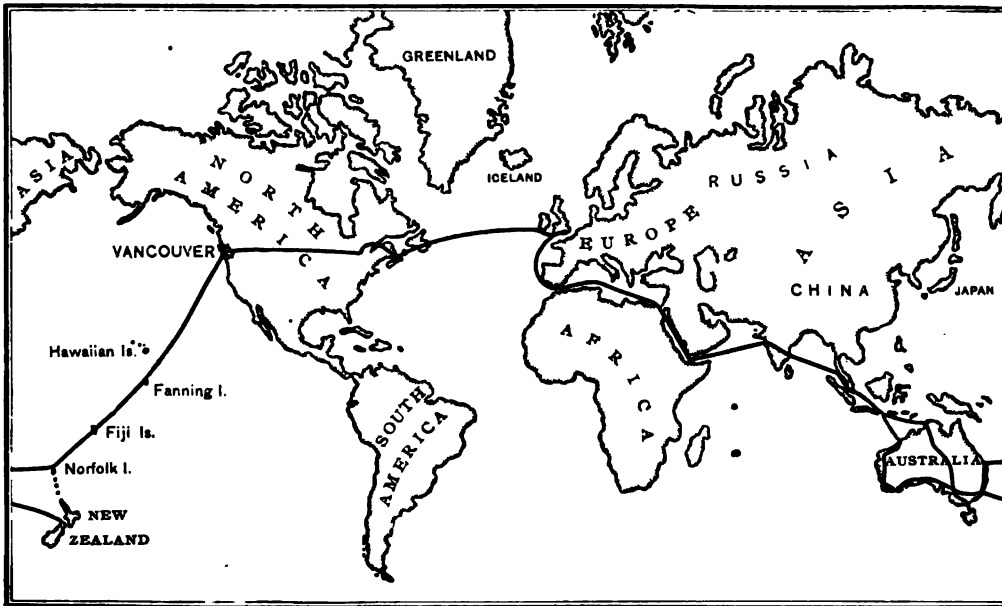
ent elected G. R. Maxwell, M. P., as his successor, chose Mr. Martin the party leader by a substantial majority, and passed resolutions in favor of the adoption of party politics in provincial affairs and of fealty to Sir Wilfrid Laurier as the Dominion leader.

Labor Party and Questions.—On April 11-13 a convention of labor representatives was held at Kamloops, and Christopher Foley, of Rossland, was elected president of a newly organized provincial Progressive party, with the following platform:

"1. That we gradually abolish all taxes on the producer and the products of the producer, shifting them on land values.

"2. Government ownership of railways and means of communication.

"3. That the Government establish and operate smelters and refineries to treat all kinds of minerals.



TELEGRAPH CABLES BETWEEN GREAT BRITAIN AND HER COLONIES.

Meeting of Liberals.—On Feb. 6 a provincial Convention of Liberals opened in Vancouver, with Senator Templeman, chairman of the provincial Executive of the party, in the chair. The object was to discuss the question of introducing party lines into provincial politics and to select a leader or discuss the advisability of doing so. The whole matter soon settled into a struggle on the question whether Mr. Martin should be chosen by the convention or the subject be postponed to another occasion. The chairman found the meeting hard to control from the beginning, and the first important issue raised was the right of the provincial Executive to appoint its members as members of the convention. Disputes as to credentials, therefore, occupied the attention of the 110 delegates present for hours, and the speeches were interspersed with opinions for and against the adoption of party lines. Finally a vote of 69 to 41 declared that the provincial Executive and the editors of Liberal newspapers appointed by that body were not entitled to membership in the convention. Senator Templeman and his friends then left the hall, and those pres-

"4. That the franchise be extended to women.

"5. The abolition of property qualifications for all public offices.

"6. Farms, improvements, implements, and stock not to be taxed, and wild lands to be assessed at the price asked for them by speculative holders.

"7. No land or cash subsidies. Lands to be held by the actual settlers.

"8. Ten per cent. of all public lands to be immediately set aside for educational purposes, and the education of all children, up to the age of sixteen years, to be free, secular, and compulsory. Text-books, meals, and clothing to be supplied out of the public funds when necessary.

"9. Compulsory arbitration of labor disputes.

"10. Restriction of Oriental immigration by a law on the lines of the Natal act; and if said law be disallowed it be repeatedly reenacted until the end sought is obtained.

"11. That to protect us from Asiatics already in the province the Government insert a clause in all private acts to this effect: 'This act shall be null and void if the company fails to enter

into an agreement with the Government as to conditions of construction and operation,' and the House pass a resolution instructing the Government to prohibit the employment of Asiatics on all franchises granted by the provincial House.

"12. Conservation of our forest riches. Pulp-land leases to contain a provision for reforestation, so as to produce a perennial revenue and make pulp manufacture a growing and permanent industry.

"13. That the act compelling the scaling of logs by Government scalers be enforced.

"14. Absolute reservation from sale or lease of a certain part of every known coal area. All coal leases or grants hereafter made to contain a provision enabling the Government to fix the price of coal loaded on cars or vessels for shipment to British Columbia consumers.

"15. Municipalization and public control of the liquor traffic.

"16. The right to a referendum where a valuable subsidy or franchise is to be carried.

"17. That all transportation companies be compelled to give transportation free to members of the Legislative Assembly and Supreme Court and county judges.

"18. Election day to be a public holiday. Provision made that every employee shall be free from service at least four consecutive hours during polling time."

The British Pacific Cable.—At three o'clock in the morning of Oct. 31, 1902, at Suva, in the Fiji Islands, was completed the last link in the Pacific cable, placing Vancouver, British Columbia, in direct communication with Australia and New Zealand. A message of congratulation was despatched immediately to the King, and another to Lady Vogel, expressing regret that her husband, the late Sir Julius Vogel, had not been spared to see the consummation of the plan which is a monument to his genius and foresight. The new cable, which was laid under the direction of F. R. Lucas, engineer-in-chief to the Telegraph Construction and Maintenance Company, extends southwest from Vancouver by way of Fanning island, Fiji, and Norfolk island to Australia and New Zealand, with its Australian terminus at Southport, Queensland, and its New Zealand terminus at Doubtless Bay, Auckland, and is the first cable across the Pacific Ocean. The cable was laid by the Anglia and the Colonia, the former ship lying on the Southport, Norfolk island, New Zealand, and Fiji sections 2,438 knots of cable, weighing 5,421 tons. On the Fanning-Fiji section she laid 2,181 knots, and a small section of 113 knots, the gross weight of these being 4,223 tons. The Colonia, which laid the Vancouver-Fanning section, paid out in all 3,540 knots of cable, weighing 7,684 tons. The cost of the project was about £2,000,000, of which expense Great Britain bears five-eighths and the colonies the remainder, and the scheme was successfully carried through by Sir Sandford Fleming in the face of much opposition. The line is put down at depths never before attempted and will furnish the solution of many interesting problems in deep-sea cable-laying. It is unlikely that the methods at present in use for the recovery of broken cables would be at all practicable in such deep waters. The completion of the Pacific cable puts Great Britain in direct communication with all her colonies. Hitherto telegraphic communication between Canada and Australia has been possible only by way of the West Coast of Africa or the Red Sea, and en route the message had to pass through territory belonging to a dozen different nation-

alities; but now the Dominion has been brought 10,000 telegraphic miles nearer the Australasian Commonwealth, while the mother country in times of international stress can rest confident that her messages to her children abroad will pass through none but friendly hands.

BULGARIA, a principality in eastern Europe under the suzerainty of Turkey, created an autonomous tributary principality by the treaty of Berlin signed on July 13, 1878, by representatives of the great powers. The Prince of Bulgaria, according to the treaty, was to be elected by the population and confirmed by the Sublime Porte, but could not be chosen from any of the dynastic families of the great powers. Eastern Roumelia, which received administrative autonomy under a Christian Governor-General to be nominated by the Porte, proclaimed its union with Bulgaria in 1885, and in 1886, the powers having tacitly accepted the *fait accompli*, the Sultan appointed the Prince of Bulgaria to be Governor-General and has not since attempted to exercise the political or military authority reserved to him by treaty. Prince Ferdinand of Saxe-Coburg was elected Prince of Bulgaria by a Great Sobranje on July 7, 1887, after the abdication of Prince Alexander of Battenberg, but his election was not confirmed by the Porte and the great powers till 1896. The heir to the throne is Prince Boris, born Jan. 30, 1894, who was received into the Orthodox Greek Church on Feb. 14, 1896. The legislative authority is vested in a single Chamber called the Sobranje, composed of 150 members, 1 to 20,000 of population, elected for five years, unless the Sobranje is dissolved before the term expires, by the votes of all adult male Bulgarians. A Great Sobranje of 300 members, specially elected, is convoked whenever the amendment of the Constitution, the succession to the throne, the appointment of a regency, or the cession or annexation of territory is in question.

The Cabinet of ministers, constituted on March 14, 1901, consisted at the beginning of 1902 of the following members: President of the Council and Minister of Finance, Petko Karaveloff; Minister of Foreign Affairs and Worship, Dr. S. Daneff; Minister of the Interior, Michael Saraffoff; Minister of Justice, Dr. Alexander Radeff; Minister of War, Major-Gen. S. Paprikoff; Minister of Commerce and Agriculture, Alexander Ludskanoff; Minister of Public Works, Ivan Belinoff.

Area and Population.—The area of the principality proper is 24,380 square miles; of Eastern Roumelia, called South Bulgaria, 13,700 square miles. The population of the entire country by the census of December, 1900, was found to be 3,733,189, that of South Bulgaria being 1,091,854. Sofia, the capital, had 67,920 inhabitants; Philippopolis, the capital of Eastern Roumelia, 42,849; Varna, 33,443; Rustchuk, 32,661; Slivno, 24,548; Shumla, 22,928; Plevna, 18,709. The number of marriages in 1899 was 32,027; of births, 149,006; of deaths, 90,324; excess of births, 58,682.

Finances.—The estimated revenue for 1901 was 95,286,900 lei, or francs, and the estimated expenditure 95,222,535 lei. Of the revenue 38,654,000 lei came from direct taxes and 27,920,500 lei from indirect taxes. The chief expenditures were 31,586,750 lei for the public debt, 20,200,000 lei for the army, 10,716,863 lei for public works, 7,800,188 lei for education, and 6,586,453 lei for the interior. The debt on Sept. 30, 1900, consisted of 39,188,000 lei of the 6-per-cent. loan of 1888 for the purchase of the Rustchuk and Varna Railroad, 24,840,000 lei of the 6-per-cent.

loan of 1889, 121,717,000 lei of the 6-per-cent. loan authorized in 1892, 21,875,000 lei of five-year 6-per-cent. treasury bonds issued Jan. 1, 1900, and secured on the tobacco tax, and 9,700,000 lei of the Russian occupation debt. The Eastern Roumelian tribute payable to Turkey is 2,951,000 lei per annum, besides 500,000 lei to clear up the arrears of 5,243,000 lei. The Government was authorized by a law passed in June, 1899, to convert the entire public debt into a new loan of 260,000,000 lei with interest at 5 per cent. The Bulgarian tribute and the Bulgarian share of the Turkish public debt were to be fixed according to a provision in the Berlin treaty. The claims of Russia for the expenses of the occupation, 28,500,000 lei payable in annual instalments of 2,100,000 lei, ought to have been extinguished at the end of 1902. The Eastern Roumelian tribute, originally fixed at 6,125,000 francs, was reduced in 1883 to 4,625,000 francs. After the union with Bulgaria, in 1885, the Government left it unpaid till 1888, when a further reduction to 3,250,000 francs was obtained on condition that the arrears should be paid up in annual instalments of 500,000 lei. In 1896 the Bulgarian Government withheld the tribute, owing to a dispute with Turkey, and in 1897 the Administration of the Turkish Debt, to which the tribute had been assigned, agreed to take 2,850,000 lei henceforth if promptly paid each year. Since 1900, however, it has not been paid. The amount of the foreign consolidated debt on Jan. 1, 1902, was 198,753,404 lei. Of the effective proceeds of the loans of 1889, 1892, and 1900, amounting to 156,285,300 lei, 111,094,868 lei were spent on railroads and harbors, while the remainder was used to meet deficits in the budget and pay interest for the sinking-fund. The floating debt on Jan. 1, 1902, amounted to 78,297,893 lei, exclusive of payments of 13,373,000 lei due on the last two budgets. To clear off the floating debt, the tobacco loan of 1900, and a part of the loan of 1892, the Government in 1901 arranged with a Paris bank to borrow on the guarantee of the tobacco revenue 125,000,000 francs at 8½, to be repaid in fifty years with interest at 5 per cent. A tobacco monopoly was to be created and conceded until the extinction of the loan to the bank, which, through the agency of a company whose officers it would appoint, would have for that period the exclusive privilege of manufacturing and selling tobacco and supervision over its cultivation, importation, and exportation. Of the surplus profits, after paying interest and amortization on the loan and 8 per cent. dividends to the shareholders, the state would receive 65 per cent. and the company 35 per cent. The loan was negotiated by the Cabinet of Petko Karayeloff, leader of the Democratic party, who before he took office deprecated a foreign loan, denounced the creditors of Bulgaria, the Jewish houses of Vienna and Berlin, and protested against monopolies in general and against granting concessions of any kind to foreigners. All the economies he could effect when he became Premier and Minister of Finance were of slight value, and by remitting the unpopular tithe duty he had further crippled the resources of the Government. After obtaining, with difficulty, a loan of 4,000,000 lei from the Russian State Bank to avert insolvency, he had to make the very terms with the foreign money-lenders that he had denounced as ruinous and humiliating. The money for the proposed tobacco loan was to be provided, in fact, not by the contracting French bank, but by the financiers who already held Bulgarian securities, and who were therefore interested in averting

national bankruptcy. The budget passed by the Sobranje in 1902 was not much better than the others, notwithstanding the promises of the Kankoffist ministry to economize. The improvement in production and trade and in the general prosperity, however, was a favorable augury. The estimate of revenue for 1903 was 95,955,400 lei and that of expenditure was 98,898,337 lei, leaving a deficit of 2,942,937 lei, which was more than doubled by the uncollected arrears of taxes and the expenditure of 1,000,000 lei on the celebration of the battle of Shipka, on which occasion half the Bulgarian army maneuvered for the inspection of the Czar's generals.

The Army.—Service in the army is obligatory. The term is two years in the infantry and three years in the other arms. There are 24 regiments of infantry and skeletons of 24 reserve regiments; 5 regiments of cavalry, each of 5 squadrons; 6 regiments of field-artillery, each divided into 3 sections of 3 batteries of 6 guns each; 3 battalions of fortress-artillery; and 3 battalions of engineers and 1 technical battalion composed of 1 railroad company, 1 company of pontonniers, 1 company of telegraphists, and 1 company of train. The infantry are armed with Mannlicher repeating rifles of the model of 1888, having a bore of 8 millimeters. The cavalry carry carbines of the same caliber. The artillery have Creusot field-pieces of 8.7 centimeters caliber and Krupp mountain guns of the caliber of 7 centimeters. The peace strength of the army in 1901 was 2,500 officers and civil employees and 40,555 men, with 7,400 horses. The war effective is 126,970 men, with 23,432 horses and oxen and 312 guns, besides a reserve of 81,996 men, with 15,356 horses and 120 guns.

Commerce and Production.—The land tax in Bulgaria is one-tenth of the produce, paid in money or in kind. Villages have common pastures and woodlands which are not taxed. Of the total area, 9,570,500 hectares, 2,435,900 hectares are covered with farm and garden crops, 113,512 hectares are vineyards, 4,587,838 hectares are pasture, 1,676,250 hectares are forest, 312,000 hectares are waste, and 445,000 hectares are building land, road, water, etc. The farmers, who contribute 70 per cent. of the population, generally own the land they till. The main crop is wheat, most of which is exported. The production of attar of roses in 1900 was 4,300 kilograms. The mercantile business is done mainly by foreigners—Greeks, Roumanians, Austrians, and Jews of various nationalities. Textiles, hardware, machinery, groceries, building materials, leather, petroleum, paper, and salt are the chief imports. The total value of imports in 1900 was 46,342,100 lei; of exports, 53,982,629 lei. The imports of textile goods were 13,296,869 lei in value; of groceries, 3,984,213 lei; of metals and metal manufactures, 5,197,706 lei; of machinery and implements, 2,786,114 lei; of lumber and wood manufactures, 1,355,215 lei; of leather and leather goods, 2,353,026 lei. The exports of cereals were 27,128,280 lei in value; of textile fibers and cocoons and woolen stuffs, 4,324,454 lei; of live animals, 5,609,462 lei; of animal food products, 4,632,535 lei; of attar of roses, 3,719,380 lei. The trade with the principal countries in 1900 is given in lei in the table on the next page.

The total value of imports in 1901 was 70,044,073 lei and that of exports 82,769,759 lei, showing an increase of 51 and 53 per cent. respectively. Imports from England were 6,380,000 lei more than in the preceding year; from Turkey, 5,400,000 lei more; from Austria-Hungary, 4,500,000 lei more; from Germany, 4,200,000 lei more;

COUNTRIES.	Imports.	Exports.
Turkey.....	4,656,155	18,001,907
Austria-Hungary.....	12,641,381	5,729,189
Great Britain.....	7,523,771	5,991,638
Germany.....	5,614,969	5,766,190
Belgium.....	2,362,130	6,590,444
France.....	3,088,290	4,991,900
Russia.....	3,782,145	196,601
Italy.....	2,796,999	1,379,464
Roumania.....	1,839,616	1,301,467
Greece.....	247,689	2,023,900
Servia.....	694,457	402,751
United States.....	241,346	633,946
Switzerland.....	499,131	18,380
Netherlands.....	39,904	443,593
Sweden and Norway.....	12,618	.....
Other countries.....	116,479	190,765
Destination unknown.....	.....	320,594
Total.....	46,432,100	53,962,639

exports to England, 9,880,000 lei more; to Turkey, 6,400,000 lei more; to Belgium, 4,380,000 lei more; to Germany, 3,020,000 lei more.

Navigation.—The number of vessels entered at Bulgarian ports during 1900 was 10,833, of 2,357,527 tons; cleared, 10,827, of 2,360,914 tons.

Railroads, Posts, and Telegraphs.—The length of railroad in Bulgaria and Eastern Roumelia in 1900 was 970 miles, of which 784 miles were the property of the Government.

The length of Government telegraph-lines in 1899 was 3,270 miles, with 6,740 miles of wire. The number of despatches sent was 1,356,041. There were 1,228 miles of Government telephone-lines.

The postal traffic in 1899 was 21,176,000 pieces of mail-matter; receipts, including telegraph receipts, 3,906,637 lei; expenses, 3,105,168 lei.

Political Affairs.—The coupons of the foreign debt were paid in July, 1901, with 4,000,000 francs advanced by the Russian Government, which in January, 1902, had to give an extension of the time for repayment. Premier Karaveloff laid before the Sobranje in December, 1901, the contract for the loan, which after protracted negotiations had been obtained from the French bank on condition that a monopoly of tobacco be given to the lenders. He was deserted by many of his own followers, who were pledged to vote for the loan. The Stambuloffists, however, for patriotic reasons determined to support the unpopular measure, which seemed to offer the only escape from bankruptcy. Although promising excessive profits to the concessionaires, the tobacco monopoly in the hands of foreigners offered financial advantages to the Government, which loses about 2,500,000 lei of the tobacco revenue every year through contraband, and the country would benefit by the introduction of improved methods of cultivating and curing tobacco. But the country was exasperated against the grasping foreigners. This entering wedge of foreign financial control roused the national jealousy of the Bulgarians. When the question of sanctioning the arrangement was put to the Sobranje in the beginning of January Karaveloff was defeated, and the ministry resigned. M. Daneff, who had much to do with negotiating the loan for which M. Karaveloff as Minister of Finance had to accept the responsibility, formed a new Cabinet on Jan. 5, in which M. Saraffoff, the chief negotiator, was retained. It was a purely Zankoffist ministry, which was not what the opponents of the loan wanted. The first vote of supply asked for was therefore refused. The Sobranje was dissolved and new elections were ordered in order to ascertain the temper of the people and give time to seek some other method, if possible, to save the Government from bank-

ruptcy. Gold was obtained from Bulgarian banks to pay the coupon which fell due in the meantime. The new ministry let it be known that it considered the conditions of the loan rejected by the Sobranje as null and void and that it would endeavor to conclude another arrangement. An extensive fraud on the Government was discovered in which some officials and politicians were implicated. Plates for printing revenue stamps had been stolen, and forged stamps to the amount of 2,000,000 lei or more had been sold and used throughout the country for several years. The ministry was composed of Zankoffists. Numerous changes were made in the official *personnel* in preparation for the elections. Direct interference or coercion was precluded by the new electoral law, which the Government promised to observe loyally. On Feb. 6 the new Minister of Public Instruction, M. Kantcheff, who had been a schoolmaster in Macedonia and was quite popular, was murdered by a discharged teacher, also a Macedonian, and once his pupil, who was crazed by his desperate fortunes.

The Sobranje elected on March 2 contained 93 Progressist Liberals, or Zankoffists, the ministerial party; 16 Liberals; 33 Populists, led by Geshoff; 12 National Liberals, or Stambuloffists, led by D. Petkoff; 18 Democrats, followers of Karaveloff; 7 Social Democrats; and 10 Agrarians. The peasants in many places made demonstrations against the concession of the tobacco monopoly to foreigners, and the result of the election was a popular condemnation of the proposed loan. Before the Sobranje assembled Dr. Daneff went to Paris and St. Petersburg to obtain, if he could, more favorable loan conditions. The financial embarrassment of the Government was the effect of the economic distress of the people, caused by a succession of bad harvests and an unfavorable state of foreign exchanges, and still more the result of financial errors and mismanagement on the part of the Government, of excessive military expenditure, extravagant outlay on public works, fiscal changes in 1895 which reduced revenue with a corresponding curtailment of expenses, and the return to tithes in kind in 1900 which could not be collected. When the principality was first established there were surpluses for three years, then for ten years surpluses and deficits alternated, and since 1892 the deficit has been chronic, averaging 9,500,000 lei a year. During the late period of agricultural depression taxes fell in arrears to the amount of 20,000,000 lei. The unbusiness-like remissness of the Bulgarians in meeting financial obligations, a national trait of this peasant nation exhibited not only by individuals but by the Government, which in some instances has met the coupons only by obtaining advances from abroad at the last moment and has shown culpable indifference in regard to the Eastern Roumelian tribute, the hostility shown toward foreign creditors, the frequent political disturbances, and the recrudescence of the Macedonian agitation have combined to impair the public credit, although the debt is light and the productive resources of the soil and the people are abundant.

On March 23 the Cabinet was reconstructed as follows: Premier and Minister of Foreign Affairs, Daneff; Minister of Finance, Saraffoff; Minister of the Interior, Ludskanoff; Minister of Justice, Radoff; Minister of War, Gen. Paprikoff; Minister of Public Instruction, Todoroff; Minister of Commerce and Agriculture, Abrasheff; Minister of Public Works, Constantinoff. All the members

belonged to the Zankoffist party. Ministers Daneff and Sarafoff, through the influence of the Russian court, secured in Paris a contract for a loan of 100,000,000 francs at 5 per cent., to be taken at 83, on the security of the tobacco-tax revenue without the concession of a monopoly of tobacco. For the purpose of ratifying this agreement and of voting supplies the Sobranje was summoned in extraordinary session on May 5. The election of the aged Dragan Zankoff as president of the Sobranje indicated that the reconstituted ministry could rely on its narrow majority. Since the reconciliation with Russia the old party programs had lost their value. The Government policy was to seek the good-will of Austria-Hungary as well as of Russia and to cultivate friendly relations with Roumania and Serbia and a loyal understanding with the Porte. A good harvest and returning prosperity offered the best chance for a reestablishment of the national finances and the attraction of foreign capital for the development of the resources of the country. This ministry was not easily to be dragged in the wake of the Macedonian agitators; yet it would not be harsh or hasty in its treatment of the popular heroes, whom the Prince himself privately abetted in order to prove himself a true Bulgarian. The Macedonian trouble assumed a more serious aspect in 1902. The organizers of revolution in the Turkish vilayets were Bulgarian officers who left active service for the reserve in order that they might teach Macedonian rebels to fight effectively under military leading. The situation in Macedonia for a year past had been one of demoralization and danger. Large bodies of troops from Asia Minor quartered there held in check the threatened revolt in 1901, but this military occupation of the country, where distress was felt from natural causes as well as from political agitation rendered the situation of the Christian inhabitants more intolerable. The quiet ones often suffered for the misdeeds of the rebels and brigands. All the Turkish troops on the frontier could not prevent such acts as the kidnapping of Ellen Stone. The lawless acts of Macedonian bands provoked reprisals from the Mussulman inhabitants, who formed themselves into guerrilla bands to take reprisals, and, when caught by the Turkish troops, they were more leniently dealt with than the Christian lawbreakers. A constant stream of Macedonian emigrants passed over the border into Eastern Roumelia. The Macedonian committees smuggled many thousands of rifles into Turkey. Weapons and ammunition were hidden in churches and other places in towns as well as in secret nooks in the mountains. The Bulgarian Government appealed to the powers to force Turkey to carry out the reforms promised in the treaty of Berlin and threatened to strengthen the frontier garrisons if Turkey continued to mass troops on the border. The Russian and Austrian embassies in Constantinople called the attention of the Porte to the situation in Macedonia, and in consequence of these representations the Sultan appointed the Grand Vizier, the Minister of Foreign Affairs, and the Minister of Public Instruction a commission to consider measures of reform. Russia had advised the Porte to proceed with severity against disturbers, but carefully to avoid injustice. Russia and Austria jointly warned the Government at Sofia. The extreme wing of the revolutionary party, led by Boris Sarafoff, was enabled by the ransom paid for the release of Ellen Stone to resume active operations early in the spring. Bands of Bul-

garians entered Macedonia, levied blackmail and committed outrages, attacked Turkish patrols, and intimidated the Christians by murdering those who condemned the proceedings of the Macedonian committees. The Bulgarian Government proved its loyal intentions by removing Macedonian refugees into the interior and taking possession of all firearms found in the frontier districts. At the same time it reminded Russia and Austria that the Berlin treaty assured to the Christians of the vilayets some such degree of self-government as the Cretans already enjoyed. On detecting the chief agents of the Central Macedonian committee in the business of forming bands, the Government threatened to dissolve the committee. The Macedonian committees and the Bulgarian clergy tried to prevent the consecration, which at last took place on June 30, at Uskub, of a Servian bishop, Monsignor Firmilian, whose acceptance by the Porte was due to the intercession of the Russian ambassador. The Turkish investigating commission recommended minor modifications of the civil administration, building of roads, the establishment of schools, and a reorganization of the gendarmerie so that the revolutionary bands might better be hunted down and the peaceful inhabitants protected. The local authorities in the disturbed vilayets disarmed the Christians, who by law are not allowed to keep weapons; nor are Mohammedans, but in their case the law is never enforced. The extortion of the Turkish officials often drove impoverished *rayas* into the revolutionary bands which combined brigandage with patriotism. For that reason the Austrian and Russian ambassadors advised the Porte to choose a better class of officials and to pay them their salaries regularly. When a congress of Macedonian committees was called to meet in Sofia the Austrian and Russian representatives advised the Bulgarian Government to interdict it and the Turkish representative called for the arrest of Boris Sarafoff, the former president of the central committee, who had been tried for the murder of the Roumanian professor Mikhaileano, and whose chief lieutenant, Deutcheff, was supposed to have planned and directed the abduction of Ellen Stone. Sarafoff was still the leading spirit in organizing the Macedonians for revolution, while Gen. Zontcheff, the president, and the other members of the committee who succeeded Sarafoff and his colleagues devoted the funds they collected to recruiting and fitting out the bands of Bulgarians who invaded Macedonia. These bands were much larger than the groups of 6 or 7 men which Sarafoff founded on the Nihilist plan, pledged to obey every order from the superior committees and to murder traitors. The Bulgarian bands were military bodies of 100 or more, led by professional officers. They traversed the Turkish provinces as far south as Salonika, aided by Macedonian peasants who kept them informed of the movements of the Turkish troops. Wherever they could engage the troops on equal terms they did so, in order to give their actions the appearance of regular warfare. The gendarmerie and troops, on the other hand, sought to evade encounters, and often let the bands escape when it would have been easy to capture them, bribed perhaps to do so by the Bulgarians. The Zontcheff and Sarafoff factions were bitterly hostile to each other. Sarafoff asserted that the new committee had no object but the aggrandizement of Bulgaria, and he put forth a program of Macedonian autonomy instead of annexation to Bulgaria. When the congress met on Aug. 10 he appeared with delegations from 45 societies,

mostly Macedonian. The Zontcheff wing, composed of delegates from 45 societies in Bulgaria and Macedonia, excluded the Saraffo delegates, over the vote of 15 of the delegates admitted, who declared themselves also partizans of Saraffo, who therefore in the rupture that followed commanded the allegiance of the larger and more vigorous section of the party. The police seized documents of the central committee which proved that Gen. Zontcheff was actively fitting out bands to operate in Macedonia. He was therefore arrested on Sept. 2 and interned in his native place. Other members of the committee and ex-officers were arrested or took to flight. The fighting in Macedonia, which in other years comes to an end early in June, continued through summer and autumn till the mountains were covered with snow. There were 80,000 troops in Macedonia, most of them quartered on the people, a serious burden in addition to the taxes, which took a fifth of their income. Neither the Bulgarian bands nor the Macedonian secret societies gave much trouble to the authorities who in Monastir restored a tolerable degree of order and made a show of governing in a civilized manner under a *vall* who was a capable and enlightened administrator, but unable to restrain the corrupt practises of his subordinates. In Uskub and wherever the Albanians predominated the semblance of an insurrection kept up by the Bulgarian bands inflamed the arrogance of the Albanians, which the Turks have never in the course of ages attempted to subdue, and provoked them to acts of cruelty and rapacity that made the condition of the Christians unbearable.

A consular convention between Bulgaria and Austria-Hungary was concluded and ratified by the Sobranje. The narrow and uncertain majority supporting the Government in the Sobranje was unsatisfactory to the ministers, who seized an opportunity to dissolve the Chamber again. The elections, which took place in September, were more easily influenced by the Government than the last ones. The heterogeneous Sobranje gave place to one in which the Government party had an overwhelming majority.

BUREAU OF AMERICAN REPUBLICS, INTERNATIONAL. This is the representative organization in Washington, D. C., of an agreement entered into by the independent republics of North and South America for the purpose of bringing about closer trade relations between them, to disseminate information by the publication of their tariff laws and all other laws and provisions that may be enacted by them relating to trade and navigation, and for the collection and publication of useful statistics and general information of interest to all. The organization was the one practical outcome of the first International Conference, commonly known as the Pan-American Congress, held in Washington in 1889-'90. Article II of the recommendations adopted by that conference on this subject says:

"The international union shall be represented by a bureau to be established in the city of Washington under the supervision of the Secretary of State of the United States, and to be charged with the care of all the transactions and publications, and with all the correspondence pertaining to the international union."

It was also stipulated that this bureau should be called The Commercial Bureau of the American Republics, and that its organ should be a publication to be entitled the Bulletin of the Commercial Bureau of the American Republics.

The scope and field of this publication was explained, and an estimate was made of the probable expense of maintaining the bureau, which was not to exceed \$36,000 a year. Each republic was required to pay its share of this expense in proportion to its population, and a schedule of the first year's proportionate payment of each country was embodied in the report of the committee presenting the project to the conference. This proposed assessment of each country forms the following table:

Argentine Republic	\$1,462 50	Honduras	\$121 25
Bolivia	450 00	Mexico	3,900 00
Brazil	5,350 00	Nicaragua	187 50
Chile	937 00	Paraguay	93 75
Colombia	1,462 50	Peru	975 00
Costa Rica	75 00	Salvador	243 75
Ecuador	375 00	United States	18,806 00
Guatemala	525 00	Uruguay	225 00
Haiti	187 00	Venezuela	985 00

In order that no delay should occur in organizing the bureau, the Government of the United States was asked to advance the expenses each year. The State Department at once took up the project, and the bureau was organized in Washington, practically under the directorship of the Secretary of State, with William E. Curtis as director. Regardless of the amount of work accomplished and the information disseminated through its publications, the bureau led a precarious existence, owing to the difficulty of obtaining information and the cooperation of the many countries that had entered into the agreement. The first year's report shows that 28 publications were issued besides the regular bulletin, these including handbooks of the republics, patent and trade-mark laws, import duties, and commercial directories. The commercial directories were intended for the use of manufacturers and merchants in forwarding catalogues and circulars and opening correspondence, and the demand for them, especially in the United States, demonstrated the eagerness on the part of those for whom they were intended to introduce their wares into markets hitherto practically unknown or unsought. A perplexing question was at once pressed upon the attention of the executive officer of the bureau owing to the demand for its publications, the demand increasing so rapidly as to make compliance impossible because of the limited editions. This led to the issuing of a circular in October, 1893, giving a list of the publications that had not been exhausted, with a price affixed, for which the copies could be secured by application to the Government Printing-Office. This list contained 39 publications obtainable, out of 69 that had been published by the bureau since its organization.

A resolution adopted by the International Conference recommended the adoption of a common nomenclature that should designate in alphabetical order, with equivalent terms in English, Spanish, and Portuguese, the commodities on which import duties are levied, to be used by all the American nations for the purpose of levying customs imports, and also to be used in shipping manifests, consular invoices, entries, clearance petitions, and other customs documents. This work was turned over to the bureau and conducted under its direction by authority of the acts of Congress of July 14, 1890, and July 16, 1892. The work was advanced as rapidly as possible, but it entailed a great amount of labor, and though the two appropriations of \$10,000 each were exhausted and seven years elapsed before the work was completed, when the schedule was published it was found to contain many errors and inaccuracies, owing chiefly to

the use of local names in some of the countries that are entirely unknown in other countries in which the same language is spoken; and, as a consequence, it was not acceptable to them.

Of the nations that entered into the agreement to form the union, the Argentine Republic notified the State Department in a communication through its minister of its withdrawal under date of March 2, 1892, and shortly afterward Colombia also notified the department of its intention to withdraw after paying its quota to June 30, 1893. Chile and the Dominican Republic had neither ratified the recommendation constituting the union nor declared their intention of entering it, but in March, 1892, the Dominican Government announced its desire to enter the union and authorized its representative to pay the amount of its annual assessment. The annual report of the director of the bureau for 1893 shows that the Argentine Republic, Bolivia, Nicaragua, Paraguay, and Peru had not paid their quotas, though nearly all of them promised to do so. The existence of the bureau gradually became so uncertain that it was finally decided by the State Department to make a determined attempt at reorganization, and an invitation was extended to the accredited representatives of the Latin-American republics to this country, requesting them to meet the Secretary of State for the purpose of consulting in regard to the future work of the bureau and enlarging its scope. This meeting was held on April 1, 1896, in the diplomatic room of the State Department, and all the nations were represented with the exception of the Argentine Republic, Bolivia, Paraguay, the Dominican Republic, and Haiti. The result of this meeting, after an animated discussion on the part of the various representatives, was the unanimous request that the Secretary of State appoint a committee of 5 members to act as an executive board of the bureau, to whom all matters should be referred. Accordingly, this committee was appointed, and at a meeting held June 4 it made its report, which was adopted as a basis for the government of the affairs of the union, and it was ordered that the provisions be put into force at once, without prejudice to their being referred to the respective governments represented.

Under this new plan of organization and the active interest taken in the affairs of the bureau by the diplomatic representatives forming the Executive Board, the bureau began a new existence, and its scope was much widened. An office was opened in New York for soliciting business, as it was decided to publish advertisements of reputable firms in the Monthly Bulletin, and an agent was employed for that purpose. This action, however, soon brought forth a vigorous protest from the publishers of export papers, who declared that the soliciting and publishing of advertisements was not within the province of an official organ of the Government, and that this was interfering with their legitimate business. Arguments were presented by the director of the bureau favoring the advertising project, but it was subsequently shown that with the increased business the expenses of the bureau had increased to such an extent that it was necessary to call for an appropriation of \$41,972 to meet the deficiency for six months ending June 30, 1898, which appropriation was made by the United States without objection. At a meeting of the Executive Board it was shown that of \$36,000 in advertising contracts made, 40 per cent. was required to be paid to the solicitor, who demanded his percentage before the bills

against the advertisers could be collected, which required an additional outlay of capital by the bureau, and as a consequence it was decided to terminate all existing contracts for soliciting advertisements and subscriptions to publications of the bureau upon commissions, and to discontinue the New York office. This action was taken at a meeting held Feb. 28, 1898. The previous year had seen the completion of the code of commercial nomenclature in the three languages proposed, and also that of a commercial directory that cost \$48,000. Through the good offices of the representatives of the Latin-American countries in the United States and ministers accredited by the United States, the bureau obtained the privilege of sending its mail-matter free of postage from the governments of Costa Rica, Ecuador, Guatemala, Haiti, Honduras, Nicaragua, and Venezuela through their respective territories. Mexico was the only country that had hitherto granted these privileges. Soon afterward the Argentine Republic, which had withdrawn from the union, announced its intention to take the formal steps necessary to enter it, and this announcement was shortly followed by that of Chile. Colombia and Paraguay, although they had not formally withdrawn from the union, had failed to pay their annual assessments, but now they paid their indebtedness, thus showing their disposition to become active members of the union. This was followed by Bolivia and Peru granting postal franchise privileges, which now made 14 of the republics granting this privilege, including our islands and Canada.

The second International Conference, held in Mexico in 1901-'02, fully recognized the importance of the bureau to all the republics; and the Mexican Government assigned two rooms adjoining the conference hall for its use and the installation of a reference library. With the view of rendering the bureau still more useful to all the countries represented in its administration and making it still more valuable in establishing and maintaining closer relations between them, the conference adopted a plan of reorganization that is intended to increase the efficiency of the bureau and enable it to discharge its duties to better advantage. One of the aims in the adoption of the plan was the making of the management of the bureau more truly international. The new regulations provide that the bureau shall be under the management of a governing board composed of the Secretary of State of the United States, who is to be its chairman, and the diplomatic representatives in Washington of all the other governments represented in the bureau. This governing board is required to meet once a month, excepting in June, July, and August of each year, and may hold special meetings any time on the call of the chairman, or on the request of any two members. The merit system of filling places is adopted, and it is provided that all applicants shall be examined to determine their fitness for the places for which they apply. It is required that an itemized budget be prepared annually, estimating the expenses of the bureau for the succeeding year, and this budget is to be transmitted to each government, together with a statement of the amount to be paid by such government on the basis of the existing apportionment of the expenses, and each government is required to transmit the amount of its assessment to the Secretary of State of the United States six months in advance. The bureau is given authority to correspond, through the diplomatic representatives of the several governments in

Washington, with the executive departments of those governments, and is required to furnish such information as it may possess, or can obtain, to any of the republics requesting it. Each of the republics agrees to facilitate the gathering of information by the bureau: to send to it promptly two copies of each of its official publications for preservation in its library, and to supply such information as may be requested by the director. Provision is made for the continuation of the publication of the *Monthly Bulletin* in English, Spanish, Portuguese, and French; and for the publication of such maps, topographical and geographical charts, and other publica-

tions as the governing board may direct. All the publications of the bureau are to be kept free from advertising as soon as the existing contracts expire, and said publications are to be considered public documents and are to be carried free in the mails of all the republics. The bureau is made custodian of the archives of the International American Conferences,

W. W. ROCKHILL.

and is especially charged with the performance of the duties imposed upon it by the conference. The specific duties thus imposed upon the bureau at the last conference were:

The carrying out of the provisions of the resolution looking to the collection, compilation, and dissemination of more complete statistical data and information regarding the resources of the several republics; the fixing of the date for, and the performance of the general executive work of the sanitary convention to be called in accordance with the resolution adopted on the subject of quarantine and sanitation; the performance of the general executive work of the Customs Congress to meet in the city of New York, and also the Coffee Congress, which met in New York Oct. 1, 1902, and adjourned on the 29th (see *COFFEE*), and the keeping of the accounts of the American International Archeological Commission. In addition to these duties specifically prescribed by the conference, it was recommended that the bureau should collect, compile, and keep

on file, and should publish to such extent as may be practicable, information regarding commercial laws; the banks of the American republics, their capital stock and deposits; the patent laws of the several countries, changes in said laws, patents granted, and decisions of the courts of the several countries in patent litigation; complete monthly reports of exports and imports of the several countries; the arrival and departure of vessels from the ports of the American republics, with their tonnage; the length, stated in miles and kilometers, of railways, street-railways, and telegraph and telephone lines in the several countries, and complete data as to the new lines projected or being built; information regarding new private enterprises, so far as can be obtained; information regarding new public works of all kinds; the most complete vital statistics of each of the republics and of its important cities that can be obtained; and such other information as the director, with the approval of the governing board, may determine. It is stipulated that the library established by the bureau be known as the Columbus Memorial Library. This last provision was made at the suggestion of Mr. Calvo, delegate to the conference from Costa Rica, who said that at the previous conference a recommendation to that effect had been unanimously approved, but no practical steps had been taken to carry out the idea. He further said that the chief aim in establishing the library, which was to be practically only an amplification of the existing one in the bureau, was to create a valuable collection of Latin-American books of commercial and statistical information. In the director's report for the fiscal year 1901 it was stated that the existing library consisted of 8,948 volumes. In the year 1,456 books and pamphlets were received, of which 991 were gifts. About 2,000 periodicals were received, including daily and weekly newspapers.

The reorganization of the bureau was immediately taken up after the adjournment of the International Conference at Mexico in the early part of the year, in conformity with the resolutions adopted. Mr. W. W. Rockhill continues in office as the director, and Mr. Nicolas Veloz Goicoa was elected by the governing board to fill the place of secretary, vacated by the death of Dr. Guzman; Dr. José Ignacio Rodríguez, long connected with the bureau as chief translator, was confirmed in his office, and received the additional honor of librarian of the Columbus Memorial Library; and Mr. W. C. Fox, who represented the bureau as acting director at the conference in the city of Mexico, was confirmed in his office of chief clerk, and was made editor of the *Monthly Bulletin*.

C

CALIFORNIA. (See under UNITED STATES.)
CANADA, DOMINION OF, a federal union of British provinces in North America; area, not including the far Northern Franklin Territory, 3,653,946 square miles; population, 5,369,262.

Government and Politics.—At the beginning of 1902 the Dominion Government was composed of Sir Wilfrid Laurier, Premier and President of the King's Privy Council for Canada; Sir R. J. Cartwright, Minister of Trade and Commerce; R. W. Scott, Secretary of State; David Mills, Minister of Justice; Frederick William Borden, Minister of Militia and Defense; William Mulock, Postmaster-General; Sydney Arthur Fisher, Min-

ister of Agriculture; Joseph Israel Tarte, Minister of Public Works; William Stevens Fielding, Minister of Finance; Andrew George Blair, Minister of Railways and Canals; Clifford Sifton, Minister of the Interior and Superintendent-General of Indian Affairs; William Paterson, Minister of Customs; Michel Esdras Bernier, Minister of Inland Revenue; Richard Reid Dobell, without portfolio; and James Sutherland, without portfolio.

Early in the year several changes occurred in the Government. On Feb. 8 it was announced that the Hon. Mr. Mills had been appointed to the Supreme Court of Canada; that the Hon.

Charles Fitzpatrick was to succeed him as Minister of Justice; that Henry George Carroll, K. C., M. P. P., was to replace the last-mentioned as Solicitor-General, without a seat in the Cabinet; and that the Hon. William Templeman, of British Columbia, was to become a member of the Government without portfolio. Mr. Fitzpatrick was sworn in on Feb. 22. The Hon. James Sutherland, M. P., who had been a member of the Government since 1890, without portfolio, had already been sworn in as Minister of Marine and Fisheries on Jan. 16, in place of Sir Louis Davies, who had gone to the Supreme Court in the preceding December.

The most important political event of the year, however, was the retirement of the Hon. J. Israel Tarte from the Government. As he represented a considerable French following in preceding elections, and had old-time Conservative party associations, his separation from the Liberal ministry created a sensation. His speeches during some months had been very protectionist and had become more so as the time of Sir Wilfrid Laurier's return from England drew near. On Oct. 20—two days after the Premier's return—Mr. Tarte sent in his resignation, and in his letter made the following statement: "I shall not discuss with you at the present time the question as to whether I was right or wrong in the course I have followed. You are the leader of the Government, and your opinion, as far as my attitude is involved, must prevail. You told me that my utterances are causing trouble. I have no right and no desire to be a source of embarrassment to you or the party with which I have been connected since 1892. My views on the tariff are well known to you. I have on several occasions stated them publicly in your presence, and discussed them often privately with you. Entertaining the opinion that the interests of the Canadian people make it our duty to revise the tariff of 1897, with the view of giving a more adequate protection to our industries, to our farming community, and our working men, I can not possibly remain silent. I prefer my freedom of action and speech under the circumstances, even to the great honor of being your colleague."

Sir Wilfrid Laurier, in his reply, accepted the resignation upon constitutional grounds and for the following expressed reasons: "If you had reached the conclusion that the interest of the country demanded without delay an increase of the customs duties, the first thing for you to do as a member of the Government, before addressing your views to the country, would have been to place them before your colleagues, with the object of obtaining that unanimous action of the Cabinet which is the very foundation of responsible Government. If you had not been able to obtain from your colleagues their consent to the course you recommended, you would have been obliged then either to accept their views or sever your connections with them, and then for the first time you would have been free to place your views before the public. Such was the very simple course which was binding upon you; but to remain a member of the Government, and at the same time to advocate a policy which had not yet been adopted by the Government, was an impediment to the proper working of our constitutional system, and implies a disregard for that loyalty which all those who are members of the same administration owe to each other, and have a right to expect from each other."

A few days later Mr. Tarte assumed editorial charge of *La Patrie*, a French-Canadian Liberal paper in Montreal, and announced that he would

entertain an independent attitude toward the Government. After a short delay Raymond Prefontaine, K. C., M. P., formerly mayor of Montreal, was appointed Minister of Marine and Fisheries, and the Hon. Mr. Sutherland was transferred to Mr. Tarte's late department Nov. 12. Meanwhile R. L. Borden, M. P., the Conservative leader, had been making a tour of Manitoba, the Northwest Territories, and British Columbia, accompanied by Messrs. E. F. Clarke, J. Clancy, R. Blain, D. Henderson, and other Conservative members of Parliament. A great many speeches were made, and the ground was taken that Mr. Tarte was coming over to Conservative policy and fiscal principles. Mr. Borden left Winnipeg for his home in Nova Scotia on Oct. 21, and before doing so issued a final appeal to the people of the west to support a policy of adequate protection to Canadian industries and of a national transportation system. Parliament had met and dispersed many months before this. On Feb. 13 it was opened by the Earl of Minto, Governor-General, with a speech from the throne, in which he said:

"Application having been made by the Canadian Pacific Railway Company for approval of an increase of its capital, to meet the demand for additional rolling-stock and other improved facilities for handling the growing traffic, my ministers availed themselves of the opportunity to stipulate that the long-pending question of the power of the Governor in Council to regulate the tolls of the company should be submitted to the courts for a judicial decision. The correspondence and others papers will be laid before you.

"The inventor, Mr. Marconi, having met unexpected obstacles to the carrying on of his experiments in wireless ocean telegraphy in a sister colony, my ministers deem it expedient to invite him to continue his operations on the coast of Nova Scotia, and they availed themselves of his presence in Canada to enter into negotiations resulting in an arrangement through which, should the project prove as successful as is hoped for, the Government and people of Canada will enjoy the benefits of the invention on very favorable terms, including rates for transatlantic messages very much below those now existing.

"I am pleased to inform you that the display made by Canada of her products at the several expositions at which they had been exhibited during the last year has attracted much attention, and has already resulted in many inquiries and orders for our goods. I may also congratulate you on the satisfactory condition of the revenue, and on the steady and continuous expansion of the general business of the country as evidenced by the increased volume of exports and imports. With the view of still further facilitating and developing our trade with other countries, it will probably be found expedient to increase the number of our commercial agencies; and Parliament will be asked to consider the desirability of making additional provision for that purpose.

"I have also pleasure in informing you that the governments of Australia and New Zealand have accepted an invitation from my Government to attend a conference in London next June for the consideration of trade, transportation, cable, and other matters of intercolonial concern, and it is hoped that the meeting may lead to an extension of Canadian trade with those important portions of his Majesty's dominions. I have further to advise you that my Government, having caused inquiry to be made, has reached the conclusion that the establishment of direct steam-

ship service with South Africa would enable Canada to secure in that country a profitable market for her varied products, and, to that end, will endeavor to arrange for such a service."

The session was comparatively quiet. The principal events were the act authorizing the Canadian Pacific Railway to increase its capital stock considerably, the legislation enabling Manitoba farmers to erect free grain warehouses at railway-stations, and the granting of representation to the Yukon Territory. The following were the chief acts passed and duly assented to by the Governor-General at the prorogation of the houses on May 15:

To incorporate the Indian River Railway Company.

To incorporate the Sovereign Life Assurance Company of Canada.

To incorporate the Nipissing and Ottawa Railway Company.

To incorporate the St. Lawrence and Northern Railway Company.

To incorporate the Strait of Canso Bridge Company.

To incorporate the Crown Bank of Canada.

To incorporate the Knapp Tubular Steamship Company.

To incorporate the Canadian Manufacturers' Association.

To incorporate the Pacific Northern and Omeka Railway Company.

To amend the bills of exchange act.

Further to amend the Canada evidence act, 1893.

Further to amend the acts respecting the Northwest Territories.

Further to amend the Yukon Territory act and the acts in amendment thereof.

To incorporate the Toronto and Niagara Power Company.

To amend chapter xli of the Statutes of 1901 respecting the administration of justice in Yukon Territory.

To amend the land titles act, 1894.

To amend the Chinese immigration act, 1900.

To amend the naturalization act.

To incorporate the Yukon Pacific Railway Company.

To incorporate the Manitoba and Keewatin Railway Company.

To incorporate the Canada Eastern Railway Company.

To incorporate the Nepigon Railway Company.

To incorporate the Canada Central Railway Company.

To incorporate the North Shore Power, Railway, and Navigation Company.

To provide for the establishment of a Medical Council in Canada.

To amend the immigration act.

To amend the fruit marks act, 1901.

To incorporate the Securities Bank of Canada.

To incorporate the Metropolitan Bank.

To incorporate the Union Life Assurance Company.

To amend the Manitoba grain act, 1900.

Respecting the coasting-trade of Canada.

To amend the customs tariff, 1897.

To incorporate the Canadian Northern Telegraph Company.

Respecting the incorporation of joint-stock companies by letters patent.

The Budget of 1902.—On March 17 the Minister of Finance presented his sixth annual statement to the House of Commons. He had no changes in the tariff to announce, and he said that machinery and structural iron for beet-

sugar factories would remain free of duty for another year from April 1. He estimated the revenue for the fiscal year ending June 30, at \$56,800,000, the expenditure at \$51,000,000, and the addition to the debt of the Dominion at about \$6,000,000. He was able to say that his expression of belief in his last budget speech that the country had about reached the crest of the wave of business prosperity had been proved incorrect by the activities and progress of the past year. The revenue had been greater than his estimate, and larger than that of the years 1899-1901, as the following table showed:

SOURCES.	Year ending June 30, 1900.	Year ending June 30, 1901.	Increase.
Customs	\$38,374,147	\$38,425,394	\$51,136
Excise	9,868,075	10,318,306	450,190
Post-office	3,205,535	3,441,504	235,969
Railways	4,774,102	5,213,381	439,219
Lands	1,388,023	1,517,319	129,295
Miscellaneous	3,420,050	3,596,945	176,895
	\$51,029,932	\$52,514,699	\$1,484,704

Mr. Fielding drew special attention to the post-office returns. There was an increased revenue of \$235,969, and the total receipts of the department were \$3,441,504. But the expenditure was \$3,939,446. He said, however, that the deficits had once been as high as \$800,000, and that in the meantime Mr. Mulock had not only reduced the amount, but had cut the British postage in two and reduced the Canadian postage one-third. In railways he described the condition as noteworthy. From total receipts of \$3,140,678 in 1896, when the Laurier Government took office, the amount had risen in 1901 to \$5,213,381. The total expenditure in consolidated fund account, or permanent expense account, was \$46,866,367, against \$42,975,279 in the preceding year. In legislation there had been an increase of \$342,424; in arts, agriculture, and statistics—which included the census—the increase was \$235,645; in militia there was an increase of \$215,495; in railways and canals—chiefly the working expenses of the Intercolonial Railway—the increase was \$1,136,660; in public works the increase was \$1,096,743; in the Government of the Northwest Territories, \$150,177; and in the post-office, \$173,431. Adding to this consolidated fund expenditure and the capital account expenditure—such as railway subsidies and the South African War and a certain class of public works—the total was \$57,982,866, against \$52,717,466 in 1899-1900. For railways on capital account there was an expenditure in 1901 of \$3,914,010; for canals, of \$2,360,569; for public works, of \$1,006,983; for Dominion lands, of \$269,060; for militia, of \$135,884; for the Canadian Pacific Railway, of \$8,978. The total was \$7,695,488, an increase altogether of \$226,645. The net public debt was described by the minister as having been \$268,480,003 on June 30, 1901, against \$265,493,806 in the previous years. In the five preceding years, he added, the increase had been \$9,982,570, an average of \$1,996,514, compared with an average of \$6,563,075 in the preceding eighteen years. The exact increase for 1900-'01 was \$2,986,196.

The statements of the minister were variously criticized, and on May 13 Mr. Borden, the Opposition leader, introduced the following motion:

"That the total expenditure during each fiscal year from 1892 to 1901, both inclusive, was as follows: In 1892, \$42,272,136; in 1893, \$40,853,728; in 1894, \$43,008,834; in 1895, \$42,872,338; in 1896, \$41,702,383; in 1897, \$42,972,756; in 1898, \$43,334,281; in 1899, \$51,542,635; in 1900, \$52,717,467;

in 1901, \$57,982,808. That the Finance Minister estimates that the total expenditure for the fiscal year ending June 30, 1902, will be \$65,250,000; that the annual expenditure on both consolidated revenue and capital account has increased between 1897 and 1901 by no less a sum than \$15,010,110; that during the period above mentioned the revenues of the country have been unusually large, and the Government claims a total net surplus of \$19,745,527.69, but no portion thereof has been applied in reduction of the public debt, which, with the addition estimated by the Finance Minister for the current fiscal year, will have increased from \$258,479,432.77 in 1896 to \$274,480,000 in 1902, an increase of more than \$16,000,000; that the Minister of Finance estimates that the total revenue for the year ending June 30, 1902, will be \$56,800,000; that notwithstanding this very large revenue the Minister of Finance estimates that the public debt will be increased during the current year about \$6,000,000; that the House desires to place on record the opinion that the expenditure for the year ending June 30, 1902, and the proposed expenditure for the year ending June 30, 1903, are excessive and extravagant, and regrets that the Government, with the exceptionally large revenues at its command, has not only failed to reduce, but has largely increased the public debt and has incurred capital expenditure for which the country does not receive and can not expect an adequate return."

The motion was lost on a party division of 84 to 41.

The supplementary estimates for the fiscal year ending June 30 were presented to Parliament on May 6. The total was \$5,739,301. Of this amount, \$3,386,201 was chargeable to consolidated fund and \$2,353,100 to capital account. This made the main estimates \$59,100,939 for the year beginning in July, 1902. There were \$10,000 for experimental farms; \$175,000 for the St. Louis Exhibition; \$20,000 for the Cork and Wolverhampton Exhibition; \$50,000 defenses at Esquimaux; \$300,000 arms and ammunition; \$150,000 to purchase rifles; \$50,000 for the coronation military contingent; \$315,000 for the Halifax garrison; \$1,315,000 for the intercolonial and \$36,000 for Yukon public buildings; for the Northwest Government, \$107,000; and for the Yukon Government, \$384,500.

Canada at the Coronation.—During the greater part of the year the subject most universally discussed in Canada was perhaps that of the coronation. Bound up with it also were the visits of Canadian premiers and leaders to the motherland; the conferences held there upon many important subjects; and the hospitalities extended to Canadians. The royal invitation specially extended to the Premier of Canada made him the guest of the British nation during a specified period, with headquarters at the Hotel Cecil, in company with the Premiers of Australia, New Zealand, Cape Colony, Natal, and Newfoundland, and certain appointed representatives of the Crown colonies and the Indian Empire. The premiers of all the provinces of Canada were also invited to be present at the coronation, though not as guests at the expense of the nation. In accordance with the King's desire to make the coronation an imperial event, each part of the empire was asked to send a contingent of troops. Canada sent 656 soldiers, chiefly veterans of the war, the cavalry being under the command of Lieut.-Col. R. E. W. Turner, V. C., D. S. O., of Quebec, and the infantry under Lieut.-Col. H. M. Pellatt, of Toronto.

The Coronation Conference.—In a communication addressed to the Governor-General of Canada, on Dec. 27, 1901, Mr. Chamberlain conveyed a formal intimation of the coronation having been fixed for June 26 following, and an expression of the King's desire that the Premier of Canada should be present and be a guest of the Government, together with his wife, for a fortnight from the time of arrival. On Jan. 23, 1902, the Colonial Secretary cabled Lord Minto as follows: "It is proposed by his Majesty's Government to take advantage of the presence of the premiers at the coronation to discuss with them the questions of political relations between the mother country and the colonies, imperial defense, commercial relations of the empire, and other matters of general interest. Should your ministers desire to submit definite proposals or resolutions on any of the above questions, or should they wish to suggest any further subject for discussion, I should be glad to be informed of the purport by cable, in order that the other governments can be communicated with." The period of three weeks after the coronation was suggested as that during which the premiers should remain as his Majesty's guests. Under date of Feb. 3, Lord Minto replied, accepting the invitation for Sir Wilfrid and Lady Laurier, and dealing with matters of policy as follows: "Referring to the several questions mentioned in your despatch of Jan. 23, the only one which, in the opinion of my ministers, gives promise of useful discussion, is that of the commercial relations now existing between the mother country and the great self-governing colonies, and particularly Canada, which are regarded by my ministers as entirely satisfactory, with the exception of a few minor details; and they do not anticipate that in the varying conditions of the colonies there can be any scheme of defense applicable to all."

This correspondence was laid before the Canadian House of Commons on March 11, and Mr. Borden, leader of the Conservative Opposition, brought up the subject in the House on May 12. He read the correspondence between Mr. Chamberlain and Lord Minto; deprecated as discourtageous the action of the Government in declining to discuss imperial defense; declared that of the three possible features before the country—independence, annexation, or present conditions—he preferred the last, and believed that it would be the permanent one; and pointed to advantages which Canada had long received from its protection by the British naval and military forces. He then, at considerable length, discussed the existing preferential tariff and the various proposals for preferential trade in its wider sense; quoted the Premier's statement in the session of 1901 that preferential trade throughout the empire could not be discussed without premising the abolition of the protective conference, and could have no useful result under present condition of government in the Dominion. He concluded by asking for an authoritative statement as to the policy of the Government in connection with the coming conference. "We want to know whether the Government, while retaining for Canada full control of all her public moneys and her system of defense, is prepared to discuss with the imperial authorities a system of imperial defense. We want to know whether the Prime Minister proposes, as he did in 1897, and as the Minister of Agriculture did in 1901, to tell the Government and the people of the mother country that Canada desires no preference in the British markets. We want to know whether the Government are yet fully seized of the fact that

the British Government have adopted a policy with regard to duties on breadstuffs which the right honorable gentleman and his colleagues have repeatedly declared during the last five or six years was absolutely impossible of adoption by the mother country in the near future."

In his reply Sir Wilfrid Laurier deprecated the idea of any discourtesy, and pointed out that the subjects referred to would all be discussed apart from his Government's expression of opinion as to the value of such discussion. As to imperial defense especially, both he and his colleagues felt that no useful purpose could be served by debating it. "If it be intended simply to discuss what part Canada is prepared to take in her own defense, what share of the burden must fall upon us as being responsible for the safety of the land in which we were born and to which we owe our allegiance, in which all our hopes and affections are centered, certainly we are always prepared to discuss that subject. Nor do I believe that we need any prompting on that subject, or that our attention should be specially called to it." But this was not imperial defense as now much mooted. "There is a school abroad, there is a school in England and in Canada, a school which is perhaps represented on the floor of this Parliament, which wants to bring Canada into the vortex of militarism, which is the curse and the blight of Europe. I am not prepared to endorse any such policy."

The conference, as finally constituted, was composed of the Premiers of Canada, Australia, New Zealand, Cape Colony, and Natal, with Mr. Chamberlain and certain appointed representatives of colonies still under Colonial Office control. The arrangements made for submission to the various colonial parliaments included plans for contributions to the imperial navy—accepted by all the countries except Canada—and an understanding with Australia as to a future tariff preference for British goods. Upon the subject of a return preference by Great Britain for that granted by Canada in 1898, long discussion took place, and the following is a summary from the official report as issued in the succeeding November:

"From the beginning of the proceedings the Canadian ministers have claimed that, in consideration of the substantial preference given by Canada for some years to the products of the mother country, Canadian food products should be exempted in the United Kingdom from the duties recently imposed. Representation to this effect previously made through the High Commissioner for Canada were supplemented by the ministers both in writing and in personal interviews with the imperial ministers. Mr. Chamberlain, in behalf of the Imperial Government, was unable to agree to proposals of the Canadian Government, and while highly appreciating the good feeling manifested by Canada in the granting of preferential treatment, did not think its material advantages to the trade of the United Kingdom were as great as the Canadian ministers claimed. He further said that the change desired by Canada would be an important departure from the established fiscal policy of the United Kingdom, and that if the proposal could be entertained at all, as to which he was not prepared to commit himself, it would be necessary for Canada to offer some material tariff concessions beyond those which she has already voluntarily given. The Canadian ministers pointed out that the Canadian tariff was by no means prohibitive; that large quantities of goods were imported, and that a great proportion of these came from for-

eign countries. In any lines in which there was a reasonable probability that these goods could be manufactured in Great Britain, it might be possible so to readjust duties as to give an additional advantage to the British manufacturer, and thus turn over to him a volume of trade the profits of which now go to foreign countries. This readjustment might be brought about in any or all of the following ways: 1. In some cases by the reduction of duties now imposed on British goods, where such reduction might be made without injustice to any Canadian industry. 2. By the transfer of some articles from the free list to the dutiable list at such rates as would give substantial preference to the British manufacturer, instead of leaving him, as at present, on even terms with the foreign competitor as respects such articles. 3. By imposing a small duty as respects foreign goods on some articles now on the free list, while allowing them to continue free as respects British imports. 4. In some cases possibly by an increase in the duty of foreign articles, thus increasing the amount of the preference on British goods. Such increase on foreign articles could, however, only be justified where the market could be supplied by the British manufacturer at the preferential rates of duty. The Canadian ministers said that if they could be assured that the Imperial Government would accept the principle of preferential trade generally, and particularly grant to the food products of Canada in the United Kingdom exemption from duties now levied, they, the Canadian ministers, would be prepared to carry on the discussion on the lines above mentioned and endeavor to give to the British manufacturer an increased advantage over his foreign competitor in the markets of Canada."

The Alaskan Boundary.—This question was fitfully discussed in the press and by publicists in 1902, although no serious developments arose. Speaking in the House of Commons on Feb. 11, 1901, Sir Wilfrid Laurier had declared that the Americans have "taken such an attitude that it seems almost impossible to reconcile the two opposing views." He hoped, however, that if an honorable settlement could not be reached, an honorable compromise might still be effected. In the meantime, and in view of the further complications that might arise at any moment from fresh discoveries of gold, "we have agreed on a provisional boundary which will serve as a boundary so long as the question remains unsettled, and that provisional boundary has been settled by geographers of the two countries." In answer to an inquiry from Mr. R. L. Borden, the Premier said that the agreement was "in the nature of a compromise between the respective positions taken by the two parties." On April 16, in the course of a discussion upon Yukon matters in committee, Mr. Sifton, Minister of the Interior, made the following statement regarding international arrangements and the position at the moment: "As to the portion of the territory which lies contiguous to Alaska, there is a provisional boundary-line agreed to between the two governments, and that line, wherever necessary, has been laid down upon the ground by commissioners appointed by the parties. Our commissioner and the commissioner of the United States went up last season and laid out the boundary-line at the only place practically necessary—that is, across the Dalton trail to Pyramid Harbor. Under the terms of the provisional arrangement, the summit of the White pass, which was also used by travelers before the railway was opened, is considered to be the provi-

sional boundary-line. So we have at all the passes where travel is possible, a fixed provisional boundary-line, and there can be no difficulty about administration."

The Prime Minister, on May 6, in connection with a question asked by Mr. E. G. Prior, said that the point of difference between the American and the Canadian governments was, as to where the Portland channel referred to in the Anglo-Russian treaty really is. "They want to make it run up Observatory inlet, and then to the west, making out that Observatory inlet is only a small inlet running into the interior. We, on the other hand, contend that Portland channel is as it is described on the map of Vancouver, on which the treaty of 1825 seems to have been based, namely, all that channel of water which runs west of Pearse island."

The Fourth Census.—Details of the Dominion census taken in 1901, under the auspices of Archibald Blue and Thomas Cote, were published in 1902. The population of Canada, which numbered 3,635,024 in 1871, 4,324,810 in 1881, and 4,833,239 in 1891, was announced as being 5,369,262 in 1901. The only province that showed a decrease was Prince Edward Island—from 109,078 to 103,259. The largest numerical increase was in Quebec, which rose from 1,488,535 to 1,648,893; the largest proportional increase was in the Northwest Territories and Yukon, which had grown from 98,967 to 211,649. Ontario increased slightly, from 2,114,321 to 2,182,947; Nova Scotia, from 450,396 to 459,574; New Brunswick, from 321,263 to 331,120. Manitoba grew from 152,506 to 254,947, and British Columbia from 98,173 to 177,272. The increase in city and town population was marked all over the country. In 1891 the rural districts had 3,296,141 inhabitants, and in 1901 3,349,065, while the urban growth was from 1,537,098 to 2,020,601. It was distributed as follows:

PROVINCES.	RURAL.		URBAN.	
	1891.	1901.	1891.	1901.
Manitoba.....	111,498	184,714	41,008	70,283
Ontario.....	1,295,328	1,247,190	818,998	985,752
New Brunswick.....	272,362	253,835	48,901	77,285
Nova Scotia.....	373,408	330,191	76,998	129,383
Prince Edward Island.....	94,823	88,304	14,255	14,955
Quebec.....	968,830	992,667	499,715	656,231
British Columbia.....	60,945	87,825	37,238	89,447
Territories.....	98,967	164,334	.....	47,315

According to religions or sects there were 142 divisions recorded and classified. Only 5 had more than 100,000. The population showed a total of 2,460,471 males in 1891 and 2,372,768 females, while in 1901 there were 2,751,473 males and 2,619,578 females.

Immigration.—The immigration arrivals in Canada for the fiscal year ending June 30, 1902, were 26,388 from the United States; 17,259 from the British Isles; 6,870 from Austria, including Galicia; 3,759 from Russia and Finland; 2,451 from Scandinavia; 1,048 from Germany; 1,048 from Hungary; 654 from France and Belgium; from miscellaneous nations 7,902; and constituted a total of 67,379. The figures showed an increase of 18,230 over the previous year, made up as follows: Britain, 5,449; United States, 8,401; Continent of Europe, 4,380.

Militia and Defense.—According to figures furnished the Minister of Militia and Defense for his annual report dated March 12, 1902, and supplied by Col. Lord Aylmer, adjutant-general, the regimental establishment of the active militia Dec. 31, 1901, was 38,000 officers, non-com-

missioned officers, and men; the number ordered to drill during the year was 35,437; and the total number trained or partly trained was 30,262. The number of officers and men participating in the royal review by the Duke of Cornwall and York at Quebec was 3,546; at Toronto, 10,801; at Halifax, 3,766. The total appropriation for militia services in the year ending June 30, 1901, was \$3,097,752, with pensions for the Northwest rebellion, the Fenian raids, and the troubles of 1837 amounting to \$21,240 additional. The total revenue was \$85,470, which included \$22,035 from the Royal Military College at Kingston.

Canada and the South African War.—The number of troops supplied by the Dominion to aid in the extension of the empire in South Africa was 8,000, and the losses in killed and wounded and by disease were 377. The expenditure by the Canadian Parliament was \$2,000,000, and the amount expended by the British War Office in the purchase of Canadian food supplies, etc., was \$7,500,000. The terms of peace were signed on May 31, 1902, but on March 31 occurred one of the bravest actions of the war. At Kleinhardt's Lieut. Carruthers, of Kingston, Ontario, was in command of a small Canadian rear-guard, and, though attacked on three sides by an enemy of at least 500 in number and by a heavy rifle and shell fire, he held his ground until 17 of his 21 men were killed or wounded and their ammunition was exhausted. This little action saved the day and brought a flood of congratulatory telegrams and British praises to Canada. Lord Roberts cabled to the Governor-General his appreciation of the "splendid stand" of the Canadian Mounted Rifles, and Mr. Chamberlain declared that they had maintained the "splendid traditions of Canadian valor."

Conference of Boards of Trade.—This was held in the Parliament buildings at Toronto on June 4-6. It met under the auspices and initiative of the Toronto Board of Trade and its officers—Mr. A. E. Ames, President; Messrs. J. F. Ellis and J. D. Allen, Vice-Presidents; and Mr. Paul Jarvis, Secretary. President Ames was selected as chairman, and Mr. Jarvis was appointed secretary of the conference. In his opening address Mr. Ames referred briefly to the elements of supremacy and success that existed within the British Empire. "It remains, in order that the position of the empire shall be maintained and advanced, that the elements of prosperity, which are all available in large measure, shall be recognized, shall be studied, and shall be safeguarded, and that there shall be intelligent cooperation among the countries interested. I believe no one expects that the delegates have come to this conference with the idea of trying to turn things upside down and trying to have employed any but methods of natural evolution. I take it, however, that the coming together of such an influential body means that you consider that the best method of dealing with problems is not to shirk their discussion, and that nowadays it does not do to drift. I think there is also, underlying this assemblage, the feeling that the brightest day which the British Empire can have will be when Great Britain and the other self-governing countries of the empire all combine in realizing that united, in every sense, they stand; and divided, in any sense, they fall."

After prolonged and important discussion, resolutions were passed in favor of cheaper newspaper rates between Canada and Great Britain; of the removal of the British embargo upon Canadian live cattle; of the extension of the Pa-

cific cable scheme so as to create a complete line of British state-owned cables around the globe; of establishing a Canadian commercial depot in London, and of consular agents in other countries; of a fast Atlantic steamship line, and of Government aid to a steam service to South Africa; of a heavier duty on lead products; of increased copyright powers; of the appointment of a railway commissioner and Government encouragement of ship-building industries; of the enactment of an insolvency law; the encouragement of Canadian trade via Canadian ports; and increased aid to transportation facilities. The following resolution was also passed: "That in the opinion of the conference it is the duty of the Dominion, as an important division of the empire, to participate in the cost of the general defense of said empire, and therefore that an annual appropriation should be provided in the Dominion budget for this purpose, to be expended as the Dominion Government may direct."

Another resolution was passed in favor of preferential trade as follows: "That this conference is of opinion that Great Britain can best serve the interests of the empire by giving the products of her colonies a preference in her markets as against the products of foreign countries, it being believed that such preference would stimulate trade and at the same time benefit Great Britain by largely freeing her from dependence upon foreign countries for her food supplies; and with that view the Prime Minister of Canada is hereby requested to urge at the imperial conference the securing of a royal commission, composed of representatives from Great Britain and the colonies, to investigate conditions and to suggest such preferential treatment of imports from the various parts of the empire as shall be best calculated to insure the fullest benefits."

Railways.—The twenty-first annual report of the Canadian Pacific Railway Company for the year ending June 30, 1902, was preceded by a statement of the result of the company's operations during the fiscal year ending June 30. The gross earnings were \$37,503,053; working expenses, \$23,417,141. The surplus for the year was \$7,709,913. The working expenses for the year amounted to 62.44 per cent. of the gross earnings, and the net earnings to 37.56 per cent., compared with 60.75 and 39.25 per cent. respectively in 1901. The earnings per passenger per mile were 1.75 cent, and per ton of freight per mile 6.75 cents, against 1.93 and 6.70 cents respectively in 1901. Four-per-cent. consolidated debenture stock to the amount of £650,000 was created and sold on account of the construction of branch lines authorized, and for the purpose of acquiring first-mortgage bonds, on which the interest is guaranteed by the company, of the Mineral Range Railroad Company, the Columbia and Western Railway Company, and the British Columbia Southern Railway Company.

The sales of the company's lands in the year amounted to 1,362,852 acres for \$4,442,136, an average price of \$3.26 an acre, and the cash receipts enabled the directors to redeem and cancel 5-per-cent. land bonds to the face value of \$1,401,400, leaving in the hands of the public at the end of the fiscal year \$1,430,000 of these bonds, all of which have since been called for redemption and cancellation.

The statement of the Grand Trunk Railway Company for the half year ending June 30, 1902, showed gross receipts of £2,377,201 and working expenses of £1,603,612, leaving net traffic receipts of £773,589. To this latter amount cer-

tain other sums were added, which increased the total to £875,175. Deducting charges for interest, the sum of £255,635 was left as available for the payment of dividends. The receipts from passengers were £601,469; from mails and express, £106,314; from freight and live stock, £1,597,954; from miscellaneous sources, £71,464—a total of £2,377,201 or \$11,886,005. The number of passengers carried was 3,525,855, and the tons of freight and live stock were 5,675,338. On maintenance of way and structures £242,466 were spent; on maintenance of equipment, £436,063; on conducting transportation, £853,633; on general expenses and taxes, £71,450. Four-per-cent. debenture stock to the amount of £411,003 was issued during the half year as part provision for the repayment of £522,200 Northern Railway 5-per-cent. bonds, and £85,600 of Montreal and Champlain bonds were repaid. Sir Charles Rivers-Wilson, the president, concluded his statement on Oct. 1 by saying that "the cost of operation has been reduced, increased dividends are available for distribution, and additions to capital have been maintained within the most reasonable limits."

By the completion of the line between Port Arthur and Winnipeg the Canadian Northern Railway took rank this year as the fourth system in Canada in point of mileage.

The company completed this year an extension of the Carman branch 19.8 miles west of Carman. The company also owns the Winnipeg Great Northern Railway's line of 40 miles from a point near Winnipeg to St. Laurent, Manitoba, which was built some years ago, but has not been operated.

Mackenzie, Mann & Co.'s system also includes the Inverness and Richmond Railway in Nova Scotia, of which 61 miles are in operation—giving them a total of 1,304.7 miles in operation.

The report of the Railway Commission is an elaborate document submitted to the Government on Feb. 10, 1899, by Mr. S. J. McLean after careful investigation, but not made public until 1902. The commissioner gave his conclusions regarding the possible establishment of an independent railway commission in Canada; and the Minister of Railways announced in Parliament that a bill substantially embodying the commissioner's plan would be introduced next year.

Trade and Commerce.—The foreign trade of Canada for 1902 exceeded all records. The exports of home produce were as follow: Mines, \$34,947,574; fisheries, \$14,058,070; forests, \$32,119,429; animals and their produce, \$59,245,433; agriculture, \$37,152,688; manufactures, \$18,462,970; miscellaneous, \$32,599; total, \$196,019,763.

There was a gain over 1901 in everything but the products of the mine. The increase in agricultural exports was very marked, and was partly attributable to the shipment of war supplies. Canadian exports to and imports from the countries with which the Dominion had the largest dealings in 1902 were as follow:

COUNTRIES.	Exports.	Imports.
Great Britain	\$109,348,345	\$49,215,698
United States	66,566,595	120,806,956
British colonies	11,559,339	3,690,374
Belgium	1,363,098	1,700,697
France	1,300,798	6,670,778
Germany	1,296,654	10,814,029

The exports to Great Britain in 1902 were \$16,490,720 more than in 1901, and the imports from Great Britain increased \$6,395,698. Exports to the United States decreased \$1,416,838, and imports from that country increased \$13,659,631.

The noteworthy increase in Canadian exports to Great Britain and the United States since 1897 is shown in the increase of the former from \$69,533,852 to \$109,348,245, and of the latter from \$39,717,057 to \$66,566,835. Similarly, imports increased \$20,000,000 in amount from Great Britain and \$63,000,000 from the United States.

Shipping.—Canada stands eighth in the point of ownership of vessel tonnage among the nations of the earth, leading Spain, Sweden, Holland, Denmark, Greece, Japan, Turkey, and other countries. Great Britain heads the list, the United States being second, then Germany, Norway, France, Italy, Russia, and Canada. The marine departmental report for 1901 showed that the total number of vessels remaining on the register books of the Dominion Dec. 30, 1901, including old and new vessels, sailing vessels, steamers, and barges, was 6,792, measuring 664,483 tons register tonnage—an increase of 57 vessels and an increase of 4,949 tons register compared with 1900. The number of steamers on the registry books on the same date was 2,177, with a gross tonnage of 297,421 tons. The number of new vessels built and registered in the Dominion of Canada in 1901 was 335, measuring 34,481 tons register tonnage.

Fisheries.—The export of fish from the Dominion in 1900 amounted to \$10,720,352. The total value produced, as shown by the annual report of the Fisheries Department for 1901, was \$21,557,639, a decrease of \$334,067 from the previous year. Divided among the provinces, the production was as follows: Nova Scotia, \$7,809,152; British Columbia, \$4,878,820; New Brunswick, \$3,769,742; Quebec, \$1,989,279; Ontario, \$1,330,294; Prince Edward Island, \$1,059,193; Manitoba and the territories, \$718,159. Salmon led in the list of the value of fish taken, the figures being \$3,893,217, cod being set down for \$3,614,775, lobsters for \$3,055,350, herring for \$1,853,237, and mackerel for \$1,549,448. None of the other fish reached the million-dollar mark. In the halibut fishery on the Pacific coast a growth in value of \$130,000 was noted in a total of \$405,963. The capital invested in the industry was \$10,990,125. The lobster plant was valued at \$1,419,100, while the British Columbia salmon industry was credited with establishments valued at \$1,420,000. Altogether, about 80,000 men were employed, at least for a part of their time, in the work of the fisheries, and made use of 1,200 schooners, 38,930 boats, and 6,295,000 fathoms of net. The total expenditure by the Marine and Fisheries Department for the fiscal year ending June 30, 1901, amounted to \$1,527,830.53. The expenditure for maintenance of lighthouse and coast service amounted to \$505,436.08; construction, \$73,376.08; total, \$578,812.72; while for the previous year the expenditure for lighthouse and coast service, including construction, was \$516,494.40, showing an increase of expenditure of \$62,318.

Mines.—According to the Geological Survey report for 1901, the production of metallic minerals included: Copper, to the extent of \$6,600,104; gold from the Yukon, \$18,000,000; gold (all other), \$6,462,222; iron ore, \$762,284; pig iron from Canadian ore, \$1,212,113; lead, \$2,199,784; nickel, \$4,594,523; silver, \$2,993,668; a total of \$42,824,698.

In non-metallic minerals the production included actinolite to the value of \$3,126; arsenic, \$41,676; asbestos and asbestic, \$1,186,434; chromite (exports), \$25,444; coal, \$14,671,122; coke, \$1,264,360; corundum, \$53,115; feldspar, \$4,710; fire-clay, \$5,920; graphite, \$28,880; grindstones,

\$55,690; gypsum, \$340,148; limestone, \$183,162; manganese ore (exports), \$4,820; mica, \$160,000; baryta, \$3,842; ochers, \$16,735; mineral water, \$100,000; molding sand, \$29,240; natural gas, \$312,359; peat, \$660; petroleum, \$953,415; pyrites, \$113,044; salt, \$262,328; talc, \$842; cement (natural rock), \$94,415; cement (Portland), \$535,615; granite, \$155,000; pottery, \$200,000; sands and gravels (exports), \$117,465; sewer-pipe, \$250,115; slate, \$9,980; terra-cotta, pressed brick, etc., \$278,671; building material, \$4,820,000. The total structural materials and clay products was \$6,461,261, and the total of all other non-metallic minerals was \$19,821,072.

Agriculture.—The value of some Canadian farm-products exported in 1901 showed a phenomenal increase in volume when compared with 1896, such as peas, which had risen from \$1,299,491 in the latter year to \$2,674,712 in 1901; flour, which had risen from \$718,433 in 1896 to \$4,015,226 last year; and oats, which in 1896 amounted to \$273,861, had risen in 1901 to \$2,490,521. In the butter trade the value of the exports in 1901 was \$3,295,663, having increased from \$1,052,089 in 1896; while from the port of Montreal alone the number of packages carried in cold storage increased from 227,863 in 1900 to 410,893 in 1901. Canadian butter won a better relative place in the markets of the United Kingdom than it had occupied at any previous period. The bacon trade also manifested phenomenal progress. In 1896 the value of the exports of pork, bacon, hams, etc., was only \$4,446,884, whereas at the close of the last fiscal year it had risen to \$11,829,820. In cheese, while in 1896 the exports were valued at \$13,953,571, in 1900 they exceeded \$19,800,000, and in 1901 reached \$20,690,951.

Criminal Statistics.—The increase of lunacy was 22.76 per cent. in 1901 over the number of cases in 1891, while the population increased but 11.76 per cent. Generally speaking, the country underwent a moral improvement. There was a decrease in crime in Prince Edward Island, New Brunswick, Manitoba, Ontario, the Yukon, and British Columbia; the territories showed an increased ratio, while Nova Scotia and Quebec showed a small increase. The report of urban crime showed a proportion of 29.80 in every 10,000 inhabitants; the rural, 2.35 in every 10,000. The returns by occupation showed that convictions in the agricultural, commercial, domestic, professional, and laboring classes had decreased. The industrial class only had not improved. England supplied 6.35 per cent. of the persons convicted; Ireland, 2.9 per cent.; Scotland, 1.07 per cent.; Canada, 72.01 per cent.; the United States, 4.04 per cent.; other foreign countries, 16 per cent.; other British possessions, 13 per cent.

Liquor Statistics.—The Dominion revenue from excise in the year ending June 30, 1902, was \$11,257,485, against \$10,423,865 in 1901 and \$7,916,483 in 1898. Of the total in 1902, spirits amounted to \$5,620,613, malt to \$1,077,809, tobacco to \$3,563,578, and cigars \$897,360. The quantity of spirits produced during the year was 3,234,147 proof gallons, against 2,652,708 in 1901. The consumption of spirits per head was 0.796 gallon, compared with 0.765 in 1901, 0.701 in 1900, and 0.740 in 1893. Then there was an export of 151,729 proof gallons, against 87,471 in 1898.

CARNEGIE INSTITUTION. On Jan. 28, 1902, Andrew Carnegie gave an endowment fund of \$10,000,000 to the Carnegie Institution. This institution was incorporated on Jan. 4, 1902, "to conduct, endow, and assist investigation in any department of science, literature, or art, and to this end to cooperate with governments, universi-

ties, colleges, technical schools, learned societies, and individuals."

In Mr. Carnegie's deed of gift he further explains the objects of the institution. "It is proposed," so runs the document, "to found in the city of Washington an institution which with the cooperation of institutions now or hereafter established, there or elsewhere, shall in the broadest and most liberal manner encourage investigation, research, and discovery—show the application of knowledge to the improvement of mankind, provide such buildings, laboratories, books, and apparatus, as may be needed; and afford instruction of an advanced character to students properly qualified to profit thereby. Among its aims are these:

"1. To promote original research, paying great attention thereto as one of the most important of all departments.

"2. To discover the exceptional man in every department of study, whenever and wherever found, inside or outside of schools, and enable him to make the work for which he seems specially designed his life work.

"3. To increase facilities for higher education.

"4. To increase the efficiency of the universities and other institutions of learning throughout the country, by utilizing and adding to their existing facilities and aiding teachers in the various institutions for experimental and other work in these institutions as far as advisable."

The trustees are: President of the United States, President of the Senate, Speaker of the House of Representatives, Secretary of the Smithsonian Institution, and President of the National Academy of Sciences (all *ex officio*) and Daniel C. Gilman, president; Abram S. Hewitt, chairman; John S. Billings, vice-chairman; Charles D. Walcott, secretary; William N. Frew, Lyman J. Gage, John Hay, Henry L. Higginson, Henry Hitchcock (since deceased), Charles L. Hutchinson, William Lindsay, Seth Low, Wayne MacVeagh, D. O. Mills, S. Weir Mitchell, William W. Morrow, Elihu Root, John C. Spooner, Andrew D. White, Edward D. White, and Carroll D. Wright. E. A. Hitchcock, Secretary of the Interior, was elected a trustee to fill the vacancy made by the death of his brother, Henry Hitchcock, of St. Louis.

The trustees at their annual meeting in November, 1902, adopted the following propositions as guides for the Executive Committee in selecting projects to which the funds and energies of the institution are to be devoted:

"First, to promote original research by systematically sustaining—

"(a) Projects of broad scope that may lead to the discovery and utilization of new forces for the benefit of man, pursuing each with the greatest possible thoroughness.

"(b) Projects of minor scope that may fill in gaps in knowledge, of particular things or restricted fields of research.

"(c) Administration of a definite or stated research under a single direction by competent individuals.

"(d) Appointment of research assistants.

"Second, to increase facilities for higher education by promoting (a) original research in universities and institutions of learning by such means as may be practicable and advisable. (b) The use by advanced students of the opportunities offered for special study and research by the Government bureaus in Washington.

"The Carnegie Institution will not undertake:

"(a) To do anything that is being well done by other agencies.

"(b) To do that which can be better done by other agencies.

"(c) To enter the field of existing organizations that are properly equipped or are likely to be so equipped.

"(d) To give aid to individuals or organizations in order to relieve them of financial responsibilities which they are able to carry or in order that they may divert funds to other purposes.

"(e) To enter the field of applied science, except in unusual cases.

"(f) To purchase land or erect buildings for any organization.

"(g) To aid institutions when it is practicable to accomplish the same result by aiding individuals who may or may not be connected with institutions.

"(h) To provide for a general or liberal course of education."

At the same meeting the following appropriations were authorized: For scientific research, \$200,000; for the reserve fund, \$100,000; for administrative expenses, \$50,000; for the publication of scientific memoirs and papers, \$40,000. It was decided to issue a year-book in December, 1902, to contain the advisory reports and such other information regarding the work of the institution as might be deemed wise.

CHEMISTRY. Chemical Theory.—A considerable part of the address of Prof. James Dewar as president of the British Association, at Belfast, Sept. 10, was devoted to the discussion of researches concerning extreme cold, the absolute zero, and the liquefaction and congelation of gases, with which the speaker had been closely associated. The first conception of a zero of temperature is accredited to Amonson, who in 1794 constructed a thermometer scale in which the zero was placed at a point corresponding with —240 of the centigrade scale—"a remarkable approximation to our modern value for this point of *minus* 273 degrees." Amonson's experiments were verified by Lambert in 1779, who estimated the value of the zero as —270°. Other estimates followed, with widely varying results, till in 1848, when "the whole question took an entirely new form," and Lord Kelvin, applying the principles underlying Carnot's work on the Motive Power of Heat, calculated the zero at —273° C. "It was a great advance to demonstrate by the application of the laws of thermodynamics not only that the zero of temperature is a reality, but that it must be located at 273° below the freezing-point of water. As no one has attempted to impugn the solid foundation of theory and experiment on which Lord Kelvin based his thermodynamic scale, the existence of a definite zero of temperature must be acknowledged as a fundamental scientific fact." Systematic experiments in the production of extreme cold are traced from the production of liquid carbonic acid by Thilorier in large quantities and his discovery, in 1835, that the liquid could be frozen into a snow by its own evaporation. A very important step in the investigation was the Bakerian lecture of Andrews, in 1869, on The Continuity of the Gaseous and Liquid States of Matter, in which the critical temperature and the relations of pressure were defined and experimental proof was given that "the gaseous and liquid states are only distinct stages of the same condition of matter, and are capable of passing into one another by a process of continuous change."

Van der Waals, in his essay On the Continuity of the Gaseous and Liquid States, gave "the equation of continuity," involving the relations of pressure, temperature, and volume; molecular

Adrienscampie

Adrenokortikale

pressure; and molecular volume. A second contribution by Van der Waals to the theoretical side of the question, in *The Theory of Corresponding States*, was even more important than his original essay. This theory with the propositions that have been developed has been of the greatest importance in directing experimental investigation and in attacking the difficult problem of the liquefaction of the most permanent gases. In this matter theory has far outrun experiment. In the meantime experiment had gone on, and most of the gases had been liquefied; and the problem had become not so much how to produce intense cold as how to save it when produced from being immediately leveled up by the relatively superheated surroundings. For this purpose the author contrived a system of double-walled vessels, with the space between the walls very highly exhausted. "Vessels of this kind are now in general use, and in them liquid air has crossed the American Continent." Liquid hydrogen—that being the last of the gases yet refrigerated—is the lightest liquid known to exist, and by far the coldest. It boils at -252.5°C. , or 20.5° absolute. Reduction of the pressure by the air-pump brings down the temperature to -258° , when the liquid becomes a solid resembling frozen foam, and this by further exhaustion is cooled to -260° , or 13° absolute, the lowest steady temperature that has yet been reached. "This gap of 13° might seem at first sight insignificant in comparison with the hundreds that have already been conquered. But to win one degree low down the scale is quite a different matter from doing so at higher temperatures; in fact, to annihilate those few remaining degrees would be a far greater achievement than any so far accomplished in low-temperature research." With the liquefaction and evaporation of a gas as much more volatile than hydrogen as that is than nitrogen it might be possible to reach a lower temperature—say 5° absolute—but even a second hypothetical substance of like relative volatility—as perhaps helium—would not bring the experimenter quite to the point of his ambition. "That the zero will ever be reached by man is extremely improbable. . . . But supposing all difficulties to be overcome and the experimenter to be able to reach within a few degrees of the zero, it is by no means certain that he would find the near approach of the death of matter sometimes pictured. Any forecast of the phenomenon that would be seen must be based on the assumption that there is continuity between the processes studied at attainable temperatures and those which take place at still lower ones." The speaker doubted whether such an assumption was justified.

In a communication to the National Academy of Sciences, April, 1902, Prof. T. W. Richards treated of the hypotheses that may reasonably be tried to account for changes in atomic volume. It seems very extraordinary, he held, that notwithstanding the stupendous mass of chemical facts that have been collected and the important researches that have been made in physical chemistry, we are still without knowledge of the nature of a chemical compound and of the manner in which its constituents are held together. We are not even certain that they are held together by mutual attractions; for though the evolution of heat usual when bodies combine indicates a satisfaction of mutual forces simultaneously with the act of combination, there are still cases in which heat is absorbed during combinations. This fact suggests an inquiry whether

there may not be other agencies than mutual forces the action of which results indirectly in the formation of chemical bodies; and whether, if so, such agencies may not be a factor even of those combinations in which they are aided by direct forces. When hydrogen and chlorine come together no condensation of which account is taken occurs, although an enormous evolution of heat takes place. The extreme chemical activity of the resulting gas, however, seems to prove that it is not a complete chemical compound. Notwithstanding the great energy with which the ions have approached one another, they are still so active that the case must be regarded as very different from that when a mixture of hydrogen and oxygen loses one-third of its volume in combining. A body may undergo contraction without combining with a different body, as in the case when the vapor of water is cooled. In all such cases heat is plentifully evolved, and molecule unites with molecule. It may be questioned how far the heat of chemical reaction is anything more than heat of contraction. Contraction does not necessarily consist solely in the approach of atoms toward one another. If an atom is a vortex, it must be in itself elastic and capable of deformation; and it may be so even if it is not a vortex. If atoms are compressible the mutual attraction between two atoms would naturally tend to deform them. Hence we have, further, to determine the relation between such deformations and their valency. Apparently, highly compressible elements have low valency, while elements of high valency, like carbon, are little compressible. Such considerations as these noted should be borne in mind in the construction of new hypotheses upon which experimental investigations are to be based.

In his presidential address before the section of chemistry of the British Association Prof. Edward Divers, of the Imperial University of Tokio, Japan, presented what he designated as *The Atomic Theory without Hypothesis*, or divested of the conception of atoms as discrete particles. He thought that the conception of bodies as not continuous in texture, but as composed of discrete minute particles, had been a bar to the full and universal acceptance of Dalton's atomic theory, and offered a new view, divested of all reference to the physical constitution of matter, in which only the conditions of chemical equality between substances should be regarded.

In their study of the theory of radio-activity, E. Rutherford and Frederick Soddy observe that all the most prominent workers in the investigation, including M. and Mme. Curie and M. Becquerel, agree that the phenomenon is the function of the atom and not of the molecule. In the experiments of the authors with the emanation produced by thorium compounds and the property it possesses of exciting radio-activity on surrounding objects the radio-activity appeared in each case as the manifestation of a special kind of matter in minute amount. The emanation behaved in all respects like a gas, and the excited radio-activity it produced as an invisible deposit of intensely active material, independent of the nature of the substance on which it was deposited, and capable of being removed by rubbing or the action of acids. The position is thus arrived at, that radio-activity is at once an atomic phenomenon and the accompaniment of a chemical change in which new kinds of matter are produced. Before such a view was entertained attempts made to explain it on existing

hypotheses proved unsatisfactory. It is apparent that in radio-activity we are dealing with phenomena outside of the sphere of known atomic forces, for the whole process goes on independently of temperature and chemical affinity. The idea of the chemical atom in certain cases spontaneously breaking up with evolution of energy is not of itself contrary to anything that is known of the properties of atoms. The changes brought to knowledge by radio-activity, although undeniably material and chemical in nature, are of a different order of magnitude from any that have been before dealt with in chemistry—being of an extreme order of minuteness. It is a significant fact that the radio-active elements are all at the end of the periodic table. If we suppose that radium is the missing second higher homologue of barium, then the known examples—uranium, thorium, radium, polonium (bismuth), and lead—are the five elements of heaviest atomic weight. Nothing can yet be said of the mechanism of the changes involved; but whatever view is ultimately adopted, it seems not unreasonable to hope that radio-activity affords the means of obtaining information of processes going on within the chemical atom.

The radio-active elements are considered by Mr. Geoffrey Martin, of the University of Berlin, as examples of elements undergoing decomposition at ordinary temperatures. In all probability the behavior is not peculiar to heavy radio-active elements, but occurs with other elements in the periodic system at suitable temperature ranges which differ with different elements.

Through his experiments with liquid and solid hydrogen, Prof. James Dewar has been able to learn much concerning the true relations of that element. Faraday, Dumas, Daniell, Graham, and Andrews thought that if hydrogen could ever be brought into the state of a liquid or solid it would reveal metallic characters; but Prof. Odling, in 1861, pointed out in his *Manual of Chemistry* that the chlorous relations of hydrogen were as decided, important, and frequent as its other ones, and expressed the opinion that it was essentially a neutral or intermediate body, and should not be expected to present, in its liquid or solid form, the appearance of a metal. Dumas found analogies between hydrogen and magnesium, and thought that both elements probably had the same atomic volume; and he deduced a density for hydrogen near the value that has been obtained in subsequent experiments. Newlands, in 1872, regarded it as the lowest member of the chlorine family; Mendeléef placed it with the alkali metals; and Dr. Johnstone Stoney classed it with the alkaline earth metals and magnesium. The conclusion of Prof. Odling has been confirmed by Prof. Dewar's researches. In the account of his investigations given in his presidential address before the British Association, 1902, Belfast, he cites the case of liquid hydrogen as an excellent illustration of the truth that no theoretical forecast, however apparently justified by analogy, can be finally accepted as true until confirmed by actual experiment. As described in this address, liquid hydrogen is a colorless transparent body. It has a clearly defined surface, is easily seen, drops well, in spite of the fact that its surface tension is only the twenty-fifth part of that of water or one-fifth that of liquid air, and can be poured easily from vessel to vessel. The liquid does not conduct electricity, and, if anything, is slightly diamagnetic. Compared with an equal volume of liquid air, it requires only one-fifth the quan-

tity of heat for vaporization; on the other hand, its specific heat is ten times that of liquid air or five times that of water. The coefficient of expansion of the fluid is about ten times that of gas. It is by far the lightest liquid known to exist, its density being only one-fourteenth that of water; the lightest liquid previously known was marsh-gas, which is six times heavier. The only solid which has so small a density as to float upon its surface is a piece of pith wood. At ordinary atmospheric pressure it boils at -252.5°C ., or 20.5° absolute. The critical point of the liquid is about 29° absolute, and the critical pressure is not more than 15 atmospheres. The vapor of the hydrogen arising from the liquid has nearly the density of air—that is, fourteen times that of the gas at the ordinary temperature. It becomes a solid, resembling frozen foam, at -258°C ., and may be got in the form of a clear, transparent ice, melting at about 55° absolute, under a pressure of 55 millimeters, and having one-eleventh the density of water.

In a lecture on Catalysis, Prof. William Ostwald defined a catalyst as any substance which will alter the velocity of a chemical reaction without appearing in the final product, and catalysis as the process induced by it. Catalysis is extremely common, and as a matter of fact appears wherever the velocity of a chemical reaction can be measured. Catalytic reactions were divided by the author into four groups: 1. Release in supersaturated solutions, as when such solutions of Glauber's salts are crystallized by a small trace of the solid substance with which the solution is saturated. It also appears in solutions of gases, vapors, etc. 2. Catalysis in homogeneous solutions—the largest and theoretically the most important class of contact reactions. 3. Heterogeneous catalysis, which is illustrated in the action of platinum on combustible mixtures of gases, as of oxygen and hydrogen, or in the combustion of sulfur dioxide to trioxide. 4. Enzymes, which are to be looked upon as catalysts that are in the organs during the life of the cell, and by the action of which it discharges the greatest part of its duties. There seems to be no kind of chemical reaction which can not be catalytically influenced, no chemical substance, whether element or compound, which can not act catalytically. There are both general and specific catalysts. Among the theories of catalysis that have been proposed, that of Liebig, that it is the direct consequence of the law of inertia; the hypothesis of molecular vibrations; and the theory of Euler, that the catalytic substance has the property of altering the concentration of the ions—were reviewed by the author and found to be inexplicable or insufficient. In the case of the first class of catalyses, however—release in supersaturated solutions—the theory is known. In all cases there is the formation of a system the stability of which is not the greatest possible under the given conditions of temperature and pressure. There are, on the contrary, other more stable conditions which are characterized by the fact that in them a new phase—that is, a physically different component with other properties—makes its appearance. In supersaturated Glauber's salt this is the solid salt; in supersaturated soda water it is carbonic-acid gas.

Experiments on the antiseptic properties of dilute solutions of acids were made by M. Bial on yeast-cells. The retarding action of different acids on the development of the cells was measured by observing the amount of carbon dioxide liberated from a solution of grape-sugar. It

was found that the concentrations of the solutions which are just sufficient to check the development of the cells completely are much smaller in the case of the strong acids like hydrochloric and sulfuric acids than in the case of weak acids, such as acetic and butyric acids. The results led the author to conclude that the antiseptic power is essentially determined by the hydrogen ion which is contained in the solution, and that the electrolytic dissociation theory is competent to account for the observed phenomena in a satisfactory manner. As is required by this theory, it is found that the addition of neutral acetates to a solution of acetic acid diminishes the antiseptic power of the acid; the concentration of the active component of the solution, the hydrogen ion, being under these circumstances reduced to a much smaller value.

In a lecture at the Royal Institution, Prof. Otto N. Witt, of Berlin, explained that in order to become a dyestuff a substance must not only be so intensely colored that it could communicate its own shade to colorless substances holding it in solution, it must not only be soluble in water or other liquid suitable for preparing a dye-bath, but it must also be soluble, and even much more soluble than in water, in the colloid which forms the substance of the textile fiber. The finished dyed fabric is nothing more or less than a solid solution of the dyestuff in the substance of the fiber, unless there are chemical influences, such as that of the mordants, at work to change the solution into a suspension by precipitating the dyestuff after its immigration into the fiber. This peculiar combination of solubilities is rare in colored substances of an inorganic nature; and in the vast domain of organic substances of the aliphatic series few dyestuffs are met with, but in the aromatic series, where the power of selective absorption of light is very frequent, it would be curious if they were not of common occurrence. Since the physical properties of every compound are direct functions of its molecular constitution, it is easy to believe that this peculiar combination of solubilities would be the result of certain general conditions fulfilled in many members of the aromatic group; and the theory the author had proposed twenty-five years before was simply an attempt to discover those conditions by investigating the constitutional peculiarities of all those dyestuffs whose constitution was known in those days. In the molecule of every coloring-matter whose constitution was known certain atomic constellations had been observed which seemed to be essential, and of which two must always be present—chromophores and auxochromic groups. Of the former, about two dozen were known, all agreeing in the fact that they could not exert their influence except in the presence of the auxochromic groups, of which very few were known. There must exist a law governing the formation of chromophoric groups, but so far it has not been definitely established, though some progress has been made toward doing so. Our knowledge of the chemical causes of the physical properties of coloring-matters is continuously developing, and lately some definite views have been formed about the connection of the chemical constitution of the aromatic bodies with that form of selective absorption of light known as fluorescence. Much work has been done on the constitution of the azo-colors, the introduction of which was the direct result of early efforts to conduct the search for new coloring-matters on definite scientific principles. The number of dyestuffs of this class is extraordi-

nary; and it has been computed that 3,150,000 different ones are at present easily accessible. Of these, at least 25,000 are patented, while more than 500 are manufactured on the larger scale. Azo-dyestuffs can be produced at will to dye wool or silk or cotton, to dye slowly or quickly, to stand soap, or acid, or alkali; and this possibility of adjusting their properties with almost mechanical precision has been the cause of the greatest successes of the color industry. While this field has borne its rich harvest, other fields have not been neglected. Perhaps the greatest and most brilliant success of the chemistry of dyestuffs has been the industrial synthesis of indigo.

An experimental basis has been laid for the chemical theory of the formation of petroleum by the researches of MM. Paul Sabbatier and J. B. Senderens on the action of reduced nickel, iron, and other metals upon hydrocarbons. By the direct hydrogenation of acetylene in the presence of nickel these authors have obtained liquid mixtures of hydrocarbons which can be made to correspond with the American or Caucasian petroleum by varying the conditions of the experiment. To account for the formation of petroleum, it is thus sufficient to admit that there are in the depths of the ocean free alkali metals and metallic carbids which in contact with water give rise to mixtures of hydrogen and hydrocarbons. These cases encounter nickel, cobalt, or iron in a finely divided state, and thus give rise to the mixtures of hydrocarbons, so as to form natural petroleum. Berthelot and Mendeléeff had supposed that the natural hydrocarbons were mainly formed by the action of steam upon metallic carbids; but difficulty had been found in applying this theory to the formation of the naphthas of the Russian oil-fields.

Chemical Physics.—It was found in the experiments of E. Rutherford and F. Solly, of McGill University, that thorium from which the radio-active constituent (Thx) has been separated regained its activity with time, while the activity of Thx decreased with time. Thx was observed to possess a distinct chemical behavior which differentiated it from thorium. Ammonia was the only reagent of those tried capable of separating it from the latter. Experiments are cited which indicated that Thx was continuously produced by thorium compounds at a constant rate. The rate of production of Thx and rate of decay of its activity were apparently unaffected by known agencies. Both changes proceeded independently of the chemical and physical conditions of the molecule. The source of the energy required to maintain the radio-activity of thorium over indefinite periods was therefore supposed to be found in a chemical change producing new types of matter. Emanating power appeared to be a property of Thx, and not of thorium, and was proportional to the activity of the Thx present. The decay and recovery of the emanating power of Thx and thorium were completely analogous to the decay and recovery of radio-activity. These results find their simplest explanation in the view that one of the products is gaseous and in the radio-active state is the emanation. The result arrived at, that radio-activity is the consequence of changes in which new types of matter are formed, leads to the conclusion that it is the result of subatomic changes. In experiments made after the writing of this account, solution in water was found to increase the emanating power of thorium nitrate nearly two hundred times, and solutions of thorium chlorid gave a large amount of emanation.

Simultaneously with the observation of the latent emanating power of thorium nitrate, it was noticed that preparations of thorium carbonate varied enormously in radiating power according to the method in which they were prepared. In the course of the experiments to which these observations led, it was found that active filtrates produced under various conditions described by the authors contained no thorium, or at most only a minute trace, but another substance in very appreciable quantities which when precipitated with sodium phosphate appeared as a white substance possessing both emanating power and radio-activity many hundredfold greater than those of thorium. This substance has not yet been obtained in sufficiently large quantities for an exhaustive chemical investigation, and it is impossible at present to say what it may prove to be. The authors do not believe, however, that it is the radio-active or the emanating constituent of thorium. The evidence of a series of observations leads to the conclusion that the major part of the radio-activity of thorium—ordinarily about 54 per cent.—is due to a non-thorium type of matter (Thx) possessing distinct chemical properties, which is temporarily radio-active, its activity falling to one-half its volume in about four days. The constant radio-activity of thorium is maintained by the production of this material at a constant rate. Both the rate of production of the new material and the rate of decay of its activity appear to be independent of the physical and chemical condition of the system. The Thx further possesses the property of exciting radio-activity in surrounding inactive matter, and about 21 per cent. of the total activity under ordinary circumstances is derived from this source. Its rate of decay and other considerations make it probable that it is the same as the excited radio-activity caused by the thorium emanation, which has been shown to be produced by Thx. There is evidence that if by any means the emanation is prevented from escaping in the radio-active state, the energy of the radiation goes to augment the excited radio-activity in the compound. Thorium can be freed by suitable means from both Thx and the excited radio-activity which the latter produces, and then possesses an activity about 25 per cent. of its original value, below which it has not been reduced. The residual radiation consists entirely of rays non-deviable by the magnetic field, whereas the other components comprise both deviable and undeviable radiations. Most probably, the authors suggest, this residual activity is caused by a second non-thorium type of matter, produced in the same changes as Thx, and it should therefore prove possible to separate it by chemical methods.

T. W. Richards predicates two conceivable causes of compression in a substance. The pressure may be applied from the outside or it may be due to the internal attraction or affinity of the smallest particles of the substance for one another. That is, the substance may be compressed either by an outside pressure or by the intensity of its own cohesion. The former cause may be typified by highly compressed gases, the second by liquids. In solids we must consider also the directive agency which manifests itself in crystalline form and optical structure. The presence of the crystal-making force complicates the phenomenon, and is a considerable stumbling-block to the study of the theoretical tension of solids. In view of these facts, it seemed to the author possible that the study of compression as manifested by atomic volume under different cir-

cumstances, as well as of atomic compressibility, might afford some light as to the affinities at work. The outcome of the author's first studies, of which an account was communicated to the American Academy of Arts and Sciences, is that atomic volume is not constant, but is a function of pressure and temperature, and, probably, of electric stress.

Enumerating some of the results that had been attained in low-temperature studies (with liquid air and liquid hydrogen), Prof. James Dewar said at the British Association meeting that the great majority of chemical actions are entirely suspended; but fluorin is still active at the temperature of liquid air. Whether solid fluorin and liquid hydrogen would interact, no one can at present say. Bodies naturally become denser, but even a highly expansive substance like ice does not appear to reach the density of water at the lowest temperature, a fact confirmatory of the view that the particles of matter under such conditions are not packed in the closest possible way. The force of cohesion is greatly increased at the extremely low temperature, as is shown by the additional stress required to rupture metallic wire. This fact is mentioned as being of much interest in connection with two conflicting theories of matter: that of Lord Kelvin, that the forces which hold together the particles of bodies may be accounted for without assuming any other agency than gravitation, or any other law than the Newtonian; and the opposite view, that the phenomena of the aggregation of molecules depend upon the molecular vibration as a physical cause. Hence, according to this theory, at the zero of absolute temperature, the vibratory energy being in complete abeyance, the phenomena of cohesion should cease to exist, and matter generally be reduced to a heap of cosmic dust. The second view receives no support from experiment.

The photographic action of light is diminished at the temperature of liquid air to about 20 per cent. of its ordinary efficiency, and at the still lower temperature of liquid hydrogen only about 10 per cent. of the ordinary sensitivity remains. At the temperature of liquid air and liquid hydrogen a large range of organic bodies, and many inorganic ones, acquire under exposure to violet light the power of phosphorescence. Such bodies glow faintly so long as they are kept cold, but become exceedingly brilliant during the period when the temperature is rising. Even solid air is a phosphorescent body. All the alkaline earth sulfides which phosphoresce brilliantly at the ordinary temperatures lose this property when cooled, and have it renewed on heating; but such bodies may be stimulated through the absorption of light at the lowest temperatures. Radio-active bodies, on the other hand, like radium, which are naturally self-luminous, maintain their luminosity unimpaired at the very lowest temperatures, and are still capable of inducing phosphorescence in bodies like the platino-cyanids. Some crystals become for a time self-luminous when cooled in liquid air or hydrogen, owing to induced electric stimulation causing discharges between the crystal molecules. This phenomenon is very pronounced with nitrate of uranium and some platino-cyanids.

A long series of experiments were made by Prof. Dewar and Prof. Fleming on the electric and magnetic properties of bodies at low temperatures—such as the thermoelectric powers of pure metals, the magnetic properties of iron and steel, dielectric constants, the magnetic and electric constants of liquid oxygen, and magnetic

susceptibility. The results showed that electric resistance by pure metals is largely dependent upon the molecular or atomic motion which gives rise to temperature, and that the process by which the energy constituting what is called an electric current is dissipated essentially depends upon non-homogeneity of structure and upon the absolute temperature of the material. It is not shown, but left doubtful, that resistance would vanish altogether at zero of absolute temperature and all pure metals become perfect conductors of electricity; but other observations are mentioned, made at very low temperatures, which appear to point to an ultimate finite resistance. In magnetic work the result of greatest value was the proof that magnetic susceptibility varies inversely as the absolute temperature.

The properties of 19 elements were examined by Mr. Hugh Ramage in a comparative study of the structure, densities, and melting-points of some groups of elements and of the relation of the properties of elements to their atomic mass. The elements and groups were: 1. Lithium, sodium, potassium, rubidium, and caesium. 2. Copper, silver, and gold. 3. Magnesium, zinc, cadmium, and mercury. 4. Calcium, strontium, and barium. 5. Aluminum, gallium, indium, and platinum. The flame spectra of the metals were much simpler than the arc or spark spectra, and might be regarded as the fundamental spectra. They furnish purely experimental data with which to begin an investigation of the laws which govern the distribution of lines in spectra and by which to study the relations of the physical and chemical properties of the metals to their spectra. Diagrams have been drawn to show the important points revealed. Among the facts observed in the study of these diagrams were: 1. That the metals considered may be classified into groups according to their spectra, the elements in each group appearing to have a similar atomic structure. 2. The connecting lines between the members of the chemical groups are not continuous; there are certain breaks in them. These occur between the metals sodium, magnesium, and chromium and the metals of the respective groups higher up in atomic masses. The break between the sharp series in the spectra of the aluminum group is very slight; that between the diffuse series is very marked and corresponds to marked changes in the densities and cooling-points of these elements. 3. The cause of the displacement of corresponding lines in some strictly homogeneous elements is intimately connected with the atomic masses. The shift of the subordinate series of potassium, rubidium, and caesium is proportional to the atomic mass, while the shift of the principal series is very nearly proportioned to the square of the atomic mass. 4. The lines which connect the corresponding members of the homogeneous doublets and triplets approach one another as the atomic mass decreases, and intersect on the line of zero atomic mass. The spectra of potassium, rubidium, and caesium change regularly with atomic mass. The whole study is regarded as indicating that the properties of the elements are fundamentally due to the structure of the atoms as revealed by their spectra rather than to the quantity of matter in them.

New Substances.—Having in a previous paper published an account of the preparation and properties of liquid silicon hydride, MM. H. Moissan and S. Smiles have continued their research, and have given further proof of the formula Si_2H_6 , which they found for it. This silicid corresponds among silicon compounds to ethane in

the carbon series; it is spontaneously inflammable in presence of air, and possesses very energetic reducing properties. It decomposes carbon tetrachloride and sulfur hexafluoride with violence.

Describing, in the *American Chemical Journal*, some reactions between acid and basic amides and liquid ammonia, Messrs. Franklin and Stafford observe that solutions of these amides in liquid ammonia are conductors of electricity, a fact possibly due to electrolytic dissociation of the dissolved substances. These amides seem to bear a relation to liquid ammonia which in many respects is very similar to that borne by ordinary acids and bases to water. Complete or partial neutralization of the dissolved amides takes place with the formation of one or more molecules of the solvent in which the reaction takes place. By bringing together liquid ammonia solutions of different acid and basic amides, the authors have prepared a large number of metallic substituted amides—such, for example, as monopotassium acetamide, monopotassium and dipotassium benzamide, monopotassium and dipotassium sulfamide, monopotassium and dipotassium urea, magnesium acetamide, etc.

Herr Th. Gross reports in the *Elektrochemische Zeitung* as one of the results of the investigation of the behavior of silicon when exposed to long-continued electrolysis that he obtained evidence of the probable presence of some second element in the fused mixture produced. The silicon recovered after passing the electric current through silica when dissolved in twice its weight of pure caustic potash showed a deficiency on the original weight. The part lacking was found in a small quantity of a substance possessing different physical and chemical properties. This substance was easily soluble in hydrochloric acid. When heated in a porcelain crucible it melted and yielded a brown mass, which on treatment with hydrogen gas left a gray residue possessing metallic characteristics resembling those of selenium. The experiments are regarded as requiring further confirmation.

In a paper on persulfuric acid read in the Royal Society, Prof. H. E. Armstrong and T. Morton Lowry said that on electrolyzing strong solutions of sulfuric acid, Faraday in 1834 noted "a remarkable disappearance of oxygen." This was shown by Berthelot in 1878 to be due mainly to peroxidation of the sulfuric acid. An anhydride, S_2O_8 , was isolated, and Berthelot therefore concluded that the corresponding persulfuric acid, $\text{H}_2\text{S}_2\text{O}_8$, was formed when sulfuric acid was peroxidized either by anode oxidation or by interaction with hydrogen peroxide. The persulfates were isolated by Marshall in 1891 by electrolyzing solutions of acid sulfates, and have found a technical application in photography. This simple explanation of the peroxidation of sulfuric acid remained unchallenged until Caro found in 1898 that when the persulfates are dissolved in sulfuric acid, and the solution is again neutralized, a product is obtained which possesses the property of oxidizing aniline to nitrobenzene. None of the salts of Caro's modified persulfuric acid have yet been isolated, and only indirect methods are therefore available for obtaining its constitution.

Some experiments in the destruction of rats in ships as a prophylactic against the communication of plague are referred to in the *Lancet* of July 19 as demonstrating the superiority of a gas called Clayton gas to sulfurous acid or carbonic acid gas for that purpose. This gas is essentially a sulfur dioxide, but there occurs in it by

virtue of the peculiar method by which it is obtained a technical "impurity," which gives it its special value. This "impurity" is sulfur trioxid, the presence of which is manifested by the burning properties of the gas. Clayton gas is produced by the combustion of sulfur in a current of air during which the temperature rises sufficiently high to lead to the formation of some amount of sulfur trioxid. The gas is used mixed with air in the proportion of 10 to 15 per cent. It is said that less than 5 per cent. of the Clayton gas will destroy rats and other vermin, while at least 15 per cent. of pure sulfur dioxide is required for the destruction of vermin life. Yet Clayton gas has no appreciable action on colored materials, foodstuffs, paints, or dry metals except in a moist atmosphere. Its fire-extinguishing qualities are also remarkable; a mixture containing 8 per cent. of it rapidly extinguishes burning materials.

Pentafluorid of iodine was obtained by M. Moissan without difficulty in a perfectly pure state by the action of fluorine upon solid iodine. It formed a colorless liquid solidifying at 80°C ., and boiling without change at 97°C . Analysis shows that the fluorid has undoubtedly the composition IF_5 , and it is noteworthy that it can be distilled in a current of hydrogen without any reaction taking place. This fluorid possesses very great chemical activity. Most elementary bodies decompose it, and it produces with compound bodies a large number of double decompositions. Pentafluorid of iodine is decomposed about 500°C ., iodine being formed, and possibly a new fluorid of iodine.

A monomethylarsine—the analogue in the cacodyl group of methylamine—has been prepared by A. W. Palmer and W. H. Dehn. Indications of the existence of such a compound had been obtained three years before by the reduction of methylchlorarsine; but as this is costly and difficult to prepare, a more suitable starting-point was found in cacodylic acid. This, on reduction with amalgamated zinc dust and hydrochloric acid, gives the CH_3AsH_2 , which is separated from the hydrogen that accompanies it by passing through a U-tube surrounded by a mixture of solid carbon dioxide and ether. Monomethylarsine is a colorless, mobile liquid which boils, under ordinary atmospheric pressure, at 2°C ., and possesses the penetrating, objectionable smell of cacodyl. It rapidly attacks india-rubber, and combines immediately with oxygen, without, however, catching fire spontaneously; in this respect differing from dimethylamine. The production of monophenylarsinic acid is discussed in the same paper.

In the manufacture of a pigment which in composition is a hydrated basic ferric oxide, $\text{Fe}_2\text{O}_3\cdot\text{Fe}_2(\text{OH})_6$, one of the first commercial applications is presented of those physico-chemical theories which have been developed largely by the study of dilute electrolysis. The waste ferrous liquor derived from iron pickling—generally ferrous sulfate or chloride, with some free acid—is neutralized and then oxidized by the joint action of air and steam. As the oxidation proceeds an alkali, as sodium carbonate in solution, sufficient to maintain substantial neutrality, is produced, and simultaneously therewith a large volume of water, which is the true precipitating agent. The effect is that known as hydrolysis, or the decomposition by water of a salt composed of a base and acid between which there is a great disparity of strength—in the present instance a compound of a weak base with a strong acid. By the oxidation of ferrous sul-

fate, basic ferric sulfate is formed, and this salt in the presence of a large volume of water is hydrolyzed, yielding sulfuric acid and basic ferric hydrate—the pigment in question. A reaction of this character would, of course, soon reach an equilibrium, and the yield of pigment would be but small, wherefore the gradual addition of alkali to combine with the acid as it is liberated and to insure the continuance of the reaction to the complete precipitation of the iron. The pigment is bright yellow in color, but is readily converted by heat into the several iron oxide reds, and affords also a reliable base for mixed pigments. Its absorptive capacity for oil greatly exceeds that of the standard pigments, being two and a half times that of standard French ochre, and seven and a half times that of white lead. Its covering powers as compared with these pigments is about proportionately high.

Exposing powdered niobite and sugar charcoal to the temperature of the electric furnace, Prof. Moissan obtained a substance rich in niobium and tantalum. From this tantalum was separated by a series of chemical processes as a brilliant metallic mass having strong reducing properties and exhibiting reactions closely resembling those of niobium, an increased reducing action being the only difference noticed. Containing not more than 0.5 per cent. of carbon, it scratched rock crystal with ease. It was infusible before the oxyhydrogen blowpipe, which transformed it rapidly into tantalic acid. It could be fused in the electric furnace, but only with a very powerful arc. Its density was 12.79, while the density of the tantalum prepared by Berzelius was 10.08, and that of Rose's tantalum 10.78. Finely powdered tantalum took fire when gently heated in fluorine, and gave off abundant vapors of a fluorid. The element took fire in oxygen at 600°C ., and burned with lively incandescence; but no reactions took place at that temperature with sulfur or the vapor of iodine. Reactions of chlorine and the resultant products are described. From the reactions found, taken together, it appears that tantalum possesses very particular reducing properties, which cause it to resemble the metalloids rather than the metals.

A new gas derived from radium was described by M. and Mme. Curie, who having placed very active radium in a glass vessel and exhausting and allowing the apparatus to stand, found that the pressure steadily increased. When the small volume of gas thus collected flowed along glass tubes it made them phosphorescent, and eventually blackened them. Prompted by this observation, E. Rutherford and Miss H. T. Brookes examined the power of radio-active substances to emit radio-active particles continuously. Applying the rule of the inverse order of the coefficient of diffusion to that of molecular weight, they calculated for this gas or vapor a molecular weight lying between 40 and 100. These numbers are taken to exclude the possibility of the substance being vapor of radium, for its atomic weight is greater than that of barium. They conclude that the emanation is in reality a heavy radio-active vapor or gas. The thorium emanations are also supposed to be gaseous in character. The physical properties of these emanations or gases are described as being most remarkable. The radium emanation not only continues for long intervals to be a source of radiation which is apparently similar in character to easily absorbed Röntgen rays, but in some way manufactures from itself a positively charged substance which travels to the negative electrode and becomes a source of secondary radio-activity.

The action of radiferous barium chlorid, contained either in sealed tubes or gutta-percha sheaths and held in the hand or carried in the pocket for from six to ten hours, has been found by MM. Henri Becquerel and P. Curie to be at first to produce a slight redness of the skin near the substance. This redness conforms to the shape of the tube and increases in intensity. The skin next falls off from the part affected, and sinks in and begins to suppurate. Under proper treatment, which may last sometimes for a month, the lesion heals and leaves a scar. In one case a similar burn was experienced when the substance was enclosed in a thin metallic box. In general, the duration of the effect varies with the intensity of the active rays, and with the intensity of the exciting action.

New Processes.—It has been found by Camille Martignon that tellurium, gold, and platinum in all their different forms are attacked by a mixture of hydrochloric acid and oxygen at temperatures much below that of the oxidation of hydrochloric-acid gas in oxygen. The mixture constitutes a chlorating agent for a great number of materials. In the three cases mentioned its action can be compared to that of free chlorine.

With an apparatus essentially modified from that of Hampson for the liquefaction of air, Mr. M. W. Travers has obtained liquid hydrogen in quantity. Hydrogen at a pressure of 200 atmospheres is subjected to a preliminary cooling at -80°C . in solid carbonic acid and alcohol. It is then successively cooled by liquid air boiling under atmospheric pressure and under a pressure of 100 millimeters, after which it escapes from the Hampson valve, and being sufficiently imperfect gas at the low temperature (-200°C .) obtained by the liquid air boiling under low pressure, regenerative cooling is produced, as in the liquefaction of air by the Hampson machine. Liquid hydrogen is thus obtained, and is collected in a vacuum vessel which is specially isolated from external heat.

The production of oxygen and hydrogen gases by the electrolysis of solutions of caustic alkali is carried on as a regular industry at works in Rome, Milan, Zurich, Lucerne, Hanau, Brussels, and Paris. In the Schuckert electrolyzer a 15-per-cent. solution of caustic soda is used as the electrolyte, and the decomposition by the electric current goes on so rapidly and regularly that a continuous supply of distilled water is required to keep the process going. The most efficient work is given at a temperature of 70°C ., with an electro-motive force of 2.8 volts. With a Schuckert electrolyzer 660 millimeters in length, 450 millimeters in breadth, and 280 millimeters high, a primary charge of 50 liters of sodium-hydrate solution, and a current of 600 ampères, 220 liters of hydrogen, and 110 liters of oxygen at 15°C . temperature and 760 millimeters pressure are produced per hour.

The remarkable influence which is exerted by traces of iron in determining and regulating the oxidation of various organic substances was first observed by H. J. H. Fenton about twenty years ago, and the observation has opened to him since a very wide and fruitful field of investigation. The work in it is still being extended in several directions. In a communication by Mr. Fenton to the Cambridge Philosophical Society a brief summary was given of the researches on the subject already published, and of new results which had recently been obtained. The conditions of the oxidation method showed very close analogies with certain natural processes, and

many experiments were in progress with a view to throwing further light upon the function of the iron.

In the decomposition of the natural phosphates by sulfuric acid in the manufacture of superphosphatic fertilizers fluorin is released in the form of hydrofluoric acid or of fluorid of silicon, to the annoyance of manufacturers, and with danger of contaminating the atmosphere. For a time the gases were led through water, and with the solution thus formed sodium, magnesium, or aluminum fluosilicates were prepared, which were of little use, except that the last two might be applied to the hardening of stone. Fluosilicic acid has more recently been found to have strong antiseptic properties, and to be very useful as a preservative of manure, checking the denitrifying action of bacteria, for which purpose it surpasses plaster, kainite, and superphosphate of lime. In a recently patented preparation, the fluosilicic acid is incorporated with clay in a powder, which is accompanied by another powder consisting of a porous substance saturated with sulfuric acid. When the powders are scattered over the manure pile, the antiseptic fluosilicic acid is generated by the action of the sulfuric acid on the fluosilicates.

Since the discovery of the compound of hydrogen and nitrogen known as hydrazoic acid numerous modes of preparing it have been worked out. Most of these depend upon the use of organic compounds. Purely inorganic syntheses have been made by Wislicenus from sodium amid and nitrous oxid, and by Tanater from hydrazin and nitrogen chlorid. In a third synthesis recently described by Tanater, a mixture of hydrazin sulfate and hydroxylamin hydrochlorid is treated in acid solution with an oxidizing agent and distilled, when hydrazoic acid passes off with the distillate.

Artificial silk is now manufactured in France from wood-pulp dissolved in electrically made bisulfide of carbon. The solution of wood-pulp, prepared in the usual way, as for paper-making, is squirted through glass nozzles of exceedingly small dimensions, whence it issues in fine hair-like threads. These fibers are to all intents and purposes silk as soon as the volatile solvent has evaporated. They are then prepared in the usual way and spun into threads.

By a patented process lead dioxid is now produced electrochemically from a solution of an alkaline chlorid in which litharge is suspended.

Atomic Weights.—In the annual table of atomic weights published by the International Committee, the values on the basis of $\text{O}=16$ are given unaccompanied by the didactic table based on $\text{H}=1$. The withdrawal of the didactic table is explained to be in accord with a widely expressed wish. It is generally felt that if O is to be taken as $=16$ for any purpose, it should be taken so for all purposes. In a paper read to the American Society of Science and Arts, Prof. T. W. Richards appealed to chemists to conform to the decision of the International Committee. He pointed out that $\text{O}=16$ has served as the experimental standard of reference in the great majority of cases, that the great bulk of valuable work has already been published on that basis, and that the use of this standard involves no great didactic difficulties; and he contends that the decision of the International Committee is in itself an important reason for admitting this standard, and that uniformity of usage is more important than any of the special advantages claimed by either side in the discussion. The only alterations of atomic weights in the

current year's table were those of calcium from 40 to 40.1, iron from 56 to 55.9, and tellurium from 127 to 127.6.

The results of a redetermination of the atomic weight of uranium have been published by Prof. T. W. Richards and Mr. Merigold. Of previous determinations, that of Zimmermann, who in 1886 found the value 239.59, was regarded by the authors as most worthy of consideration. Zimmermann's method, which was based upon the preparation of pure UO_2 and its conversion into U_3O_8 , seemed likely to give too high numbers, because of the difficulty of obtaining the lower oxide free from occluded gases, and of oxidizing it completely. The authors chose for the basis of their research the analysis of uranous bromide. The analysis was effected by oxidizing uranous bromide to uranic bromide by means of hydrogen peroxide and then precipitating the bromine by means of silver nitrate. The results showed satisfactory concordance, and led to a conclusion expressed by the authors as follows: "If O be taken as 16 and bromine as 79.955, the atomic weight of uranium appears to be not far from 238.53." It is remarked that although this number differs by more than a unit from that given by Zimmermann, the percentage difference (0.45) is smaller than many which have often been passed unheeded in the case of elements of smaller atomic weight. It is, however, a noteworthy difference, and the probability seems to the authors to be that Zimmermann's number was too high.

Through concentrating by fractional crystallization the greater part of the radioactive barium at her disposal, Mme. Curie succeeded in obtaining about 1 decigram of perfectly pure radium chloride. This enabled her to determine the atomic weight of radium. She found it to be—taking chlorine = 35.4 and silver = 107.8—radium = 225, with a probable uncertainty of not more than 1 unit radium being considered a bivalent element. Pure anhydrous radium chloride is described by Mme. Curie as being spontaneously luminous. From its chemical properties, radium appears to be an element of the alkaline earthy series, and is the proper homologue of barium. According to its atomic weight, it should be placed in Mendeléeff's table below barium in the alkaline earthy series, and on the line with thorium and uranium.

It has been often observed that when calculated to the standard $\text{O} = 16$, many of the atomic weights approach whole numbers in a much larger proportion than they theoretically should according to the theory of probabilities. This subject is referred to by Arthur Marshall, in the *Chemiker Zeitung* (July 19), in a paper in which attention is called to some very remarkable relationships which appear to exist in many cases between the atomic weights of allied elements. Taking from the tables accepted by the German Chemical Society the 18 values calculated to two places of decimals, the chances against their approaching whole numbers are as 4.120 to 1. If the atomic weights are referred to $\text{H} = 1$, little or no tendency appears to approach whole numbers. The most striking relationships appear when certain of the atomic weights are referred to entirely different standards. Thus, the atomic weights of the halogen elements and silver are exactly in the ratio $\text{Cl} : \text{Br} : \text{Ag} : \text{I} = 90 : 203 : 274 : 322$. In the case of the alkali metals the proportions are even simpler: $\text{Li} : \text{NH}_4 : \text{Na} : \text{K} : \text{Rb} = 7 : 18 : 23 : 39 : 85$. Then in the horizontal series, $\text{V} : \text{Cr} : \text{Mn} : \text{Fe} : \text{Ni} : \text{Cu} : \text{Zn} = 54 : 55 : 58 : 59 : 62 : 67 : 69$. Other analogies are shown in Mr.

Marshall's paper. It is not yet time, the author observes, to work out relationships for all the elements; for there is still too great uncertainty about many of the atomic weights; but those referred to above appear to be thoroughly well established.

In experiments for determining the atomic weight of arsenic, W. Clarence Brough proceeded by four methods, namely, conversion of silver arseniate with silver chloride and reduction of this to metallic silver; conversion of silver arseniate into silver bromide; conversion of lead arseniate into lead chloride; and conversion of lead arseniate into lead bromide. The mean of results obtained in 26 experiments was 75.008, with a probable error of ± 0.006 . While this result is not regarded as conclusive, it is considered as in many respects "certainly confirmatory."

Prof. T. W. Richards has determined the atomic weight of caesium at about 132,879, with a range of from 132,873 to 132,882.

The same subject of the most suitable standard for the calculation of atomic weights is discussed by Mr. Cecil Hollins, who shows that when oxygen was taken instead of hydrogen, and the value of its atomic weight was raised from 15.88 to 16, the unit was lowered to 0.9925 of the atomic weight of hydrogen. In this scale the atomic weights of the elements exhibit a considerable tendency to agree with Prout's whole-number hypothesis—18 of them being integral against 6 when $\text{H} = 1$ is used as the standard, and the sum of the deviations from unity being only 10.298 as against 15.861. So, by further lowering the unit, he might expect that the atomic weights of the elements would still more closely approach to integers. By dividing each of the atomic weights into the nearest whole numbers, the author obtained factors ranging between 1.0101 for helium and 0.9859 for silicon, the mean of which was 0.99877. If this be taken as the unit, the atomic weights of the elements show a further tendency to become integral; and by treating these in the same way the total weight is again reduced, the mean factor now being = 0.99867. The results upon 17 elements on whose atomic weights authorities are agreed, namely, hydrogen, helium, lithium, sodium, potassium, oxygen, sulfur, selenium, nitrogen, fluorine, chlorine, carbon, chromium, beryllium, calcium, aluminum, and boron, were encouraging. Thus, while 3 of the 17 atomic weights are integral when the standard is $\text{H} = 1$, and 6 when it is $\text{O} = 16$, 10 are so when the factor 0.99877 is taken, and 15 when the factor is 0.99867. The total deviations under these different units, taking them in the same order, are 2.87, 1.448, 1.064, 0.729. The author's paper is only preliminary, and his research is to be continued.

Chemical Analysis.—The thirty-seventh volume of the proceedings of the American Academy of Arts and Sciences contains the results of an investigation of the decomposition of mercurous chloride by dissolved chlorides, the work of Messrs. T. W. Richards and E. H. Archibald. This decomposition is shown to be considerable if the chloride solutions are fairly concentrated—a point of considerable importance in the analytical determination of mercury as mercurous chloride. The action is not of a catalytic nature, but a definite condition of equilibrium is set up, the dissolved mercury being supposed to exist in the form of a complex ion represented by the formula HgCl_2 in the solution.

A method for the extraction of bromine proposed by Anson G. Betts is based on a reaction

between bromin and phenol in aqueous solution, by which tribromphenol and hydrobromic acid are formed. The reaction takes place instantly and at ordinary temperatures. A precipitate of tribromphenol appears if the brine contains as much as 0.002 per cent. of bromin. It was found impossible to precipitate all the bromin and form hydrochloric acid. Electrolysis is suggested as an advantageous method of setting bromin free. If the phenol is pure, the precipitation is crystalline and filters easily. If cresol is present, the precipitate is tarry. By drying and heating the precipitate, most of the bromin is recovered as hydrobromic acid. The rest is caught by passing the vapors through an alkali solution or a solution of ferrous bromid. Reduction of the precipitate by iron and mineral acid will regenerate the phenol. The process is best carried on by saturating one part of the brine with chlorin and the other part with phenol, and then mixing the two portions. Other organic bodies, such as acetylen, are suggested as suitable for recovering bromin from brine.

A new and simple test for albumin described by Flora C. Fuhs is based upon the facts that albumin is coagulated by carboic acid; equal volumes of non-albuminous urine and a mixture composed of equal parts of carboic acid and glycerin form an emulsion which clears up entirely on agitation, leaving a perfectly transparent and highly refractive liquid; and equal volumes of albuminous urine and the carbol solution when mixed produce a white turbidity, which remains in spite of agitation, and does not precipitate on standing or redissolve.

Lilly Grant Kollok and Edgar F. Smith give an account in the *Journal of the American Chemical Society* of quantitative determinations of uranium in solutions of the acetate, sulfate, and nitrate. A special table is given of results in the separation of uranium from barium, calcium, magnesium, and zinc. No satisfaction could be obtained in the attempt to separate it from nickel and cobalt.

The deposits of salts called alkali in Wyoming occupy undrained depressions in geological deposits extending from the Triassic to the present, and range from mere efflorescence to a thickness sometimes reaching 15 feet. The larger beds are often covered with water in the spring, whence they have been called lakes. The deposits are always found upon a muddy base. The mire smells of hydrogen sulfid and contains the same salts that form the deposit resting upon it. As described by W. C. Knight and E. E. Slosson, these deposits are rarely very pure, but are mixtures of several salts, with alternating layers of sand, salt, and mud. The classes of deposits that carry carbonates in quantity contain as principal salts, sodium carbonate, sulfate, and chlorid. Gypsum occurs, but is not prominent. Traces of potassium, lithium, iron, aluminum, manganese, borates, nitrates, sulfates, and phosphates are often found. Mirabilite constitutes the greater mass of most of the deposits, and epsomite is abundant. Different deposits vary greatly in composition, and different parts of the same bed show very often different proportions of the contained salts.

Difficulty is met in the classification of mineral waters on account of the way they shade into one another. A method is suggested by Prof. E. H. S. Bailey, of the University of Kansas, of designating them according to their predominant ions. Thus he would have: 1. The chlorid group, in which chlorids are predominant. 2. The sulfate group, marked by the predominance of

the sulfates. 3. The chlor-sulfate group, in which the chlorid and sulfate ions are about equal. 4. The carbonate group, in which carbonate ions are abundant. 5. The chlor-sulfo-carbonate groups, containing a considerable quantity of the ions of each class. 6. The sulf-hydride group, in which hydrogen sulfide is given off—the waters commonly called sulfur waters. 7. The chalybeate or iron group, which includes also waters containing manganese ions. 8. The special group, or waters which owe their value to some special substance, like lithia or borax. 9. The soft-water group, or waters which contain only a small quantity of mineral substance. More than 90 mineral waters of the State of Kansas are classified under this system.

New Apparatus.—A simple electric thermostat is described by William Duane and Charles A. Long, of the University of Colorado, with which the temperature of a bath can be kept constant to within one one-thousandth of a degree C. for a considerable time. The heat is supplied by an electric current, which in the case of a conducting liquid flows through the liquid itself; and in the case of a non-conducting fluid, flows through wires suspended in the bath. A system of tubes containing a liquid with a large temperature coefficient expansion is placed in the bath, and by means of a suitable mechanism the expansion of this liquid interrupts or reduces the strength of the heating current when the required temperature has been reached. The makes and breaks of the current follow in so rapid succession that no perceptible variations occur in consequence of the interruptions.

A new form of electric resistance laboratory furnace designed by Prof. Holbone, of the Reichsanstalt, Berlin, permits the easy attainment of temperatures up to 1,500° C. by the use of the ordinary 110-volt electric supply. The furnaces are made in two forms, one being adapted for heating crucibles, and the second for heating tubes 44 centimeters in length; but both are alike in principle, the electric current being carried through a resistance coil of platinum or nickel wire, wound around a thin porcelain tube or cylinder. The crucible or substance to be heated is placed within the latter, and the space between the outer side of the coil and the containing vessel is packed with asbestos or powdered quartz. Using nickel, the temperature of the furnace can not be raised above 1,000° C. without damage to the coil, but with platinum it is possible to attain a temperature of 1,500° C. with a current of 14 ampères and 110 volts. It is necessary in the use of these furnaces to include a resistance in the circuit, and to use only half of the maximum current when the heating is first begun. The use of the exterior resistance enables the temperature of the furnace to be registered with ease within somewhat narrow limits. Further advantages claimed for the furnaces are that the separate portions are replaceable when worn out, that the heating spirals can be easily removed and changed to suit special temperatures when required, and that with the tubular form of furnace, the heating of the substance can be carried on in the absence of air and in the presence of any desired gas or gaseous mixture.

An electrical furnace described by S. A. Tucker and H. R. Moody is after the Moissan type, and is composed of carbon bricks 12 inches by 4 by 2, luted together with Dixon's stove-polish. The sides are of 6-inch bricks, and a working span of 6 by 4 by 2 inches is available, which can be increased or diminished according to the charge

used. The whole is then clamped and held firmly together by iron cross-bars provided with adjustable screws on each end, the bars being insulated from the body of the furnace by strips of asbestos. The end bricks are perforated with 1.5-inch holes containing a collar of asbestos or a small cylinder of clay, through which the electrodes of carbon (1 by 12 inches) pass into the furnace-chamber. Connection is made with these electrodes by copper sleeves lined with copper gauze and tightened with set screws, which at the same time carry copper lugs that hold the flexible cables.

Miscellaneous.—The Electrochemical Society (of America) held its first meeting in Philadelphia, Pa., April 3 to 5, Prof. T. W. Richards presiding. Twenty papers were read and discussed during the sessions, and arrangements were made for the publication of the proceedings.

In his presidential address before the meeting of the Chemical Society in Philadelphia, F. W. Clarke presented as the chief need of chemistry at present a better organization of research. While appreciating the great work done by individuals laboring independently, the speaker thought that collaboration and systematization were urgently required. Laboratories of research, he said, should be established in all civilized countries. Work should be so regulated by conference as to avoid repetition, each worker reinforcing the others. The primary function of the scheme should be to perform the drudgery of science, to carry on the tedious, laborious, elaborate investigations from which the solitary worker shrinks, but which are nevertheless essential to the development of chemistry. Brilliant discoveries might be made in the course of these investigations, but incidentally and not as their main purpose.

A large increase has taken place in recent years in the manufacture of artificial graphite in the United States, the product of the year 1901 having amounted, according to the reports of the Geological Survey, to 2,500,000 pounds, as compared with 860,750 pounds in 1900, and 162,382 pounds in 1897, when the commercial production began. More than half of the output for 1901 was in the form of graphitized electrodes for use in the manufacture of alkali and bleaching by electrolytic processes. The rest was employed in the manufacture of paints, lubricants, pencils, motor-brushes, crucibles, and dry batteries.

Sodium amalgam was allowed by M. Moissan to act upon ammonium iodid in solution in liquid anhydrous ammonia at a temperature of about -39° C. Under these conditions the sodium amalgam reacted upon the ammonium iodid and became more fluid without the formation of any gas. The sodium iodid formed, together with the excess of sodium, were next removed by liquid ammonia at a temperature of -40° , and then with ether at -86° C. The solid ingot thus produced was then placed in a tube kept at -90° C. and connected with a mercury-pump. It was found that a perfect vacuum could be maintained in the apparatus without any gas being given off by the ingot. The temperature was then allowed to rise, when a mixture of ammonia and hydrogen gases in the proportion of two of the former to one of the latter was given off. All these facts apparently point to the conclusion that the radical NH , is actually present in the metallic mass prepared at -39° C.; but M. Moissan believes that this is really not the case, there being a possibility that a metallic ammoniacal hydrate is formed. He has found that when sodium

amalgam reacts with a solution of ammonia in water there is a slow evolution of gas without foaming. If, however, sodium hydride in solution in sodium amalgam is placed in the same liquid, there is at once a foaming mass produced, which may last for two or three days.

Quicklime, if pure and free from silicates, is melted only in small quantity and with great difficulty at the highest temperature attainable with the oxyhydrogen blowpipe. It has, however, been found by M. Henri Moissan to be melted with great ease in the electric furnace, when it may be made to boil. On cooling, crystals were found, which belonged to the cubical system; but after keeping for a few months they broke up into other crystals, which acted upon polarized light. The density of the lime was raised from 3.3 to 3.4 by fusion. Since lime forms the basis of the electric furnace, it is of importance to study the effect of heating to high temperature with various substances. The results of reactions with carbon, silicon, boron, titanium, chromium, manganese, iron, nickel, cobalt, and platinum were presented in M. Moissan's paper.

In experiments on the decomposition of hydrogen peroxid on exposure to sunshine, R. T. D. Arcy found (a) that dilute solutions of that substance are rapidly affected by exposure to sunshine. When an aqueous solution containing 4 per cent. of H_2O_2 was exposed in a flask to a sunshine of five days in June, about three-fourths of the hydrogen peroxid were decomposed. In open dishes the compound was more rapidly decomposed, and the effect was not dependent—at any rate, to any considerable extent—upon the decomposition taking place simultaneously, and it was not an effect of temperature. (b) That the surface of a solution of hydrogen peroxid undergoing this decomposition is capable of discharging negative electrification. (c) That the days in which sunlight decomposes H_2O_2 , most rapidly are the days in which the discharging action is most pronounced. The conclusion is drawn by the author that the decomposition of hydrogen peroxid by light is a possible source of production of positive and negative ions in the atmosphere.

Experiments are described by J. Matuschek which indicate that the proportion of water present in petroleum contaminated with bituminous products of distillation raises the flash-point and the combustion-point of the petroleum. This increase depends on the quantity of water present. Further, it was found that the regular rise of the flash-point and combustion-point is maintained only up to a certain degree. The regularity ceases as soon as small drops of water begin to form in the mixture during the experiment.

CHILE, a republic in South America. The Congress consists of a Senate of 32 members elected for six years by the provinces, in the proportion of 1 Senator to 3 Deputies. The Chamber of Deputies is composed of 94 members, elected in the proportion of 1 member to every 30,000 people in each department. Every male citizen twenty-one years of age and able to read and write has the right to vote for both Deputies and Senators. The President of the republic is elected indirectly through a college of electors for the term of five years. German Riesco was elected President on June 25, 1901, entered upon office on Sept. 18, 1901, and appointed the following Cabinet: Prime Minister and Minister of the Interior, Ramon Barros Luco; Minister of Foreign Affairs, Worship, and Colonization, Eliodoro Yafiez; Minister of Justice and Public In-

struction, Manuel E. Ballesteros; Minister of Finance, Juan E. Sanfuentes; Minister of War and Marine, Beltran Mathieu; Minister of Industry and Public Works, Ismael Tocornal.

Area and Population.—The area of Chile is estimated at 290,829 square miles. The population on Nov. 28, 1895, was 2,712,145, being 9.6 to the square mile. On Jan. 1, 1901, the population was estimated at 3,128,095. That of Santiago, the capital, was estimated at 291,725; of Valparaiso, 135,674. The number of marriages in 1900 was 13,331; of births, 110,697; of deaths, 106,812; excess of births, 3,885. The immigration was 1,031.

Finances.—The revenue in 1900 was 103,965,030 pesos, and the expenditure 104,730,054. For 1902 the revenue was estimated at 96,950,000 pesos, of which 48,000,000 pesos are derived from duties on nitrates, 400,000 pesos from the duty on iodine, 26,000,000 pesos from import duties, 1,400,000 pesos from posts and telegraphs, 800,000 pesos from custom-house storage, 4,000,000 pesos from treasury receipts, 15,000,000 pesos from railroads, 500,000 pesos from stamps, and 850,000 pesos from other sources. The expenditure was estimated at 95,850,000 pesos, of which 19,625,458 pesos were for finance, 13,033,481 pesos for the army, 11,120,326 pesos for the navy, 11,585,327 pesos for the interior, 19,875,624 pesos for railroads, 8,986,645 pesos for education, 5,370,468 pesos for justice, 1,698,500 pesos for public works, and 4,554,171 pesos for other purposes.

The foreign debt of Chile on Jan. 1, 1901, was £17,230,680, equal to 229,742,400 pesos, and the internal debt amounted to 75,826,488 pesos. The foreign loans pay 4½ and 5 per cent. To keep pace with the Argentine Republic in armaments Chile had a harder task to perform than the rival state. In 1901 the price of Chilean bonds declined from 5 to 8 per cent. in the London market and an attempt to place a new loan of £3,000,000 was unsuccessful. New York financiers were equally obdurate. The Tarapaca nitrate fields, from which Chile derives 60 per cent. of the public revenue, will be exhausted in twenty or thirty years. In 1898, three years after the adoption of the single gold standard, the Government found itself in such financial straits that it issued 50,000,000 pesos of new paper money, of which 20,000,000 pesos were lent to the banks to relieve the money crisis. In order to withdraw the paper money at the end of four years a new loan of £4,000,000 was obtained in England. In November, 1901, the period for the redemption of paper money in gold was prolonged two years.

The Army.—Compulsory military service was introduced by the law of Sept. 5, 1900, which declares every Chilean liable to serve nine months with the colors from the age of twenty, and afterward nine years in the first and fifteen years in the second reserve. The number enrolled as fit for service in 1901 was 400,397. Of 41,114 subject to be called into the active service 11,500 were drafted into the army, which numbered in all 17,385 men. The number of officers was 868. The infantry weapon is the Mauser rifle made after a Chilean model. The cavalry have carbines of the same pattern. The artillery use Krupp rapid-fire guns.

The Navy.—The Chilean navy consists of 5 armored vessels, 4 cruisers, 11 gunboats, 4 destroyers, and 15 first-class and 4 second-class torpedo-boats. The belted cruiser O'Higgins, launched in England in 1896, has 7 inches of armor on the hull, a displacement of 8,500 tons, a speed of 21 knots with engines of 16,000 horse-power, and a powerful armament consisting of 4

8-inch guns mounted in barbettes, 10 6-inch quick-firing guns in casemates, and 10 3-inch and 10 six-pounder quick-firers. The armored cruiser Esmeralda, also English-built and launched in the same year, displacing 7,030 tons, can make 23 knots with engines of 18,000 horse-power, and carries 2 8-inch guns, 12 6-inch quick-firers, 4 4.7-inch, 8 3-inch, and numerous lighter ones. The Blanco Encalada, an unarmored cruiser of 4,420 tons, launched in 1893, carries 2 8-inch guns and 10 6-inch and many smaller quick-firers, and is capable of making 22 knots with engines of 14,500 horse-power. The Ministro Zenteno, of 3,600 tons, a 20-knot cruiser, launched in 1896, carries 8 6-inch and 14 smaller quick-firers. The other vessels are older except the destroyers, built in England in 1896, and all capable of going 30 knots or faster.

Commerce and Production.—More than half the people of Chile are agricultural. The country produces cereals in large quantities. There are 10,000 acres in vineyards, producing wine of good quality. Excellent fruits are raised, and vegetables of many kinds. About 500,000 cattle and 2,000,000 sheep and goats are reared each year. The exports of barley in 1900 were 24,063 metric tons; of wheat, 9,440 tons; of merino wool, 1,480 tons; of ordinary wool, 2,300 tons. More important are the mineral products, especially the copper and the nitrates of Atacama and Tarapaca. In 1900 there were 25,178 metric tons of metallic copper and 20,210 tons of ore exported. The production of gold in 1900 was 1,871 kilograms; of silver, 45,438 kilograms. The quantity of manganese ore exported in that year was 25,715 metric tons; of cobalt, 25 tons; of borate of lime, 13,175 tons; of coal, 325,042 tons; of guano, 34,435 tons. The nitrate deposits cover 89,177 hectares and are estimated to contain 231,600,000 tons. The production was 1,490,000 tons in 1900 and 1,263,000 tons in 1901. The production of iodine was 193 tons.

The total value of imports in 1900 was 128,538,142 pesos; of exports, 187,674,635 pesos. The imports of coal were 13,494,960 pesos in value; of sugar, 6,518,105 pesos; of cotton goods, 6,047,201 pesos; of oils, 3,480,856 pesos; of sacks, 2,983,084 pesos; of woolen suitings, 2,973,401 pesos; of chintzes, 2,911,745 pesos; of flannels, 2,757,798 pesos; of paper, 2,688,667 pesos; of iron, 2,484,562 pesos; of cattle, 2,290,074 pesos; of drugs, 2,192,365 pesos; of coffee, 1,862,725 pesos; of rice, 1,474,869 pesos. The exports of niter were 109,945,156 pesos in value; of copper, 19,834,365 pesos; of iodine, 4,043,172 pesos; of coal, 3,900,460 pesos; of gold, 2,806,608 pesos; of silver, 2,499,116 pesos; of leather, 2,348,053 pesos; of copper ore, 2,021,267 pesos; of barley, 1,472,061 pesos; of wool, 1,465,883 pesos; of guano, 1,377,400 pesos; of borate, 1,317,676 pesos; of wheat, 944,075 pesos; of manganese ore, 761,406 pesos. The value of mineral products exported was 151,626,206 pesos; of agricultural products, 14,704,822 pesos; of reexports, 1,343,607 pesos. The value in pesos of the trade with different countries in 1900 is given in the following table:

COUNTRIES.	Imports.	Exports.
Great Britain	42,461,942	123,286,317
Germany.....	34,331,877	20,227,090
United States.....	12,066,806	6,887,345
France.....	9,280,642	7,970,126
Peru.....	6,715,492	1,675,308
Argentine Republic.....	2,538,413	889,303
Uruguay.....	2,011,068	518,552
Italy.....	2,232,361	10,022
Brazil.....	1,540,170	149,163

Navigation.—During 1899 there were entered at Chilean ports 7,267 vessels, of 10,016,704 tons, and cleared 7,154, of 9,738,769 tons.

The commercial marine on Jan. 1, 1901, consisted of 81 sailing vessels, of 35,228 tons, and 55 steamers, of 32,873 tons.

Railroads, Posts, and Telegraphs.—The length of railroads in operation was 2,880 miles, of which the Government owned 1,355 miles, built at a cost of 86,463,437 pesos, and earning 14,944,872 pesos gross in 1900, while expenses were 15,917,434 pesos. The number of passengers carried was 6,565,254; metric tons of freight, 2,229,172.

The post-office in 1900 handled 13,925,466 letters and postal cards, 18,118,329 printed packets, and 1,243,639 other packets; the receipts were 1,136,887 pesos, and expenses 1,178,322 pesos.

The telegraphs on Jan. 1, 1901, had a length of 14,592 miles, of which 11,882 miles were state lines, over which 1,286,936 messages were sent. There are 5,804 miles of telephone-lines belonging to two companies.

Political Affairs.—The dispute with the Argentine Republic, which almost reached the point of hostilities at the end of 1901, occurred at a time of financial embarrassment for Chile. A failure of the wheat harvest and a strike in the nitrate-fields which reduced revenue were temporary causes which aggravated the difficult financial position into which the republic has arrived after spending a redundant revenue for many years. In January, 1902, Congress imposed an additional duty of 10 per cent. on all imports. To cover purchases of war material the Government was authorized by Congress to issue treasury bills for £2,500,000 running five years, which German bankers were expected to take on the guarantee of nitrate-mines and land in Tierra del Fuego. From Feb. 15 nitrate duties could be paid 10 per cent. in gold and 90 per cent. in currency, instead of 35 per cent. in gold. For making certain payments owed by the Government an indefinite delay was ordered. A combination among nitrate concerns gave a pretext for increasing the export duty on nitrate 6d. (a third of a peso) per quintal, which was expected to give by \$5,000,000 gold more revenue. The intended acquisition of 2 additional new ships by the Argentine Government had to be duplicated, and accordingly 2 battle-ships were ordered, to cost over £1,000,000 each. When the loan negotiations failed the Government had to take £1,000,000 from the currency redemption fund, which was to be replaced by selling saltpeter and guano lands, by which means £2,000,000 more would be raised, enabling the Government to dispense with the loan. The Government decided to effect 10,000,000 pesos of retrenchments, mainly in the army and navy and the educational budgets, and thus expected to meet all expenditure, counting on £3,207,500 of receipts from the export tax on saltpeter, 1,500,000 pesos from the alcohol tax, and 54,370,000 pesos from other sources. Congress met in an extraordinary session on April 9 to consider proposals for the regulation of insurance companies, the reconstruction of the Valparaiso mole, the sale of the cruisers Pinto and Errazuriz, and the construction of the Transandine Railroad. The action of the Government in borrowing from the conversion fund to pay for the new armaments was condemned as unconstitutional and Congress refused to sanction the sale of the 2 cruisers. Consequently the Tocornal-Yañez ministry resigned on April 25. The President had difficulty in finding statesmen willing to accept office

and face the financial crisis in the disorganized state of parties at a critical juncture of the disarmament negotiations with Argentina. A Cabinet was formed at last on May 4 as follows: Premier and Minister of the Interior, Barros Luco; Minister of Foreign Affairs, Rafael Balmaceda; Minister of Finance, Guillermo Barros; Minister of Justice and Public Instruction, G. Figueroa; Minister of Public Works, Ismael Valdez; Minister of War and Marine, Victor Manuel Lamas. The Moderate Liberals, hitherto the Opposition, promised to support the new ministers in a policy of peace and financial reform. When Congress opened on June 1 an agreement with the Argentine Republic had been reached through the mediation of Great Britain. The July interest on the Chilean bonds was paid with a temporary loan of £1,000,000 from the banks. The contracts for the new cruisers with English ship-builders were taken off the hands of the Government by the British Government.

The boundary dispute with the Argentine Republic was left to the arbitration of England, and the danger of Argentine interference in the quarrel with Peru and Bolivia regarding the retrocession of Tacna and Arica was averted, but Chile was bound to abide by treaty engagements (see ARGENTINE REPUBLIC). A secret pact between Chile, Colombia, and Ecuador secured the support of Colombia as well as of Ecuador to Chile's proviso that general arbitration, as proposed at the Pan-American Congress in the city of Mexico, shall only apply to disputes that arise in the future. Chile secured for Colombia the neutrality of Ecuador in the civil war that was raging in Colombia, and agreed to furnish Colombia with a second-class iron-clad cruiser. A treaty of friendship and a treaty of commerce and navigation were arranged between Chile and Colombia in January, 1902. In the protocol it was provided that the ports of each country should be free for the natural products of the other, subject to such limitations as should be stipulated in the treaty when finally concluded. This provision was of less value to Colombians than to Chileans, who desired a free entry for their wheat, flour, and vegetables, giving them an advantage over the products of the United States, which pay duty. A secret treaty is said to have been drawn up whereby Colombia agrees to the free passage of Chilean troops and armaments at any time across the Isthmus of Panama. Chile agreeing to provide money or help of any kind to remove difficulties that may arise from the use of the facilities granted and to indemnify Colombia for all loss or damage she may sustain therefor.

CHINA, an empire in eastern Asia. The system of Government, as laid down in the regulations of the Tsing dynasty, is based on the government of the family, and in theory the Emperor exercises supreme paternal authority. The official body which controls the administration is the Neiko, or Cabinet, composed of 2 Manchus and 2 Chinese, assisted by 2 members of the Hanlin College, who see that all edicts and proclamations conform in style and substance with the dynastic regulations and the Confucian precepts. Important questions are decided by the Chun-Chi-Chu, the Grand Council, composed of 5 or 6 of the highest officers of state, Manchus and Chinese, who have control over the Manchu army and, unless the Emperor is a strong and resolute ruler, wield the real authority, issuing decrees and orders in his name to the executive boards in Peking and to the provincial authorities. The executive boards act under the direct super-

intendence of the Neiko. The board called the Civil Office supervises the conduct and administration of the officials, confers titles, and grants rewards and precedence for meritorious conduct; the Board of Revenue manages the finances; the Board of Rites enforces the laws relating to the ceremonies of the court and all public functions ordered by the Emperor and regulates the rites called for by an eclipse or any public calamity; the War Board has charge of military affairs and directs the movement of troops; the fifth is the Board of Public Works; the Board of Punishments is the high court of criminal jurisdiction, which tries and judges official delinquencies; the Board of Admiralty, created in 1885, sits at Tientsin and directs naval affairs; the Board of Foreign Affairs directs the administration of subject countries. Each board has a Manchu and a Chinese president. The Board of Censors, which is independent of the Government, under the dual presidency of a Manchu and a Chinese, constitutes the final court of appeal and revision, and each of the 50 or 60 members has the right to address complaints to the Emperor regarding any branch of the administration. The Censors have also the right to criticize publicly the edicts of the Emperor. The Imperial Academy, or Hanlin College, is the official institution of learning. The Tsung-li-Yamen, or Foreign Office, which since 1861 conducted all negotiations with the representatives of Western nations, was abolished in July, 1901, in accordance with the demands of the Western powers which intervened in China to suppress the Boxer rebellion. In its place a Ministry of Foreign Affairs, called the Wai-Wu-Pu, was created in July, 1901, which has precedence of the other boards. A Council of the Empire, the Sheng-Wu-Shu, was created also, the members of which are Prince Ching, who is president of the Wai-Wu-Pu, Yung-Lu, Kun-Kang, Chu-Hung-Chi, Chang-Chi-Fung, Liu-Kun-Yi, and Wang-Wen-Shao, who is a member of the Wai-Wu-Pu, president of the Office of Railroads and Mines, and a member of the Council of State, the Kiun-Ki-Tshu, to which Yung-Lu and Chu-Hung-Chi likewise belong and of which Prince Li is president, as he is also of the Archives of the Imperial House, the Tsung-Yen-Fu. Kun-Kang and Yung-Lu are the members of the Grand Secretariat.

Area and Population.—China proper has an estimated area of 1,353,350 square miles and a population estimated at 383,253,000. The dependencies are Manchuria, with an area estimated at 362,310 square miles and about 7,500,000 inhabitants; Mongolia, with an area estimated at 1,288,000 square miles and an estimated population of 2,000,000; Tibet, which has an estimated area of 651,500 square miles and a population supposed to reach 6,000,000; Jungaria, with an area of 147,950 square miles and about 600,000 inhabitants; and Chinese Turkestan, the area of which is about 431,800 square miles and the population about 580,000. The total estimated area of the Chinese Empire is 4,234,910 square miles and the total population 399,680,000. The number of foreigners residing at the treaty ports in 1900 was 16,811, of whom 5,471 were British, 2,900 Japanese, 1,941 Russians, 1,908 Americans, 1,343 Germans, 1,175 Portuguese, 1,054 French, 221 Spanish, 204 Swedes and Norwegians, 156 Danes, 133 Italians, 108 Dutch, 100 Belgians, 91 Austrians, 42 Koreans, and 34 of other nationalities. About half of the foreigners are in Shanghai.

Each province has its army of Chinese troops under the command of the governor or governor-

general. These troops are called the Ying-Ping, the national army, known also as the Army of the Green Flags and as the Five Camps. Their nominal strength is 600,000, and about 200,000 are believed to be efficient. Their efficiency and armament vary greatly in the different provinces. The Tientsin army corps, with a nominal strength of 100,000, an actual strength of 35,000, is equipped and trained in the European manner. The Governor of Shantung has recently raised a force which is being similarly taught. In time of war or insurrection troops are enlisted. The Mongolian and other irregular cavalry are nominally 200,000 strong, but really only 20,000, and are useless in modern warfare. The total number of men kept under arms is about 300,000, and for war 1,000,000 are reckoned upon, though only a small fraction of these are schooled and disciplined and possess modern weapons. Large quantities of arms and ammunition were imported in the period preceding the Boxer outbreak, and during the peace negotiations the importations were continued. Since the treaty of Sept. 7, 1901, prohibits the importation of arms into China, the manufacture of field-guns, shells, rifles, and smokeless powder has been actively carried on in all the Chinese arsenals.

The Navy.—The naval forces of China are under the control of the provincial authorities. The Peiyang, or northern squadron, created for the defense of the capital province, was almost entirely destroyed or captured in the Japanese war of 1894. Two small protected cruisers were obtained in 1897 and 1898, the Hai-Chi and Hai-Tien, English-built, of 4,300 tons, having 6-inch shields and a 5-inch deck, armed with 2 8-inch guns and 10 4.7-inch and 12 three-pounder quick-firers, and capable of making 24 knots. From Germany were obtained in 1897 the Hai-Yung, Hai-Shen, and Hai-Shu, cruisers of 2,950 tons. Four destroyers were seized by the allied forces during the international occupation of Pechili in 1900 and were retained by Germany, England, France, and Russia. The gunboats Ngan-Lan, Chen-Tao, Tsing-Yuen, Chen-Hai, Hu-Wei, Lung-Liang, Fe-Ting, Tse-Tien, Hai-Chiang-Ching, Kwang-Heng, Kwang-Li, Kwang-Huran, and Kwang-Chen remain of the old squadron, and to these have been added the Kwang-Yen, launched in 1894, and the Kwang-Hsing, Kwang-Keng, Kwang-Wu, and Kwang-Chi, launched in 1895. These gunboats have an average displacement of 440 tons. The Nanyang, or southern squadron, at Fuchau and Canton, comprises the armored gunboat Tien-Sing, of 200 tons, the protected cruisers Yang-Pao and Ye-Sing, of 2,500 tons, the torpedo-gunboats Fei-Ying, Fei-Ting, and Kien-Wei, of 900 tons, the unarmored cruisers Fu-Tsing and Hi-Ying, 13 first-class torpedo-boats, 14 second-class torpedo-boats, 6 monitors, 14 small gunboats, and the schoolship Fuchau. Under the direction of a French engineer who was placed in charge of the Fuchau arsenal a destroyer and a torpedo-gunboat have been built.

Finances.—The revenue is estimated at 88,979,000 taels. The tax-collectors levy from 50 to 75 per cent. more than they account for to the Government, this surplus being absorbed in costs or given outright to the chief provincial officials. The land tax amounts to about 32,000,000 taels. The maritime customs revenue, of which reports are made public annually, amounted in 1900 to 22,873,986 haikwan taels, of which 3,961,423 taels were likin duties on imported opium.

The Chinese Government always refused to borrow money abroad for any purpose until the war with Japan compelled a resort to the Euro-

pean money markets. In 1894 a loan of £1,635,000 was contracted at 7 per cent.; in 1895, one of £3,000,000 at 6 per cent.; in 1895 one of £1,000,000 at 6 per cent. and one of £15,820,000 at 4 per cent.; £16,000,000 were borrowed at 5 per cent. in 1896 and £16,000,000 more at 4 per cent. in 1898 to pay the last instalment of the Japanese war indemnity. The whole war loan was secured on the maritime customs. In 1899 a railroad loan of £2,300,000 was contracted, to pay which the earnings of the railroad were pledged. The Boxer uprising and consequent invasion of Pechili by the powers resulted in more than doubling China's liabilities. An indemnity to be divided among the powers for the expenses of the occupation and damage done to foreign property and injury to foreigners from acts of the Boxers was agreed upon on May 29, 1901. China promised to pay the sum of 450,000,000 taels, which amounts to £64,000,000. It is a gold debt payable in 39 annual instalments on Jan. 1 of each year, with interest reckoned at 4 per cent. The interest and sinking-fund average 37,659,000 taels, or £5,120,000 per annum. The portion of the maritime customs not appropriated for other debts are pledged as security, and the powers agreed that these should be increased to 5 per cent. ad valorem, ultimately to be converted in specific duties. The native customs that are administered by the Maritime Customs, namely, the likin or transit duty within 16 miles of any of the open ports, are included in the guarantee, and also the salt gabel not otherwise appropriated. A commission at Shanghai receives the assigned revenues each month. The annual amount to be handed over for the payment of debts out of the proceeds of the maritime customs is £5,770,000. The indemnity debt is payable in gold at the exchange rate of 3s. to the tael. It is divided into 5 series: A, 75,000,000 taels, paying from 1902 interest and sinking-fund amounting to 3,829,500 taels; B, 60,000,000 taels, paying 2,400,000 taels interest and from 1911 till 1940 a sinking-fund which increases the annual payment to 3,469,800 taels; C, 150,000,000 taels, paying 6,000,000 taels interest, increased by a sinking-fund from 1915 to 9,384,000 taels; D, 50,000,000 taels, paying 2,000,000 taels interest, increased from 1916 to 3,200,500 taels; E, 115,000,000 taels, paying 4,600,000 taels interest and a sinking-fund from 1932 which increases the annual payment to 15,466,350 taels. For the first nine years the annual payments on all the series amount to 18,829,500 taels per annum; for the next four years, 19,899,300 taels; for the next year, 23,283,300 taels; for the next sixteen years, 24,483,800 taels; for the last nine years, 35,350,150 taels. The payments were so adjusted that the gold debt payments of China would be evenly distributed over the whole period of thirty-nine years, varying little from year to year. The debts incurred before the indemnity debt and secured on the imperial customs and likin required for 1902 the remittance of 23,600,000 taels, making with the indemnity debt a total payment of 42,429,500 taels. The payment of interest and sinking-fund on the existing debt decreases to 22,800,000 taels in 1911, to 19,400,000 taels in 1915, to 18,500,000 taels in 1916, to 7,500,000 taels in 1932, and will be 5,900,000 taels in 1940, when the last instalment of the indemnity is paid. The total annual charge for foreign debt in that year will be 41,250,150 taels. In no year does it reach 43,000,000 taels. This scheme was presented by the Chinese at the peace conference as the easiest for China to bear, and was accepted by the ministers of the allied powers. The ways

and means of finding gold for the payment of nearly 19,000,000 taels in addition to between 23,000,000 and 24,000,000 taels required each year for the existing debt the ministers did not suggest, except that in the commercial treaties to be concluded a revision of the tariff was promised. They insisted that the indemnity should be reckoned in gold at the current rate of 3s. to the tael. The immediate increase in the maritime customs duties under the treaty to an effective 5-per-cent. ad valorem was calculated by experts to give an increase of 2,500,000 taels in the yield. The salt gabel and the native customs, duties to be collected from the junk trade, were considered uncertain resources, capable of producing 11,000,000 taels a year if it could be collected. The provincial treasuries, however, would be deprived of a large proportion of their accustomed revenues, and the result would be either increased levies by the mandarins or reduced remittances to Peking. The Chinese Government notified the viceroys that till 1911 they would have to send additional annual remittances, distributed in fixed sums among the provinces, amounting to 18,700,000 taels a year. How these additional sums are to be obtained was not suggested. The Yangtse viceroys memorialized the throne, stating that their existing revenues were insufficient to meet the demands and asking for instructions as to fresh taxation. Chang-Chih-Tung requested a reduction of 30 per cent. in his quota, pointing out the unreasonableness of requiring the provinces to bear the entire burden of the new debt, inasmuch as part is provided for by increased import duties and the transfer of native customs to the imperial Maritime Customs. The Government resorted to sales of official rank throughout the empire as the readiest means of obtaining an immediate addition to the revenue, and efforts were made to collect arrears of the grain tax. Various schemes of taxation were discussed, but an increase of the foreign customs to 10 or 15 per cent. offered the only hope of ultimate relief. Meanwhile the viceroys and governors endeavored to screw additional revenues out of the provinces to satisfy the fresh demands, producing misery and discontent, encountering resistance and evasion, and provoking revolt. The immediate effect of the increased foreign debt was to cause a fall of 10 per cent. in the price of silver, increasing in that proportion the amount of the entire foreign debt and diminishing the normal means of paying it by checking foreign trade. There has been a steady balance of trade against China for a series of years, ranging from 10,000,000 to 35,000,000 taels, notwithstanding which the influx of silver bullion has been constantly going on at the rate of about 2,500,000 taels a year. Before the Japanese war a much larger amount of silver sycee was absorbed every year. The annual export of gold from China, according to official reports, is 7,000,000 or 8,000,000 taels. The export trade was depressed, rather than stimulated by the drop in silver. The cotton industry at the treaty ports collapsed. The disturbance of trade and exchange created alarm among international bankers and financiers. If the first pressure of the indemnity debt stopped imports, China would have to ship silver to pay the instalments. The silver market was unaccountably disturbed before such a movement had taken place, and when it did the effect would be disastrous.

Production and Industry.—The value of the imports for consumption in 1899 was reported by the Maritime Customs at 264,748,456 haikwan

taels, and that of domestic exports at 195,784,832 taels; imports in 1900 at 211,070,422 taels, and exports at 158,996,752 taels. These figures do not represent the entire foreign commerce of China because a great deal of merchandise is transported in native vessels which are not subject to the control of the Maritime Customs. The imports of cotton cloth in 1900 was 45,419,000 taels in value; of opium, 31,031,000 taels; of cotton yarns, 30,187,000 taels; of petroleum, 13,956,000 taels; of rice, 11,377,000 taels; of sugar, 6,424,000 taels; of coal, 6,338,000 taels; of iron, 3,455,000 taels; of fishery products, 3,391,000 taels; of flour, 3,330,000 taels; of woolen cloth, 3,036,000 taels; of matches, 2,235,000 taels; of tin, 2,197,000 taels. The exports of raw silk were 39,732,000 taels in value; of tea, 25,445,000 taels; of cotton, 9,861,000 taels; of silk goods, 9,712,000 taels; of skins, 6,522,000 taels; of beans and bean-cake, 5,468,000 taels; of straw braid, 4,371,000 taels; of matting, 3,305,000 taels; of sugar, 2,984,000 taels; of paper, 2,506,000 taels; of provisions, 2,496,000 taels; of coal, 2,291,000 taels; of clothing and shoes, 2,040,000 taels; of tobacco, 1,942,000 taels; of wool, 1,864,000 taels; of porcelain and pottery, 1,627,000 taels; of fireworks, 1,621,000 taels.

The values of imports from and exports to different foreign countries and ports in 1900 were in haikwan taels as follows:

COUNTRIES.	Imports.	Exports.
Hong-Kong.....	98,847,000	68,962,000
Great Britain.....	45,467,800	9,356,000
Japan.....	25,758,000	16,998,000
Straits Settlements.....	2,625,000	2,485,000
Macao.....	2,286,000	4,710,000
East India.....	16,216,000	2,865,000
Siberia.....	737,000	5,984,000
Russia in Europe.....	4,237,000	6,390,000
Rest of Europe.....	10,273,000	24,977,000
United States.....	16,734,000	14,752,000
British America.....	654,000	458,000
Other countries.....	3,360,000	6,170,000
Total.....	222,129,000	158,997,000

The reexports of foreign merchandise amounted to 11,059,000 taels. The shares of the different treaty ports in the import and export trade are given in taels in the following table:

PORTS.	Imports.	Exports.
Shanghai.....	125,990,000	78,139,000
Kanlun.....	20,769,000	20,858,000
Canton.....	18,691,000	18,892,000
Swatow.....	12,525,000	5,419,000
Amoy.....	11,076,000	1,423,000
Fuchau.....	4,828,000	5,861,000
Lappa.....	3,943,000	5,641,000
Chifu.....	4,788,000	2,018,000
Niuchuang.....	2,682,000	3,910,000
Mongtee.....	2,963,000	2,439,000
Hangchau.....	802,000	6,159,000
Tientsin.....	3,768,000	1,025,000
Wuchau.....	4,489,000	1,875,000
Pakhoi.....	2,043,000	1,794,000
Kibingchau.....	2,106,000	1,632,000
Other ports.....	5,716,000	1,912,000
Total.....	222,129,000	158,997,000

In northern China wheat, millet, corn, barley, peas, and beans are grown, and in the south rice, sugar, cotton, and indigo. Tea is raised in the southern and western parts, opium in the west, and silk in all the provinces, but especially in Szechuen, Kuangtung, Chehkiang, and Kiangsu. Coal is found in every province and has been mined for several years at Kaiping. At Poshan, in Shantung, are also productive mines. A company has been formed to work the anthracite fields of Shansi, which cover 13,500 square miles,

while in the western part of that province bituminous coal is equally abundant. Coal is mined already in Hunan, where there are 21,700 square miles of anthracite and bituminous deposits, and in Szechuen, where there are enormous beds. Iron is mined in Shansi and Manchuria, copper and some tin, silver, and lead in Yunnan. The quantity of tea exported in 1900 was 1,384,324 piculs of 133½ pounds, of which 665,267 piculs went to Russia, 255,156 piculs to the United States, 119,328 piculs to Hong-Kong, 135,139 piculs to Great Britain, and 45,582 piculs to Australia.

Navigation.—The number of vessels entered and cleared at Chinese ports during 1900 was 69,230, of 40,807,242 tons, of which 57,576, of 39,555,768 tons, were steamers. Of the total number 22,818, of 23,052,459 tons, were British; 34,129, of 7,864,217 tons, were Chinese; 3,527, of 4,032,147 tons, were German; 4,917, of 3,871,559 tons, were Japanese; 978, of 664,987 tons, were French; and 1,311, of 474,479 tons, were American.

Railroads and Telegraphs.—A railroad connecting Peking with Tientsin and Tangku, and running along the coast to Shanhaikwan and thence to Chenchau, on the Liaotung Gulf, with branches to Tienchiao and to the Nan-Pao coal-mines, has a total length of 404 miles. This line is connected with the Russian line which terminates at Niuchuang and with the line to Port Arthur. The Russo-Chinese Manchurian railroad from Harbin to Port Arthur has a length of 650 miles. The line across Manchuria to Vladivostok, 950 miles, the eastern terminal section of the Russian Trans-Siberian Railroad, has been completed. A line runs southwest from Peking to Patoting-Fu, 88 miles, and is being continued to the Yangtse river at Hankau. The Germans have built a railroad from Tsintau, near Kiaochau, to Tsinan, whence it will be continued to Yenchau to meet a line built from Kiaochau direct to the latter place. American engineers have undertaken to construct a railroad from Hankau to Canton, with a branch from Yochau to the Pinghsiang coal-mines in Honan. A railroad 12 miles in length connects Shanghai with Wusung. The French have received a concession for railroads from Tonquin into Yunnan, Kwangsi, and Kwangtung, running from Laokai to Yunnan-Fu, from Langson to Longchau, and from Nanning-Fu to Pakhoi. British concessionaires have undertaken to build lines from Shanghai to Suchau, Chinkiang, and Nankin, and to Hangchau and Ningpo and from Chingtu to Wuchau and Canton.

Telegraph-lines connect all the chief cities of China and join the Siberian overland line to Europe and the Indian system as well as the cable. Their total length is a little less than 14,000 miles.

Return of the Court to Peking.—The imperial court entered the Forbidden City, restored and renovated so that outwardly there were no marks of the ruin and destruction wrought by the allies, on Jan. 7, 1902. Contrary to all precedents, foreigners were allowed to witness the royal entry, which was attended with gorgeous pageantry and elaborate ceremonial, and natives too, who have been forbidden by immemorial usage to view the passage of royal personages through the streets, were permitted to witness the spectacle and gaze on their rulers. Yuan-Shi-Kai, Viceroy of Pechili, with 12,000 trained troops restored and maintained order where under foreign control strife and confusion reigned. He added 6,000 to the force, and recruits of the best

physical and moral qualities offered themselves freely. The Chinese arsenals were kept busy turning out war material. The people as well as the Government were bent on repairing the military shortcomings of China. The foreign ministers were formally received in audience by the Emperor on Jan. 22, in the innermost of the great halls of the Forbidden City. Afterward the Empress-Dowager gave a reception to the ladies of the legations.

In the provinces where Tung-Fuh-Siang and Prince Tuan were still at large Belgian missionaries and native Christians were murdered. A royal edict was at once issued ordering that Tung-Fuh-Siang should be beheaded according to the terms of the protocol. The chief minister at court was Yung-Lu, whom the foreign diplomats, except the Russian representative, had tried to include in the list of proscribed officials, but who, although no friend of foreigners, had kept the antiforeign movement under control and saved the foreigners in Peking from massacre and, when orders were issued for the extermination of foreigners throughout China, had by secret instructions sustained the Yangtze viceroys in their determination to disregard these edicts. The foreign military authorities still held Tientsin and administered the railroad between that city and Peking. This action determined the Russians to prolong their occupation of Niuchwang and the railroad leading to that port. An American and a British war-vessel went to Niuchwang, and disturbances occurred between American seamen and Russian soldiers, of which the Russian minister complained.

The indemnity claims of the powers amounted to 462,000,000 taels, 12,000,000 taels over the agreed sum. The American and Russian ministers proposed a pro rata reduction, to which the others agreed excepting the British and Japanese ministers, who stated that their claims had been reduced to a minimum after an official investigation of each item. An instalment of the indemnity was due, and was tendered by the Chinese officials to the bankers' commission in Shanghai, as provided in the protocol; but the commission would not accept it because the foreign governments were unable to agree upon the terms of division. At a meeting of military commanders in Tientsin on Jan. 25 it was agreed that the garrisons could be reduced in the spring. The Russian general declined to express an opinion, the Russian forces having been already withdrawn from Pechili in 1901. The German general refused to attend, regarding the question as a political one to be decided by the governments. The Japanese commander informed the others that Japan had already begun to withdraw her troops without regard to the action of other nations. The combined force at Tientsin had an effective strength of 4,000 men.

On Feb. 1 an imperial edict was issued legalizing marriages between Manchus and Chinese and forbidding the practise of binding the feet of girls. The imperial clan and the generals of the Eight Banners were ordered to select young Manchus to go abroad to study foreign branches of knowledge. Hundreds of students, coming from every province, were sent to Japan to obtain the military, administrative, and scientific knowledge which that nation had borrowed from the West, thereby winning an independent position among the powers that preyed upon China.

Anglo-Japanese Alliance.—An agreement between Great Britain and Japan was signed at London on Jan. 30, 1902, in the following terms:

The governments of Great Britain and Japan,

actuated solely by a desire to maintain the *status quo* and general peace in the extreme East, being moreover specially interested in maintaining the independence and territorial integrity of the Empire of China and the Empire of Korea, and in securing equal opportunities in those countries for the commerce and industry of all nations, hereby agree as follow:

I. The high contracting parties, having mutually recognized the independence of China and of Korea, declare themselves to be entirely uninfluenced by any aggressive tendencies in either country. Having in view, however, their special interests, of which those of Great Britain relate principally to China, while Japan, in addition to the interests which she possesses in China, is interested in a peculiar degree politically, as well as commercially and industrially, in Korea, the high contracting parties recognize that it will be admissible for either of them to take such measures as may be indispensable in order to safeguard those interests if threatened either by the aggressive action of any other power or by disturbances arising in China or Korea, and necessitating the intervention of either of the high contracting parties for the protection of the lives and property of its subjects.

II. If either Great Britain or Japan, in the defense of their respective interests as above described, should become involved in war with another power, the other high contracting party will maintain a strict neutrality, and use its efforts to prevent other powers from joining in hostilities against its ally.

III. If in the above event any other power or powers should join in hostilities against that ally, the other high contracting party will come to its assistance and will conduct the war in common, and make peace in mutual agreement with it.

IV. The high contracting parties agree that neither of them will, without consulting the other, enter into separate arrangements with another power to the prejudice of the interests above described.

V. Whenever, in the opinion of either Great Britain or Japan, the above-mentioned interests are in jeopardy, the two governments will communicate with one another fully and frankly.

VI. The present agreement shall come into effect immediately after the date of its signature, and remain in force for five years from that date. In case neither of the high contracting parties should have notified twelve months before the expiration of the said five years the intention of terminating it, it shall remain binding until the expiration of one year from the day on which either of the high contracting parties shall have denounced it. But if, when the date fixed for its expiration arrives, either ally is actually engaged in war, the alliance shall *ipso facto* continue until peace is concluded.

In a covering letter the Marquis of Lansdowne stated that the two powers had been in close and uninterrupted communication throughout the troubles and complications consequent upon the Boxer outbreak and the attack upon the legations, and each desired that the integrity and independence of the Chinese Empire should be preserved and that there should be no disturbance of the territorial *status quo* either in China or in the adjoining regions; that all nations should, within those regions as well as within the limits of the Chinese Empire, be afforded equal opportunities for the development of their commerce and industry; and that peace should not only be restored, but be maintained in

the future. Having discovered that their far Eastern policy was identical, each side expressed the desire that their common policy should find expression in an international contract of binding validity. The British Secretary of State for Foreign Affairs explained that his Government had been largely influenced in their decision to enter into this important contract by the conviction that it contains no provisions which can be regarded as an indication of aggressive or self-seeking tendencies in the regions to which it applies. It has been concluded purely as a measure of precaution, to be invoked, should occasion arise, in the defense of important British interests. It in no way threatens the present position or the legitimate interests of other powers.

The allied governments of France and Russia on March 18 sent an identical note to the powers which signed the Peking protocol of Sept. 7, 1901, wherein they expressed themselves fully satisfied with the Anglo-Japanese convention concluded with the object of insuring the *status quo* and general peace in the far East and of maintaining the independence of China and Korea, which are to remain open to the trade and industry of all nations, finding therein an affirmation of the essential principles which they themselves on more than one occasion have declared to constitute, and which remain, the basis of their policy. The two governments considered that respect for these principles is at the same time a guarantee for their special interests in the far East. All the same, obliged as they too, on their part, are to consider the case in which either aggressive action of third powers or fresh troubles in China, raising once more the question of the integrity and free development of that power, might become a menace to their own interests, the two allied governments reserve the right to consider eventually the means of insuring the defense of their interests.

The British Government suddenly changed its plans with regard to Wei-Hai-Wei. The work of fortification was stopped. Military and naval authorities pronounced the place valueless as a strategical base. The Government was transferred to the Colonial Office, with the intention of making it a sanatorium for officers of the army and navy.

The Manchurian Agreement.—Russia had 40,000 troops in Manchuria in the spring of 1902, and the Trans-Siberian Railroad was still kept busy transporting soldiers and military stores and munitions to the East. When the Tungus bandits, hunted out of Manchuria by the Russians, crossed into Mongolia and committed depredations in the vicinity of Jehol, the Russian troops pursued and dispersed them. The negotiations regarding the evacuation of Manchuria by Russia, discontinued when Li-Hung-Chang died, were resumed with Yung-Lu when the court returned to Peking. The Russo-Chinese Bank, which is the agent of the Russian Government in railroad and financial matters appertaining to Manchuria and China, negotiated for exclusive railroad and mining privileges in Manchuria. Secretary Hay on Feb. 1 sent a note to the Russian and Chinese governments protesting against such an arrangement as constituting a monopoly which violates treaties made by China with the foreign powers, affecting the rights of American citizens, restricting their rightful trade and exposing it to being discriminated against; moreover, impairing China's sovereign rights and interfering with her ability to meet her international obligations, which would be further diminished when other nations demand and obtain equal advantages in

other parts of the empire, wrecking the policy of equal treatment of all nations respecting commerce and navigation; and on the other hand, conflicting with the repeated assurances of the Russian Government that it intended to follow the policy of the open door, as advocated by the Government of the United States and accepted by all the treaty powers having commercial interests in China. The English and the Japanese made representations to the Chinese Government of similar purport. The Russian minister satisfied the United States Government with verbal assurances that the concessions were sought without the knowledge of his Government, and in so far as they conflicted with its avowed policy of an open door in Manchuria they would be vetoed.

The Chinese Government was said to have given a promise to Russia while Li-Hung-Chang was conducting negotiations that if any foreign military officers were to be employed to instruct and drill Chinese troops in northern China they should be Russian officers. The Germans urged that if any foreign instructors were needed they should be German officers. The Chinese statesmen were even more eager to build up an efficient Chinese army than they were before the Boxer uprising, but they were also more averse than before to have foreigners in actual command of any Chinese troops. Japanese military experts were therefore employed as translators and interpreters of Japanese treatises on modern military science, who were also so far as needful instructors and advisers of the Chinese officers. Japanese traders swarmed in Manchuria, who probably served their Government at times as secret agents and informers.

Russia was willing to give up the invidious privilege which the secret promise of Li-Hung-Chang conferred. Accordingly M. Lessar obtained from Prince Ching, as president of the Foreign Office, a written undertaking that in future no foreigners of any nationality should be employed in the Peiyang, or northern Chinese, naval or military forces. Yuan-Shih-Kai, who as Viceroy of Pechili is commander-in-chief of the Peiyang squadron and army, refused to be bound by this undertaking, given without his knowledge and consent. The negotiations for giving exclusive mining privileges to the Russo-Chinese Bank were broken off after the presentation of the American note. The Manchurian convention was finally concluded and signed by M. Lessar and Prince Ching and Wang-Wen-Shao on April 8. The objectionable features of the draft convention withdrawn by the Russian Government a year before were removed. The text of the new one was submitted to the American and the British and Japanese governments for approval. It was admitted that the sovereignty of China and the treaty rights of other nations were not infringed. The first article states that the Emperor of Russia, desirous of giving a new proof of his love of peace and sentiments of friendship for the Emperor of China, notwithstanding that from different points of Manchuria along the frontier first attacks were made against the peaceful Russian population, consents to the reestablishment of Chinese authority in Manchuria, which remains an integral portion of the Chinese Empire, and restores to China the right to exercise sovereign and administrative powers as before the occupation by Russian troops. The Chinese Government in the second article agrees to abide by the contract made with the Russo-Chinese Bank on Aug. 27, 1896, and in conformity therewith, on resuming possession of sover-

eign and administrative powers in Manchuria, to protect in every way the railroad and staff and safeguard all Russian subjects living in Manchuria, together with the enterprises established by them. Russia, in view of these obligations assumed by China, consents on its part, in the event of there being no trouble whatsoever and if the conduct of other powers should not oppose obstacles thereto, to withdraw gradually all Russian troops from Manchuria within six months from the signing of the convention from the southwestern part of Mukden province as far as the Liao river, at the same time restoring the Shanhaikwan, Niuchuang and Sinmin-tung Railroad subject to certain conditions; during the six months following from the rest of Mukden province and from the province of Kirin; and during the next six months from the province of Hehlung-Kiang. Until the evacuation is completed the number of Chinese troops to be kept in Manchuria and the military stations must be arranged with the Russian commander, and in the fourth article China engages not to increase the garrisons beyond the agreed limit, which ought to be sufficient to exterminate brigands and pacify the country. After complete evacuation China will have the right to determine whether the number shall be increased or diminished, but must inform Russia, since the maintenance of an excessive number of Chinese troops would necessitate the augmentation of the Russian troops in the adjacent districts, causing an increase of military expenditure to the disadvantage of both countries. For the maintenance of order in the interior outside of the territory ceded to the Chinese Eastern Railroad Company the provincial military governors may raise a Chinese gendarmerie, mounted and foot, to consist exclusively of Chinese subjects. The conditions on which Russia consented to restore the Shanhaikwan Railroad, which had been occupied by Russian troops since the end of September, 1900, were that China should undertake the sole responsibility of guarding the railroad and not invite any other power to undertake or take part in the defense, construction, or working of the railroad, nor permit any power to occupy the territory restored by Russia; that the railroad shall be completed and worked according to the Anglo-Chinese agreement of April 16, 1899, and the contract of Sept. 28, 1898, with the company, China strictly observing the obligations of the company not to take possession of the railroad and undertaking not to part with it in any way whatsoever; that if China should seek to extend the railroads into southern Manchuria, or construct branch lines, or to build a bridge across the Liao river, or to transfer the Shanhaikwan station, a previous understanding must be reached with Russia. China agreed to reimburse Russia for the expenses of repairing and operating the railroad. The convention went into force on the day of signing. It was understood that Niuchuang would be restored to the Chinese authorities as soon as the powers withdrew from Tientsin, and the railroad as soon as the Shanhaikwan, Tientsin and Peking Railroad was handed over by the other powers.

The English delayed the restitution of the branch of the northern railroad held by them because Russia would not immediately surrender some workshops, whereupon Russia refused to ratify the Manchurian agreement or surrender the railroad beyond the Great Wall. Subsequently it was announced that the evacuation of Manchuria would begin on Oct. 8. Yuan-Shih-Kai

drew up a plan for the government of Manchuria by a viceroy and two governors, with Chinese officials associated with the Manchus. He proposed to create a new province of the Ordos country and parts of Kansu and Shensi with the object of strengthening the border. Russian influence and trade increased in Mongolia as rapidly as in Manchuria, and relations have been established between the Russian Government and the native authorities of Tibet.

Evacuation of Tientsin.—The great commercial city of northern China and official residence of the Viceroy of the capital province was still in the military occupation of the allied forces and governed by an international provisional Government. Lawlessness and brigandage were rife in the district. The 4,000 foreign troops were no better able to preserve order than the army of Count Waldersee had been in the city and district of Peking, which became quiet at once when the Chinese soldiery resumed the task. The provisional Government paid a part of the native customs over to the Maritime Customs, and these payments, 700,000 taels per annum, the Chinese authorities promised to continue and to increase when trade, which was stagnant under foreign military rule, revived sufficiently. The foreign officials made plans for the conservancy of the Peiho river, and these the Chinese promised to carry out faithfully. Yuan-Shih-Kai, the Viceroy, who as Governor of Shantung had checked the Boxer insurrection, was humiliated in Chinese eyes to be kept out of his yamen by the prolonged occupation of foreign troops.

Great Britain and Germany raised various objections to the withdrawal of the troops. After the Anglo-Japanese agreement Germany stood alone. Three-quarters of the foreign garrison were German troops. The Japanese withdrew their garrison gradually. During the foreign intervention Germany sent a garrison to Shanghai, where English and French garrisons were maintained, and this post the German Government determined to keep up permanently. By the Anglo-German convention of Oct. 16, 1900, Great Britain conceded to German commerce and navigation equal rights in the Yangtse valley. Germany also affirmed as to Shantung that her policy was that of the open door to all nations, there as well as in all parts of China. The ministers in Peking discussed inconclusively the withdrawal from Tientsin and referred the question back to the military commanders. The German representative objected to an earlier date than July 1. Germany was pressing at this time to obtain a concession for branch railroads from Shantung to Chengting-Fu and Kaifong-Fu to join the Peking and Hankau trunk line. Although professing to allow equal rights to all foreigners in Shantung, the Germans actively sought new concessions. By the text of the German-Chinese agreement of March 6, 1898, whenever the Chinese Government or any Chinese undertook enterprises for the development of Shantung and needed foreign capital they must in the first instance apply to German capitalists, and whatever machinery or materials are required may not be obtained elsewhere if German manufacturers are able and willing to supply them. In the Yangtse valley Great Britain early abandoned the principle of exclusive or preferential rights. British capitalists were not eager to embark in railroad or mining enterprises, in which the Belgians, French, and Russians were more venturesome. An American syndicate had a concession for a railroad from Hankau to Canton which the Continental group endeavored to fore-

stall by obtaining a similar concession from the provincial authorities, which, however, the Imperial Government disallowed. The military commanders at Tientsin decided that the continuance of the provisional Government was necessary to maintain communication with Peking. The ministers at Peking then had another conference and agreed in principle to the restoration of the city to the Chinese. On April 12 the allied commanders agreed on the conditions for abolishing the provisional Government as soon as the forts were destroyed or by July 1 at the latest. The Chinese Government must undertake not to restore the forts or build any new ones between Peking and Taku and Shanhaikwan, not to fortify the native city of Tientsin or rebuild the wall, and not to keep a garrison there or a police force exceeding 2,500 nor augment the garrisons within 30 kilometers of the railroad. Foreign troops may move freely within 30 kilometers of the native city, but no Chinese troops must enter within that radius. The Chinese authorities can not arrest foreign soldiers, who will be supervised by international police guards. The foreign troops retain possession of the private places and public buildings they occupy and may occupy the summer resorts at Peitaiho and in the hills west of Peking. Only one Chinese war-vessel shall be at Taku at a time, and no mines or torpedoes shall be placed in the Peiho river. For the restoration of the railroad no time was set. It was worked under British military control, having when the foreign forces entered Pechili been operated by the Russians, who arrived first, then taken over by the Germans, and finally transferred to the British, who claimed the right to guard and manage the line because British capital had built it and a British staff was on hand. Conditions for the transfer to the Chinese were negotiated with the British minister. The British and Chinese corporation applied to be made agents for the purchase of all railroad material for the northern railways, but the Chinese Government insisted on having liberty to buy by open tender. Yuan-Shih-Kai and Hu-Yu-Fen signed an agreement with Sir Ernest Satow for a British military director and Japanese and German assistant directors to be added to the Chinese board to supervise transport requirements of the foreign garrisons. It was further stipulated that any branch lines or extensions within 80 miles of the existing line shall be built only by the Imperial Chinese Railroad Administration. Railroads from Tungchau to Tongshan, from Peking to the Great Wall, and from Tientsin to Paoting-Fu were specially mentioned. The agreement required the ratification of the powers, nearly all of which objected strenuously. If the Chinese Government needed funds to build the branches and extensions it was stipulated that it could only apply to the British and Chinese corporation. The agreement was signed without the knowledge of the Foreign Office. The Belgians were the first to lodge a complaint, Li-Hung-Chang on April 9, 1901, having given an undertaking that the Tientsin and Paoting-Fu line, if built, should be constructed by the Peking and Hankau Railroad Syndicate. Americans and Frenchmen were interested in this project. Russia raised an objection to the construction of the railroad from Peking to the Great Wall under British auspices as a violation of engagements of the Chinese Government, as it was also of the Anglo-Russian railroad agreement of 1899. The Germans found their scheme for a line from Shantung to Tientsin thwarted. Russia announced that Manchuria would not be

evacuated if the British peristed in this plan to control the northern railways. The United States and the other powers joined in the protest. The Foreign Office memorialized the Throne, blaming Yuan-Shih-Kai and Hu-Yu-Fen, and the Board of Censors punished those officials by reducing their rank. The agreement, which the Chinese Government had duly signed, was presented to the foreign ministers for their assent. It was modified afterward by a concession made by Great Britain to Russia that, if the line from Peking to the Great Wall is built, it shall be done with Chinese capital only and shall not be mortgaged to foreigners. That there should be no military directors on the Tientsin Railroad Board was also demanded, and when England would not give way on this point the Russian minister notified the Chinese Government that if any military directors are appointed in the administration of any part of the northern railroads they shall in every case include a Russian. Confronted with this alternative, England gave way, and Germany and Japan consented that there should be no military directors.

The Peking, Tientsin and Shanhaikwan Railroad, as well as the other northern railroad from Shanhaikwan to Niuchwang, are nominally the property of the Chinese Government, but have been managed by English officials in the interest of the English bondholders. The dispute between England and Russia, which nearly led to a clash at arms in the spring of 1901, regarding a concession of land in Tientsin to the Russian trading community that was claimed by the British for a railroad siding, was referred to Herr Detring, the Commissioner of Customs, for arbitration.

The Chinese Government found it impossible to accept the conditions for the restoration of Tientsin. There were no Chinese garrisons nor soldiers in the area where the garrisons were forbidden to be increased. The commanders yielded to the demands of the Viceroy to the extent of allowing him a body-guard of 300 men; but with this force and the 2,500 police he could not undertake to preserve order in one of the wealthiest and most populous districts of China where foreign soldiers were at liberty to go to and fro at will and on a river crowded with boats and infested with pirates. Fresh armed intervention must necessarily ensue. The ministers conceded also the right of the Chinese authorities to arrest foreign lawbreakers within their jurisdiction and would allow more than one Chinese war-vessel at Peiho, and they agreed to restore the private property seized for the accommodation of the foreign soldiery. The rest of the conditions they persisted in maintaining, although it was a clear breach of the treaty of peace to impose any new conditions, as it was for the international troops to retain possession after Sept. 22, 1901, the date fixed for the evacuation. The Americans had already withdrawn from the military provisional Government. The Japanese wished to withdraw, but felt constrained to support the British commander, who as senior officer was chiefly responsible for the difficulty, although the German commander was even more insistent upon upholding the hard terms. On June 18 Russia announced her withdrawal from the Tientsin foreign Government, as she would not be a party to imposing new conditions. France this time did not follow the lead of Russia, and was left with England, Germany, Italy, and Japan to bear the onus. China on July 3 appealed to the United States to intercede with the other powers so as to secure a modification of the intolerable terms

and a restitution of the city and district. No salt was made, no banks were opened, little trade was done. The military commanders granted commercial concessions to members of their official staffs which will be binding on the Chinese Government for sixty years, and confiscated for the benefit of foreigners valuable lands and buildings, giving small remuneration to owners. The Japanese minister sought to remove the inhibition of Chinese troops in the Tientsin district, of which the British as well as the Russian minister had expressed disapproval, though all three originally voted with the three other ministers for the sake of unanimity. The United States used its good offices effectively, and, with the support of England, Japan, and Russia, obtained the elimination of the obnoxious conditions. The area of over 1,000 square miles in which the Chinese could have no military force was reduced to about 50 square miles, a circle with a radius of 6 miles, and there is no restriction to the number of police that can be employed in this smaller district. All the numerous concessions dealt out by the provisional Government were declared null and void. The provisional Government during its existence destroyed Taku and the forts on the coast as far as Shanhaikwan, replaced the wall of Tientsin with a boulevard, did much for the sanitation of the city, suppressed piracy on the Peiho to a great extent, and began and provided for the completion of the regulation of that river which will render it navigable for seagoing vessels. The English restored the Pekin and Shanhaikwan Railroad to the Chinese in the beginning of October, after the Russians had surrendered the railroad to Niuchwang and begun the evacuation of Manchuria south of the Liao river.

The Chinese Government and the Yangtse viceroys pressed for the withdrawal of the foreign garrisons at Shanghai. The British posted a garrison there during the Boxer troubles, and because they did so the French sent one, and then the Japanese, and lastly the Germans. Each garrison was about 200 strong. The Nankin Viceroy did not object, although their presence scarcely helped him in his efforts to hem the antforeign movement and prevent a rising in the Yangtse valley. After the peace, and still more after the restitution of Tientsin, the center of the Boxer movement, the continuance of the foreign garrisons was a humiliating slight to the Yangtse viceroys. The French and the British and Japanese were willing to retire their troops at once, but the Germans were not inclined to move so quickly. The German military authorities planned to keep a brigade in China of 3,300 men, only 1,500 less than in 1901, and ordered 800 to be stationed at Shanghai, 400 at Tsingtau, 300 at Pekin, and 1,300 were kept at Tientsin until the evacuation. England, France, and Japan expressed willingness to leave Shanghai, and proposed a simultaneous withdrawal of the foreign forces. The Germans complained, when the board to manage the regulation of the Whangpu, or Shanghai, river was elected, that owing to an Anglo-Japanese coalition only one German was appointed, reducing them, notwithstanding the importance of their shipping and commerce in the Yangtse, to the same position as the Danes and Belgians, while the Americans, French, and Japanese had 2 members respectively and the English 5. The Nankin Viceroy, Liu-Kun-Yi, had to appoint a member, in addition to the Taotai of Shanghai and the commissioner of customs, but at first he declined, resenting the omission to consult him in the matter and be-

cause he considered that the conservancy scheme under international control was a violation of China's sovereign rights.

New Commercial Treaty.—The financial question resulting from the heavy indemnity exacted by the powers was the most difficult and pressing one that confronted Chinese statesmen. Among various expedients, mostly trivial or futile, the most important was a house tax, which could not be generally applied at once without provoking rebellion. In Shanghai, Wuchang, Canton, and other large cities the authorities attempted to introduce it gradually, levying it in the beginning on property paying high rents. Increased salt and land taxes were imposed sporadically and without sufficient sanction. All attempts to raise revenue failed. The United States Government repaid to China \$376,000, the value of silver bullion seized by United States troops in the salt yamen at Tientsin. The Russians returned the salt heaps they had seized, having at no time been able to sell any of the salt because the Chinese were forbidden by their Government to buy it from the Russians.

The negotiation of a new commercial treaty was undertaken by England, with which country the existing treaty and nearly all commercial arrangements with China were originally made. Sir James L. Mackay was appointed British commissioner, and Sheng-Ta-Jen and Lu-Hai-Huan were the Chinese commissioners. The subjects of negotiation included the registration and protection of trade-marks, a uniform national currency, extension of bonding privileges, the importation of foreign salt, free movement of native grain within the limits of the empire, the right of permanent residence in the interior for commercial purposes, the improvement of navigable waterways, increased transit facilities for exports, the definition of the area free of likin at treaty ports, reform of the Mixed Court at Shanghai, provision for a higher tribunal for civil suits, amendment of the inland navigation rules, definition of the liability of Chinese shareholders in foreign companies, amendment of the drawback system, equal treatment of cargoes carried by foreign vessels and by Chinese junks, complete exemption from duty and freedom of trade between all river ports, amendment of the railroad and mining regulations, extension of the postal and telegraph services, substitution of taxes for the likin duties on native opium, opening of new treaty ports, and general facilities for trade. American, Austrian, Belgian, Dutch, British, French, German, and Japanese commissioners studied the question of the new provisional customs tariff, while Sir J. L. Mackay was urging on the Chinese Government the advisability of abolishing likin barriers. Unexpected objections came from Manchester merchants and others in the China trade who have ceaselessly pressed for this reform, but now reckoned the difficulties and delays in carrying it out and the probable diminution of profits, as it was contingent on an increase of the import duties to 15 per cent. They also feared the competition of native yarns and piece goods and of other native manufactures if these were freed from likin. To abolish the whole system of likin barriers was a stupendous task, as an army of officials is employed in the collection and most of the public revenues are drawn from likin, collected from native as well as from foreign goods. It was likin that destroyed the tea trade of China. American and Russian merchants objected to trebling import duties for the sake of suppressing likin, which in north China, where

most of the American trade is, does not weigh heavily on commerce. The total collections of likin and kindred taxes on imports and exports were estimated by the Chinese commissioners at 40,000,000 taels, of which less than 17,000,000 taels reaches the Government. Likin is collected at innumerable barriers scattered without system on the chief trade routes of the interior, which may be set up at will by the local authorities. The abuses inseparable from the collection of likin are more onerous than the payment itself. At each barrier goods are delayed and examined, giving the officials an opportunity to squeeze bribes and fees in addition to the likin, or when no likin is due, as on imports that have paid 2½ per cent. in addition to customs duty at the port of entry, and are thereby free of likin under the treaty. Owing to the uncertainty and irregularity in the cost and time of transit the trade in foreign goods can not be developed in the interior, while the high duties paid on exports that pass many barriers are fatal to the export trade. There is a limit to the amount of tax payable at one barrier, but there is none to the number of barriers that may be set up. The revision of the existing provisional tariff so as to produce an effective 5 per cent. in accordance with the protocol of Sept. 7, 1901, was interrupted by the Chinese commissioners in consequence of the further fall in silver, which made the specific duties already agreed on not more than 4 per cent. ad valorem. The old duties, calculated on a basis of 5 per cent. ad valorem according to the prices current in 1858 yielded but little over 3 per cent. The sales of silver that the Chinese Government was compelled to make to raise gold for the indemnity caused a further break in the silver market. The gold value of the tael fell to 2s. 7d., increasing the burden of the indemnity by 20 per cent. The enhancement of the prices of foreign commodities in China was disastrous to the import trade. The Chinese Government of its own accord decided to reduce the duty on tea for export, which has been about 40 per cent. of the present value of tea, to a 5-per-cent. basis.

The International Commission to fix duties under the protocol concluded its labors and the provisional tariff was signed on Aug. 16, to go into force on Nov. 1, 1902. The specific duties agreed to represent an average rate of 4½ per cent. of the values current. Russia, Italy, Spain, and Portugal were not represented on the commission. Portugal, not being a signatory of the protocol of 1901, claimed a right to import goods under the old tariff, which she offered to relinquish if China would concede two small islands near Macao in fulfillment of an article in the treaty of 1888, together with the right to build a railroad from Macao to Canton.

On July 21 the Imperial Government gave its assent to the entire abolition of likin on all merchandise, native as well as foreign, throughout the empire. The Yangtse viceroys, who first resisted the reform for fiscal revenues, supported Sheng. Ancient recognized customs were to be scheduled, the stations to be fixed and not afterward increased, and the imperial Maritime Customs was to supervise the whole system of inland native customs. The likin taxes are not ancient. They were introduced to furnish means to cope with the Taiping rebellion and afterward extended for the purpose of regaining the revenues from foreign commerce sacrificed in the tariff imposed on China in 1858. The article in the draft treaty abolishing likin was submitted by the Chinese commissioners with the unconditional approval of their Government, but Sir

James L. Mackay could not agree to it, as he did to the other articles, until he obtained the approval of his Government. Instead of a 15-per-cent. duty on imports, as originally proposed by the Chinese Government, the British merchants were asked to consent to a total duty of 12½ per cent. The first seven articles of the treaty provided for registration of trade-marks, bonded warehouses, the navigation of the Yangtse and Canton rivers, equalization of dues on junks and steamers, facilities for drawbacks, the establishment of a national currency, and the liability of Chinese stockholders in foreign companies. The eighth article abolished likin and other dues at the place of production, in transit, or at destination in return for a surtax on foreign goods imported and Chinese produce destined for export abroad or coastwise, the surtax on imports not to exceed one and a half time the import duty leviable under the protocol of Sept. 7, 1901, and the total taxation leviable on native produce for export abroad not to exceed 7½ per cent. ad valorem. Export duties are to be fixed on a scale of 5 per cent. ad valorem, with a surtax of half that amount in lieu of internal taxation and likin. Silk and cocoons pay no surtax. Likin on salt is abolished, and the amount of the likin and other taxes is added to the salt duty collected at the place of production or in the province where the salt is to be consumed. Native produce transported in the interior pays the 2½ surtax at the first custom-house, and a certificate is given good for a year, which frees the goods from all further taxation, examination, delay, or stoppage. Junks, boats, and carts pay an annual license fee and are not liable to any other charges or tolls excepting port dues from junks. The duty and commutation of likin on foreign opium remain as before, a total of 7½ per cent., instead of the 12½ per cent. charged on other imports. For the taxation of native opium China may retain offices on the borders of each province, where all taxation that is leviable in the province is paid in a lump sum and the cakes are stamped in evidence of payment, but no goods except opium can be stopped or taxed at these offices. The loss of revenue from the abolition of likin and all other kinds of internal taxes on foreign goods imported and on native goods exported abroad and coastwise is only partly made good by the surtax, and therefore it is agreed that China is at liberty to impose a consumption tax on articles of Chinese origin not intended for export. This tax shall be levied only at places of consumption, and not on goods while in transit, and the Chinese Government undertakes not to interfere with foreign goods or native goods for export, and when foreign goods are similar to native goods the owner can demand on payment of the import duty and surtax a certificate of their foreign origin. This consumption duty may vary according as the articles are necessities of life or luxuries, but it shall be levied at a uniform rate on goods of the same description, whether carried by junks or steamers. Within foreign settlements or concessions the consumption tax can not be levied. Yarn and cloth manufactured by machinery in China by foreigners or Chinese pay an excise duty, collected by the imperial Maritime Customs, equal to double the import duty. On raw cotton imported from foreign countries there is a rebate of the import duty and two-thirds of the surtax, and it is exempt from the consumption tax and all other duties leviable on Chinese raw cotton used in mills. Having paid excise duty, Chinese machine-made yarn or cloth is

free of export or coast-trade duty and surtax and consumption duty. The same conditions apply to all other goods of foreign type made by machinery in China, except that the products of Government ironworks, arsenals, dockyards, etc., are exempt from all taxation. Members of the foreign staff of the imperial Maritime Customs, to be appointed by the viceroys or governors in consultation with the Inspector-General of Customs, will have a general supervision over native customs, the consumption tax, and salt and native opium taxes. Illegalities complained of will be investigated by a Chinese official in conjunction with an officer of the foreign Government concerned and an officer of the Maritime Customs; and if the complaint is found to be well founded compensation will be paid through the imperial Maritime Customs from the surtax funds and the high provincial officials will be held responsible for the punishment and dismissal of the officer guilty of the illegal action. The Chinese Government promised to open to foreign trade the following new treaty ports: Changsha in Hunan, Wanhhsien in Szechuen, Nganking in Anhui, and Waichau and Kongmun in Kuangtung. After the edict is issued abolishing likin, likin barriers, and all descriptions of internal taxation on goods, any official disregarding the letter or the spirit of the injunction shall be severely punished and removed from his post, and the high provincial authorities will be held responsible that this is done. The surtax on imports and exports and the salt tax substituted for the salt likin will be divided between the provincial viceroys and governors and the Maritime Customs in such proportion for each viceroy or governor as may be arranged between him and the Board of Revenue. The surtaxes shall not be pledged as security for new foreign loans or for existing liabilities of China, but the interest and sinking-fund of the loan of 1898 for which the likin and salt likin were pledged are to be set aside out of the proceeds of the surtaxes on imports and exports and the new salt tax. In the ninth article of the treaty China agrees to recast mining regulations in such manner as to offer no impediment to the attraction of foreign capital. The tenth article contains regulations for the navigation of inland waters, which is made for the first time a treaty right, providing facilities for shipowners to build or lease wharves and warehouses. The eleventh article restricts the importation of morphia. In the twelfth article Great Britain engages herself to relinquish extraterritorial rights as soon as the reform of the Chinese judicial system and the establishment of an effective administration shall warrant her in so doing. In the thirteenth and last article Great Britain agrees to take part in a joint commission representing China and the treaty powers interested with the object of investigating the missionary question and devising means of securing peaceful relations between the Christian converts and the rest of the population of China. The treaty was signed by the British and Chinese plenipotentiaries on Sept. 7. It was subject to the acceptance of its conditions by all the powers entitled to most favored-nation treatment and to their making their assent neither directly nor indirectly dependent on the granting by China any political concession or of an exclusive commercial concession. If all the treaty powers accept the treaty all likin barriers shall be removed on Jan. 1, 1904, and all officials employed in the collection of taxes and dues prohibited by the treaty shall be removed from their posts.

Should the powers not agree before that date the treaty will go into force as soon as they have accepted its engagements. The new duties on imports, although nominally 12½ per cent., actually amount to between 10 and 11 per cent. on the system of valuation in force.

Great Britain and Japan receded from their determination not to join the other powers in a *pro rata* reduction of the indemnity claims to bring the total sum down to the stipulated 450,000,000 taels when the United States offered to abate its claim independently. When silver fell 20 per cent. below the exchange rate at which the indemnity was reckoned the Chinese Government claimed that the payments should be made in silver. The fall in silver already added 90,000,000 taels to the indemnity debt and 3,000,000 taels to the annual interest, and if China continued to sell silver for gold to meet the payments the rate would continue to fall, as there was little demand for silver outside of China. The Chinese Government proposed to collect the customs duties in gold at the exchange fixed by the treaty. The representatives of the powers peremptorily refused to allow this course. The Chinese then declared that they would pay in silver, and the July payment was tendered at the current rate of exchange. The commissioners refused to accept this amount. The Government then acknowledged that it was a gold debt and appealed to the powers to relieve it from conditions that would soon render it impossible to pay the interest or principal of the indemnity. The United States Government took the ground that the indemnity, expressed in taels, the only money available in China, was in equity a silver debt, intended to be equivalent to a gold debt at the rate stated in the protocol without regard to the fluctuations of silver. The American minister notified China that his Government was willing to accept payment of its part of the indemnity at the current rate of exchange. England then proposed that China should be permitted to pay the indemnity in silver until 1910. After an acknowledgment by the Chinese Government that it had agreed in the treaty to pay in gold the other powers agreed to the English proposal.

The native customs were handed over to the Maritime Customs department according to the protocol, but not without considerable resistance and delay in many places. In Canton the Manchu collector of native customs was sustained in his reluctance to resign a lucrative post by the Imperial Government, which yielded grudgingly at last to the demands of the British minister. The powers have regarded with jealousy the imperial Maritime Customs since the establishment of this foreign branch of the Chinese Government on account of the peculiar control over the department by Great Britain. By arrangement between Great Britain and China the head of the Maritime Customs must be of British nationality so long as British commerce in China exceeds that of any other nation. The Maritime Customs in 1902 organized an imperial postal service and carried letters to all parts of China for the lowest rates in the world, only ½ cent per half-ounce. The German, French, and Japanese postal agencies reduced their rates, but were unable to compete. Registered letters are sent for 5 cents Mexican by the imperial post-office, and postal and money-order offices are established in all the large towns and provincial capitals. Chang-Chih-Tung and other viceroys interposed obstacles at first to the extension of the post-offices into their provinces,

but their opposition was only formal and temporary. Chang-Chih-Tung, while remaining Viceroy of Wuchang, became Imperial Commissioner of Commerce, an office first bestowed upon Li-Hung-Chang shortly before his death. When the United States Congress passed the new Chinese exclusion act the Chinese Government against the reenactment of the law, particularly against its extension to Hawaii and the Philippines, where the Chinese have acquired large interests and are connected by family ties with the population of the islands, for which reasons the repression of free intercourse would result in peculiar hardships.

The Imperial Government, in response to a memorial of Yuan-Shih-Kai, issued on Sept. 13 an edict intended to eradicate official squeezing and malversation. Considerable progress was made in this reform in Pechili. The edict announced that salaries would be fixed, and ordered that all fines and other revenues be accounted for and turned into the public treasury, with the exception of a certain percentage, until a scale of salaries is adopted by the Imperial Government which will render squeezing unnecessary.

Foreign Enterprise.—The British and Chinese Corporation in 1898 secured a concession for a railroad from Shanghai to Nankin and mining and railroad concessions in Shansi and Honan and applied for a concession for a trunk line between Peking and Hankau. A Belgian syndicate with Russian and French backing secured the latter, whereupon the British minister demanded and obtained as compensation the privilege for British syndicates to build lines from Canton to Kaulung, from Shanghai through Nankin and Chinkiang to Sinyang, and from Hangchau to Suchau, with extension to Ningpo. The British held financial control over the Peking-Tientsin-Niuchuang system of railroads built for the Chinese Government, and the British and Chinese Corporation possessed a third interest in the Tientsin and Chinkiang Railroad and was half-owner of the coal-mines at Nan-Piao, near Shanhaikwan. In the battle for concessions the British came out ahead. In actual enterprise they have fallen to the rear. Not a rod of the projected railroads has been built, though the concessions are still held by the British syndicates, which have failed to fulfil any part of their engagements. These concessions had no time limit, and when the concessionaires did nothing, although Belgian, French, American, and other British syndicates were willing to undertake their development, the Chinese Government decided to grant no more until work was begun on these and to cede no mines in future except on condition that operations be commenced in a given time. The coal- and iron-mines of Shansi and northern Honan could not be developed because the Chinese Government would not allow the Anglo-Italian company which has the concession to build a railroad to the Yangtse. The Belgian syndicate which constructed the Luhan Railroad, as the Peking and Hankau line is called, successfully opposed its construction by the route finally chosen, fearing competition. In 1902 the mining company started to build a railroad from Tsehou to the Grand Canal at Weihui, to connect later with the Luhan Railroad running south to Kaifeng-Fu, and one from the Chingwha coal-fields of Honan to the Wei river.

The British syndicate that signed the contract for the Shanghai and Nankin Railroad in the beginning of 1902 proposed new conditions for that and its other railroad contracts which the Chinese Government would not even discuss. The

same syndicate, the British and Chinese Corporation, formed by the great mercantile and banking concerns in Shanghai, contracted to build the line from Canton to Hong-Kong and the one from Suchau to Hangchau, and with a German syndicate in the projected trunk line from Tientsin to Chinkiang; originally also with an American syndicate in the Hankau and Canton Railroad, which last has been begun, but with the aid of Belgian, not British, capital. The Germans are determined to build the Tientsin-Chinkiang line. An Anglo-French syndicate in 1902 obtained mining concessions covering a third of the province of Yunnan and comprising mines producing coal, copper, nickel, quicksilver, petroleum, tin, and precious metals. An English and a French syndicate in rivalry sought mining concessions in Szechuen. The Germans have pushed forward the Shantung railroads and have already done much to develop the mineral resources of that province. They have a right to mine coal, etc., within 10 miles on each side of the railroads. A German syndicate has obtained rights to mine diamonds and other precious stones, coal, gold, and other minerals in several districts. The activity of German enterprise excited the jealousy of others, who spread a rumor that Germany was pressing the Chinese Government to grant exclusive privileges in Shantung. The German Government denied, in answer to inquiries, that the industrial concessions granted established a German monopoly or were intended to shut the door to foreign competition in Shantung. A German firm proposed to farm the preparation and sale of opium throughout the empire, offering 50,000,000 taels a year for the monopoly, but the scheme was not favorably received by the Chinese Government. The terms of the last German mining rights in Shantung it is intended to apply to all mining concessions. The conditions are that the Government shall receive 25 per cent. of the profits and also a proportion of the product, which is 25 per cent. for precious stones, 15 per cent. for precious metals and quicksilver, 10 per cent. for copper, lead, and zinc, and 5 per cent. for iron and coal, besides a 5-per-cent. duty on exports and 2½ per cent. on products consumed in China.

A Japanese company placed a fleet of steamers on the Yangtse which ascend the river as far as Siangtan. Steamers belonging to European and Chinese companies are increasing in all Chinese waters. A French project for a railroad from Canton to Fatshan was not entertained because it conflicted with the rights acquired by the American syndicate in 1898.

The Manchurian Railroad was near enough to completion to carry freight and passengers from the beginning of 1902. The East Chinese and Siberian Railroads afford continuous rail communication from Port Arthur, or, by the line that runs through Tientsin, Taku, and Niuchuang and connects with the East Chinese line at Tash-chu, from Peking to St. Petersburg and other European cities. The Russian Railroad guards in Manchuria number about 40,000, distributed in fortified posts, 10 or 15 miles apart, along the line and along the branch that runs from Harbin to Vladivostok.

Insurrectionary Disturbances.—The populous and productive provinces of the center and south, which had no part in the Boxer uprising and were unaffected by the foreign occupation, were stirred to the point of rebellion when the main part of the indemnity was levied on them. The provincial officials endeavored to raise the amounts assessed on them by whatever method

promised to yield their quota, but it was all extra taxation; they were in many cases unable to wring it from the people, and had to borrow money from bankers on their personal security to complete their remittances. In the more prosperous districts some of the mandarins squeezed much more out of the people than their quota, and thus disaffection and indignation against the foreigner and the Imperial Government spread throughout the purely Chinese provinces that have never been contended under the Manchu rule.

The taxes that had to be raised for the indemnity increased in the same proportion as the fall in the gold price of silver. This was felt to be a fresh extortion of the foreigners. In Chili province and throughout northern China the continued occupation of Tientsin and retention of the railroads in violation of the treaty of peace kept alive or revived the anti-European sentiment.

In February disturbances broke out in Kuangtung and Kuangsi along the French border. Two French officers were murdered. A German mission was destroyed. The Imperial Government enjoined the local officials to use every effort to suppress disorder and punish the offenders. Although foreigners were the first victims, the movement developed into an antidynastic rebellion. Su-Yuan-Chun, a general who had maintained order along the French frontier for many years, was sent back to the post with an army. He encountered and defeated a body of rebels at Langchau.

Gen. Ma led another army out from Canton, but had to retreat from Fangcheng, where the rebels put the mandarins to death. The movement spread rapidly and extended into Yunnan. The most active and troublesome of the rebels were discharged soldiers. The objects of the rebellion were the downfall of the Tartar dynasty, the establishment on the throne of a Chinese line of monarchs, and the relief of the suffering people. These objects are always cherished in the Kuang provinces and kept alive by the Triad and other secret societies. Robberies were frequent and countrymen joined the rebellion for food and plunder because drought prevented rice-planting. The imperial troops were checked at Seng-Chin in Kuangtung and at Popak in Kuangsi. The rebels captured Liuchau in Kuangsi, Yungning in Kweichau, and Fuchuen in Yunnan. Many of Su's troops deserted and joined the rebels. The Viceroy of Canton asked for reinforcements from Pechili. He could not save the town and arsenal of Kanchau from capture without exposing Canton to danger. Gen. Ma and Marshal Su joined their forces in Kuangsi and in the beginning of April fought a battle at Kongchuen, where the opportune arrival of Gen. Wong with quick-firing and machine-guns turned defeat into victory and compelled the rebels to retreat to their mountain strongholds. The imperial troops, however, were unable to make headway, and sat down at Lienchau and Kuchau until reinforcements arrived, a regiment of the foreign-drilled troops of Yuan-Shih-Kai with artillery and one of Black Flags for Nanning-Fu, which was protected by torpedo-boats, while gunboats were sent to protect Wuchau. The rebels obtained arms from outside and their ranks were strengthened daily. The antiforeign agitation at Ningpo led to the despatch of German war-ships. The rebels in their proclamations enjoined the people to spare and protect the foreigners and their commerce, but to drive out the mandarins who ground them down with

oppressive extortions. They charged Manchu nobles and corrupt mandarins in control of the Imperial Government with having sold parts of China to Occidental nations and with having declared war without the concurrence or knowledge of the true Chinese of the south, upon whom they now imposed increased taxes to pay the war debt. The revolutionary program set forth as the objects of the movement the overthrow of the Manchu dynasty, the founding of a new dynasty under a Chinese Emperor, relief for the oppressed; the introduction of reforms, protection of commerce, the establishment of 3 governments in Kwangsi, Kweichau, and Kuangtung with an emperor at Canton and viceroys in Kwangsi and Kweichau, and protection of Europeans and their trade. The center of the movement was the cradle of the Taiping Rebellion, and the revolutionists took the name of Hung from Hung-Sau-Chuen, the leader of that rebellion. The reformers Kang-Ju-Wei and Sun-Jat-Sen had no connection with the insurgents, who numbered about 10,000 armed men supplied with Mausers and revolvers by pretended opium merchants coming from Annam. The prefect of Nanning-Fu alienated the people of his district by destroying whole villages in his hunt for the rebel chief. All the country surrounding and beyond that city was dominated by the rebels. They held over 30 towns and villages, making prisoners of the mandarins.

In most places the people received the rebels with open arms. A force of 2,000 imperial troops sent by Marshal Su to dislodge the rebels from a village was ambushed and cut to pieces in a narrow defile. A sufficient force of imperial troops was sent into Kwangsi to hold the insurrection in check. A large body of rebels was dispersed near Wuchang, and Hung-Yung-Seng, their leader, was captured. Nanning-Fu was attacked by the rebels on April 27. A few days later a large insurgent force sustained a severe defeat. The political movement subsided, but well-armed predatory bands, largely composed of braves of Su's frontier force, who, receiving no pay, had deserted with their rifles and ammunition, and numbering hundreds and even a thousand in a band, continued to infest the mountainous districts near the West and Lanchau rivers and roam on the borders of Yunnan and Tongking, raiding and plundering villages, holding officials to ransom, and collecting salt and likin duties.

In southern Honan, exasperated by the collection of taxes for the indemnity and demands of the French missionaries for compensation for their converts, the people murdered some of the converts. The Government degraded the local officials, and then directed the Foreign Office to arrange with Bishop Favier and with the foreign ministers rules to control the interference of Catholic missionaries in litigation between converts and other Chinamen. Outrages on Christians in northern Kansu committed by Gen. Tung-Fuh-Siang's troops, who numbered 3,000 or 4,000, armed with modern rifles, compelled missionaries to flee. The Viceroy complained that he could not cope with the disturbance, his own troops having inferior arms. The French minister pressed for the capture and punishment of Prince Tuan and Gen. Tung-Fuh-Siang, and the Government promised energetic measures.

The inhabitants of Mongolia resisted the severe taxation levied in order to raise the indemnity. The troops of northern China betrayed an antiforeign feeling caused by the continued occupation of Tientsin, the imposition of the indemnity

ties, the missionary claims, and intrigues of reactionary officials. In the central and southern provinces the proclamations of the officials levying the indemnity taxes were often couched in bitter and provocative phrases, commanding the people to pay in order to increase the wealth of the foreigners.

In parts of Chili the villages and market-towns formed leagues to resist the collection of foreign indemnities and armed the members with Mauser rifles for a conflict with Yuan-Shih-Kai's soldiery. The attempts of local officials at Taming-Fu to collect indemnities for losses of the missions and native Christians on which they had agreed with the Roman Catholic priests led to riots which resulted in great loss of life. Hundreds of villagers were killed, as they were armed only with spears and bows, and 60 of the troops, in consequence of which a brigade was sent to destroy the villages. The insurgents killed a missionary and threatened to drive them all out of the district. At Shunte-Fu a league of villagers led by a military mandarin and armed with rifles and cannon inflicted a defeat on the first body of troops sent to suppress the rising. A large force of Yuan-Shih-Kai's trained men dispersed the rebels, who numbered some thousands, and the leader, Ching-Ting-Ping, was captured in Honan and beheaded. He had killed the members of his family before embarking in the enterprise to prevent them from being punished in the event of its failure. In Szechuen a Boxer outbreak occurred during the summer in which converts were massacred and mission property destroyed. A conflict with the troops took place in Cheng-Tu-Fu, which resulted in the defeat of the insurgents, whose leaders were captured and beheaded. The American and French ministers made representations to the Government, which removed the viceroy and the other officials. In every place where disturbances occurred throughout the empire the local officials were punished. At Chenchau, in Hunan, missionaries were accused of introducing cholera. H. R. Lewis and J. R. Bruce, of the China Inland Mission, were beaten to death by a mob on Aug. 15.

CHRISTIAN CONNECTION. Under this head are embraced the American Christian Convention of the Northern United States and Canada, the Christian Church, South, and a number of affiliated colored churches. The quadrennial meeting of the American Christian Convention at Norfolk, Va., beginning Oct. 8, was attended by representatives of all these societies. The conference lists given in the Christian Annual for 1902 give the numbers of members as follow: American Christian Convention, 60 conferences, 71,395 members; Southern Christian Convention, 6 conferences, 13,595 members; 6 other conferences in the South, 12,217 members; in all, 72 conferences, with 97,207 members. The total number of churches in 1901 was 1,517, and that of ministers 1,151. The mission secretary reported, for 1901, in home missions, 6 churches and 7 Sunday-schools organized, 397 members received, and 298 conversions returned by the missionaries during the year. The report of the foreign missions (Japan and Porto Rico, with one to be established in China) for the year closing July 1, 1901, mentioned 7 organized churches with 148 members, 26 baptisms, and a net gain of 20 members during the year, 16 Sunday-schools with 725 pupils, 9 missionaries, and 13 native ministers and other helpers. The mission receipts had been in excess of those of any previous year in the history of the Church. Nine educational institutions of high grade are maintained, one of

which is a Biblical Institute, and another a college for colored people. Besides the publishing department of the General Convention, the Christian Publishing Association is composed of the same membership as the General Convention, and issues the denominational weekly newspaper and Sunday-school literature at Dayton, Ohio, and a missionary journal and local newspapers are published in New England and Canada.

The American Christian Convention met in quadrennial session at Norfolk, Va., Oct. 8, the Rev. O. W. Powers, D. D., presiding. The reports of the president and secretary represented the Church as in a condition of encouraging progress, with increase in every department of its work. The people had contributed nearly \$100,000 for education. The receipts of the missionary treasury during the past four years had been \$61,057, or \$18,865 more than in the previous four years, showing an increase of about 45 per cent. The expenditure had been \$42,495. The Woman's Board of Foreign Missions had received (during the four years) \$5,978, and the Woman's Board of Home Missions \$1,711. The Home for Aged Ministers, at Castile, N. Y., had an endowment yielding an income of \$600 a year, while the expenditures were more than \$900 a year, and had received additional gifts. A new constitution was adopted, during the discussion of which the word "denomination" was stricken out wherever it occurred, and the words "religious body" were inserted in its stead. A resolution was passed ratifying the acts of the old convention, as those of the new are under the new articles of incorporation, and provision was made for drawing up new laws, rules, and regulations for the convention, including order of business and parliamentary rules, which are to be printed and distributed among the people of the Church. A plan was approved for the establishment of a university, to be called Palmer University, for which property valued at \$200,000 was offered at Muncie, Ind., and \$100,000 were promised for endowment, contingent upon another \$100,000 being secured. Papers were presented requesting help for different interests of the colored people and asking that literature of the connection be furnished to colored colporteurs; and by resolution of the convention the Afro-American delegates were admitted. Four convention collections were authorized to be taken in the churches: for the convention, for foreign missions, for home missions, and for education. In a report on building and equipping a printing establishment, the Board of Trustees was advised to be cautious in making investments in fixed property, but to exercise greater vigor in publishing new matter. The educational report advised a raising of the standard of ministerial education, the fostering of industrial training in at least one of the white schools, and the federation of the colleges, in order to bring about uniformity in work and degrees. A report on moral reform took cognizance of such subjects as Sabbath observance, the settlement of labor difficulties "by Christians in harmony," legislation on marriage and divorce in harmony with biblical teachings, abstinence from tobacco and intoxicating drinks, and the restriction of the liquor traffic. Cooperation with the Antisaloon League was continued.

The Southern Christian Convention maintains Elon College, North Carolina (Elon College post-office), and has a book depot and publishing interest at the same place, whence the periodical organ is issued. Its home mission work is in successful operation with one general missionary, and interest in foreign missions is represented as

increasing. Plans for the liquidation of the debt of Elon College, the establishment of an orphanage, and the raising of a twentieth-century offering of \$20,000 have been pushed with vigor.

COFFEE. Coffee forms the largest single item of our imports. For years the United States have been the largest coffee-importing country in the world, and our purchases have steadily increased. For the last crop year, ending June 30, 1902, the imports into the United States were 7,905,815 bags of 132 pounds each, or 1,043,567,580 pounds. It is now estimated that we consume a little more than 12 pounds of coffee per capita annually. While Great Britain consumes less than $\frac{1}{2}$ of a pound per capita annually, some of the other northern countries of Europe consume considerably more. Denmark

is given by M. Lecombe, in his Geography for 1901, as the largest coffee-consuming country in proportion to its population, the average consumption being 5.07 kilograms, or 15.72 pounds to each inhabitant. Norway and Sweden are next on his list; their average consumption is 4.03 and 4 kilograms respectively; but, for some unknown reason, Holland, which

PERRY B. O'SULLIVAN, PRESIDENT OF
THE NEW YORK COFFEE EXCHANGE.

consumes more coffee than either, is not mentioned. A parliamentary paper recently issued contains an official document entitled Tea and Coffee in 1900, which gives the consumption of coffee in that country per capita as 16.57 pounds annually, which makes Holland the largest coffee-consuming country in proportion to its population.

The steady increase of our coffee consumption may be judged by our importations; those for the fiscal year 1898—836,528,352 pounds—were nearly 20 per cent. greater than our importations of the previous year, 50 per cent. greater than in 1893, about double those of 1880, and more than three times those of 1874. Our importations fell off in 1899 and 1900. The importations for 1899 fell off more than 38,500,000 pounds, and for 1900 they fell off 43,500,000 pounds from those of the previous year. The statistics of the Treasury Department for the fiscal year 1901 give the sum total of coffee imported into the United States as 907,969,585 pounds, valued at \$93,773,423. But in 1892 we paid a great deal more money for coffee; our importations for that year, though only 640,211,000 pounds, were worth \$128,042,000.

The years from 1888 to 1893 were prosperous for the coffee-growers; the average price, which was 7 and 10 cents a pound in 1886 and 1887, jumped to 20 cents in 1892, the highest price ever paid for coffee in our history. The price fluctuated between 7 and 9 cents in the fifties, rose to 12 cents in the sixties, took a sudden drop in 1865 to 6 cents, jumped again in 1866 to 11 cents, and then went down to 9 cents, fluctuating between these figures till the seventies, when it began to rise steadily, reaching 19 cents a pound in 1874. This stimulated the coffee-

growers all over the world, and with the increased production the price gradually fell till 1886, when it was down to about 7 $\frac{1}{2}$ cents. As it costs much more than this to grow and market coffee in many of the coffee-producing countries, the planters were obliged either to go out of business or to use their estates for some other crop. Consequently, with the ever-increasing demand, the price went up again till it reached 20 cents in 1892. The following year it fell to 14 cents, and then it rose to 16 cents, since which time it has been steadily going down till the present year, when coffee was sold on the exchange in New York as low as 5 $\frac{1}{2}$ cents.

In a paper before the Chamber of Commerce at Rio de Janeiro last year, on the consumption of coffee in the United States, by the Brazilian minister to this country, he says this fluctuation in the wholesale market affected the retail price of coffee but little. The price of a cup of coffee in the United States, he says, is the same as when a pound of the product cost in the wholesale market three times what it is sold for at the present time. He further said that the price of roasted coffee has remained about the same; that five-sixths of all the coffee consumed in the United States is imported from Brazil; and he intimated that it was sold to the consumer as Java and Mocha and brought the average price of 25 cents a pound. Thus the people of the United States, he says, pay \$165,000,000 yearly for Brazilian coffee, less than a quarter of which is paid for the coffee in the wholesale market. He further declared that Mocha coffee is scarcely more than a myth, as Brazil supplies nearly the whole of Arabia with coffee; and as for Java, the entire production of the Dutch East Indies for 1898 was but 430,901 bags.

This statement of the Brazilian minister regarding the substitution of Brazilian coffees for Mocha and Java has been denied by some of the coffee dealers in this country; but the official figures show that in 1900 we imported 133,182 bags of coffee direct from the Dutch East Indies, and from Holland 23,104 bags, making a total of 156,286 bags, while for the year 1901 we imported only 72,338 bags direct, and 12,198 bags via Holland, which was only a little more than half of the previous year's importations. From Aden we receive our Mocha coffee, and in 1901 we imported 12,276 bags. These figures show the relatively small quantity of Mocha and Java coffees received in this market, and form the basis of the Brazilian minister's statement to the effect that these coffees are hardly more than a myth. According to the official publication of our Commercial Relations with foreign countries (1902, Vol. I), of the coffee imports of 1901 nearly 80 per cent. (by weight) came from Brazil, about 8.6 per cent. from other South American countries, a little more than 6 per cent. from Central America, and more than 2 per cent. from Mexico. There remains, therefore, 1.3 per cent. representing the coffee bought by the United States in the rest of the world. The Coffee Exchange gives our imports of coffee from Brazil for the crop year 1902 as 6,738,656 bags, against 1,167,159 bags from all other countries. On July 1, 1902, the world's visible supply in this country and Europe and the chief primary markets had increased to 11,261,331 bags, a quantity sufficient for the world's consumption for one year.

The country that supplies us with coffee next to Brazil is Venezuela, our imports of the product from that country equaling about one-tenth the amount imported from Brazil. In 1899 we imported a little more than 28,000,000 pounds

from Colombia, which was less than half our imports for the corresponding year from Venezuela. Mexico came next on the list with nearly 27,250,000 pounds, and then Costa Rica with a little more than 16,500,000, and Guatemala with nearly 15,000,000 pounds. The average price of these coffees a pound was: Brazil, 5.6 cents; Venezuela, 7.7 cents; Colombia, 8.6 cents; Mexico, 9.8 cents; Costa Rica, 14.5 cents; Guatemala, 12.1 cents. These figures, taken from the Commerce and Navigation volumes of the United States, indicate that there is a good deal of truth in the statement made by the Brazilian minister.

Until the acquisition of the Hawaiian Islands, Porto Rico, and the Philippines no coffee was produced in any territory under the control of the United States. The fact that a superior quality of coffee has long been produced in these islands, and that their conditions are eminently favorable for its production, coupled with the fact that it has always been the policy of the United States to protect her own industries, whether agricultural or industrial, makes the question of coffee production doubly interesting. Porto Rico has produced coffee in large quantities, that being her principal export for many years, the bulk of it going to Spain, where it has long been considered the finest coffee in the world. Her exports of coffee have amounted to 30,000,000 pounds per annum for many years. The Statesman's Year-Book for 1902 gives 200,000 acres under coffee cultivation in the island, which now produce 60,000,000 pounds of coffee annually. The Division of Insular Affairs gives the exportation of coffee from the island from the date of our occupation in October, 1898, to the end of April, 1900, as a little more than 42,000,000 pounds, of which 23,500,000 went to France, 9,000,000 to Cuba, nearly as much to Spain, 7,500,000 to Italy, a little more than 5,000,000 to Austria-Hungary, and a little less than 5,000,000 to Germany, this country receiving only a little more than 2,250,000 pounds of the product.

The Philippine Islands are said to be peculiarly adapted for the production of coffee, but the Division of Insular Affairs gives for the years 1899, 1900, and 1901 but small amounts exported from Manila, the amount for 1899 being 73,500 pounds; in 1900 only 24,500 pounds left that port; but in 1901 the shipments rose to 65,000 pounds.

Coffee appears as a natural product in the Hawaiian group, growing in many of the islands in a wild state; but as yet it is not produced on an extensive scale. It is said that there are more than 200 small plantations in the islands, and the exports given for 1897 were 337,158 pounds, worth \$99,696. It is said that the area in these islands in which coffee can be successfully grown is small, but the quality of the product is excellent.

The Coffee Conference.—Owing to the low price obtainable for coffee in the producing countries, it was proposed by Mr. Lazo Arriaga, delegate for Guatemala at the Pan-American Congress held in the city of Mexico last winter, that a commission be convened within one year in the city of New York, to be composed of one or more delegates from each of the American republics, to study the causes of the low price, which was producing a crisis in the producing countries, and to devise some means of remedying it. He called attention to the fact that 15 of the nations represented at the congress were producers of the precious bean, while the 4 remaining nations were consumers of it. He further

said that the low price had affected the treasury receipts of some of the producing countries to such a degree that perhaps for this reason some of them were in a state of revolution, owing to the misery and poverty caused by the low price of their chief product. All the countries entered into the project through their delegates, who signed the resolution, with the exception of Chile, which declared itself as being exclusively a coffee-consuming country, with no interest in a congress the avowed object of which was to study a means of raising the price of a product which she purchased in considerable quantities at a price already sufficiently high.

ANTONIO LAZO ARRIAGA.

Owing to the foresight of Mr. Lazo Arriaga, in placing the details of convening the proposed Coffee Conference in the hands of the Bureau of American Republics, it was one of the first, if not the first, of the many resolutions adopted by the Pan-American Congress to be acted upon. The conference met at the New York Coffee Exchange on Oct. 1, and was composed of delegates from all the producing countries with the exception of Colombia, Hayti, and Bolivia. Two of the non-producing countries—Ecuador and Uruguay—were represented at the conference, so that only 6 of the American republics were unrepresented at the conference. The sessions of the conference were presided over by Percy B. O'Sullivan, a delegate of the United States and president of the Coffee Exchange, and were held throughout October.

Papers were presented upon the production, distribution, consumption, and causes of the low price of coffee by representatives of the coffee-producing countries. It was generally agreed that the cause of the low price was overproduction, and to remedy the evil it was proposed by the committee charged with the study of the subject, of which Senhor J. F. de Assis, Brazilian minister at Washington, was chairman, that the coffee-producing countries enter into a combine to hold back a sufficient percentage of their entire crops to reduce the supply to the limit of consumption, and that in case no demand should be created for the surplus so held back by increased consumption, the surplus should be ultimately destroyed by fire. This proposition met with a vigorous protest from the delegate from Porto Rico, who demonstrated that his country was in no wise to blame for the overproduction, the cyclone of 1898 having destroyed more than half of the plantations on the island, and that the present Porto-Rican crop would hardly equal 40 per cent. of the crop of former years. He pointed to Brazil as the country responsible for the overproduction, and said there was where the remedy should be applied. Of course the United States could not enter into any such radical project to raise the price of any product in which it was interested either directly or indirectly, and consequently its delegation abstained from

voting on this measure. Peru and the Dominican republic voted against it, while the other countries voted in its favor.

A second measure adopted by the conference was a recommendation to the coffee-producing countries that the exportation of refuse as coffee and to the consuming countries the importation of such refuse and the use of falsifications or substitutes for coffee be prohibited by the most efficacious means possible. It was also proposed to recommend to the consuming countries the abolition, or at least a reasonable reduction, of the import duties in those countries where the consumption of coffee is materially affected by them.

A third measure was a proposition to organize a permanent international union to watch the interests of the coffee industry, and especially to maintain a propaganda for the purpose of increasing the consumption of coffee throughout the world.

The surprise and consternation of some of the other delegates to the conference were evident at the attitude of the Porto-Rican delegate when he came out openly for protection for his island product by the United States. When it was proposed as one of the most practical measures for increasing the consumption of coffee that the producing countries should endeavor to secure suppression of the duties imposed upon coffee by European countries, he said that to accept this proposition in an absolute manner would be against the wishes of the Porto-Rican people, who, if not citizens of the United States at present, expected to be in the near future, and consequently expected protection in the United States for their coffee. But he favored a reduction of the exorbitant duties in some of the European countries. The conference adjourned on Oct. 31, with the adoption of a final resolution that the Government of Brazil be invited to convene a second conference as soon as possible, to meet in São Paulo, the center of the coffee-producing district of Brazil, the delegates to have full power to carry into effect by treaty such recommendations as may be made by that conference.

COLOMBIA, a republic in South America. The Congress consists of a Senate of 27 members, 3 from each department, and a House of Representatives containing 66 members, each department sending as many as its population numbers multiples of 50,000 persons. The members are elected for four years by universal male suffrage. The President is elected for six years by an electoral college. M. A. Sanclemente was elected for the term beginning Aug. 7, 1898, but since July 31, 1900, J. M. Marroquin has acted as President. Congress meets biennially. The Cabinet in the beginning of 1902 was composed as follows: Minister of State and Minister of the Interior, Gen. S. Quintero Calderon; Minister of Foreign Affairs, Dr. A. J. Uribe; Minister of Commerce and Communications, Dr. Abadia Mendez; Minister of War, Gen. J. V. Concha.

Area and Population.—The estimated area of Colombia is 513,938 square miles, and the population is estimated at 4,000,000. Bogotá, the capital, has about 120,000 inhabitants; Medellin, 40,000; Barranquilla, 40,000; Panama, 30,000; Cartagena, 20,000; Bucaramanga, 20,000.

Finances.—For the two years 1897 and 1898 the revenue was 37,461,000 pesos, and the expenditure 41,429,180 pesos. The preliminary estimate of revenue was 34,361,000 pesos, and of expenditure 35,771,013 pesos. The official estimate of revenue for 1899 and 1900 was 29,918,640 pesos, and expenditure was estimated at the same

figure. For 1901 and 1902 a revenue of 28,983,640 pesos was expected, while the estimate of expenditure was 40,427,575 pesos. Of the revenue 21,453,040 pesos are from customs. Heavy duties are imposed on exports of coffee, hides, rubber, gold, silver, and cattle as well as on imports. The expenditure for war in 1901-'02 was estimated at 13,317,088 pesos; for justice, 4,571,892 pesos; for finance, 4,336,238 pesos; for debt, 3,773,500 pesos. The departments obtain revenues mainly from monopolies of tobacco, salt, opium, and ice, and the privilege of keeping gambling-houses, which are farmed out to the highest bidders. The net revenues of the departments for 1899 and 1900 were estimated at 16,986,756 pesos and the expenditures at 17,346,040 pesos. The external debt, mostly held in England, amounted, with arrears of interest, to £3,514,442, when an arrangement was made with the bondholders, in the beginning of 1897, for its reduction and exchange for £2,700,000 of new bonds on which the interest should be 1½ per cent. for three years, 2 per cent. for the next three years, 2½ per cent. for a third period of three years, and after that 3 per cent. The insurrection interrupted the payments in 1899, and in July, 1901, the arrears of interest amounted to £101,250. The currency consists of depreciated paper, of which there were 350,000,000 pesos in circulation in 1901, worth only 4 per cent. of its face value. At Panama the paper does not circulate and the Peruvian sol is legal tender.

The Army.—Congress, at each session, fixes the strength of the standing army, which was 1,000 men for the biennial period 1898-'99. In the event of war the President has authority to raise the strength as he deems necessary and can impress every able-bodied citizen into the service.

Commerce and Production.—The average production of gold and silver is \$4,000,000 a year. Gold is washed in every department, and quartz-mines are worked in Antioquia, Cauca, Bolivar, Panama, and other departments. Copper, platinum, mercury, cinnabar, manganese, and lead are also mined. The Government emerald-mines at Muzo and Cosquez were leased in 1901 to a French corporation. The total number of mines of all kinds on which license fees were paid in 1891 was 4,961, mostly gold-mines. Iron is smelted near Bogotá. The Government derives a considerable revenue from its salt-mines at Zipaquirá, and has reopened the coal-mines at San Jorge. The pearl fisheries have been worked with success by natives, but the Government proposes to lease them out. Coffee of fine quality is produced, and the cultivation is extending. The country is generally very fertile, but with primitive means of transportation agriculture can only be carried on for local wants. Cacao and tobacco are grown for export and rubber is gathered in the forests, as also is copaiba. Tolu balsam is a cultivated product. The number of cattle is estimated at 3,465,000, and many are exported. Vegetable ivory and dyewoods are minor exports. The chief imports are cotton goods, woollens, flour, rice, petroleum, wine, brandy, and salt. The value of the coffee exported in 1900 was £270,876; of gold in bars and dust, £99,266; of silver ore and bars, £49,149; of hides, £59,451; of cattle, £84,092; of tobacco, £58,204; of rubber, £14,063; of precious stones, £7,835; of tolu, £4,030; of divi-divi, £2,271. The share of the United States in the export trade is about 27 per cent., while Great Britain takes 25 per cent., France 17 per cent.,

and Germany 16 per cent., leaving 15 per cent. for other countries. The Panama Railroad in 1900 carried westward across the isthmus 153,758 tons of goods, of which 60,518 tons were from New York and 54,905 tons from European ports, and eastward 203,619 tons, of which 118,670 tons were for New York and 77,219 tons for Europe.

Navigation.—The number of vessels entered at Barranquilla and Sabanilla in 1898 was 266, of 441,673 tons; cleared, 263, of 442,777 tons. The number entered in 1897 at Panama, Colon, Santa Maria, and Cartagena was 923, of 1,213,110 tons; cleared, 919, of 1,210,629 tons. The merchant navy in 1898 consisted of 7 sailing vessels, of 1,770 tons, and 1 steamer, of 457 tons.

Railroads, Posts, and Telegraphs.—The length of railroads in operation in 1901 was 400 miles, while 76 miles were unfinished and 330 miles were projected.

The post-office during the two years ending in 1898 carried 2,794,069 letters and postal cards, 1,233,313 newspapers and circulars, and 161,217 packets.

The telegraph-lines had a length of 8,600 miles in 1898. The number of messages in two years was 1,388,388, besides 9,887 cablegrams.

The Panama Canal.—The company formed by Ferdinand de Lesseps in 1881 to construct a tide-level ship-canal across the Isthmus of Panama from Panama to Colon, 46 miles, raised 772,545,412 francs before the middle of 1886, but was forced to go into liquidation and suspend the work on March 15, 1889. An extension was obtained in March, 1893, to enable a new company to be formed, and in 1894 the company was organized and agreed to complete the canal in ten years. The term was, in 1900, extended for six years longer, till March 31, 1910. It was estimated that the canal might be completed with locks, the tide-water level having been abandoned, at a further cost of 512,000,000 francs. The directors, who at first demanded \$109,000,000, when the Isthmian Canal Commission recommended the Nicaraguan route to Congress, estimating that the work done on the Panama excavation was not worth over \$43,000,000 and that it could not be worked with profit if a higher price were paid, made an offer on Jan. 4, 1902, to sell the unfinished canal and all its franchises and rights for \$40,000,000. The matter was referred to the Isthmian Canal Commission, which now recommended the purchase and the completion of the Panama Canal in preference to one through Nicaragua, estimating that the canal could be completed in ten years and that it would cost \$45,630,700 less to complete it than to construct the projected Nicaragua Canal. The French company excavated for 10 miles on the Atlantic side and 15 miles on the Pacific side, the sections at tide-level. Considerable work was done also in the Culebra cut, the highest point above tide-water, which will be cut down to something over 100 feet above the sea. There were 2,500 men at work there in 1902. The advantages of the Panama over the Nicaragua route are, that although the latter is shorter to ports on the Atlantic and Gulf coasts and those of the Pacific coasts of the United States, the Panama route is the shorter one to South American ports and more direct between Europe and all Pacific ports; that the more tortuous Nicaragua route would probably not be navigable at night and vessels would take thirty-three hours to pass through, whereas they could go through the Panama Canal in twelve hours; that the cost of maintenance of the Panama Canal would be only \$2,500,000, a saving of

\$1,000,000 a year over the Nicaragua route, with a saving too of interest on \$5,630,700, the difference in the cost of construction. The damming of the San Juan river is a difficult engineering problem on the Panama route, and on the other side offers difficulties and there is some question of possible volcanic disturbances. Both routes are unhealthful and demand much attention to sanitation. Besides the property and franchise of the Panama Canal Company, the title of which is clear, having been transferred to the new company by the receiver of the original company, it was considered necessary to acquire a strip of land 6 miles wide, in order that the canal may be policed and protected from unsanitary conditions. To obtain this it was necessary to have a new concession from the Colombian Government. After having concluded a contract with the existing Panama Canal Company to pay \$40,000,000 in cash for the surrender of its perpetual lease and all right and title to the canal, all contracts and machinery, and the railroad running from ocean to ocean, subject to the title being valid and to ratification by the United States Congress, Secretary Hay entered into negotiations with Señor Concha, the Colombian minister. He agreed in behalf of the United States Government to pay \$7,000,000 in cash and an annuity of \$600,000 to the Government of Colombia for the absolute surrender to the United States of 3 miles of land on either side of the canal for its entire length and authority over 5 leagues of the sea at either entrance. The United States Government undertook to expend immediately at least \$15,000,000 to install proper machinery and appliances to complete the canal and to employ an increased force of American laborers to do the work. A great part of the work already done will have to be reconstructed. The plans of the French engineers have been much enlarged to provide for a canal accommodating three times as great a tonnage as the Suez Canal carries now. The waterway is to be 47 miles long and to have a depth of 35 feet and a width at bottom of 150 feet, instead of 30 feet of depth and 70 feet of width as originally designed. It will be possible for 4 steamships of 30 feet beam to pass one another at any spot without danger. A traffic of 7,000 vessels a year is expected; 12,000 vessels can be taken care of. Between European ports and those of the Orient the saving of distance by the Panama route is 4,000 miles. Between American ports on the Atlantic and the Pacific the voyage can be made, in most cases, in one-fifth of the time now consumed. Experts calculate that the canal will return a net profit on the capital expended of 6 per cent. The Panama Railroad, acquired with the canal, is valued at \$7,000,000. During the work of construction it will be useful in carrying men and materials, and when the canal is completed in transporting passengers from one port to the other. The total cost of the canal, including the purchase money, is estimated at \$130,000,000. The Panama Canal Company could not transfer its rights to the United States Government without first obtaining the consent of the Colombian Government. In the negotiations with Nicaragua and Costa Rica respecting the Nicaragua Canal, Nicaragua stipulated for a payment of \$6,000,000 and Costa Rica for \$1,000,000, with a nominal rent of \$25,000 a year to Nicaragua and \$5,000 to Costa Rica, serving as evidence of their sovereignty over the land traversed by the canal transferred by a perpetual lease to the United States. Colombia, for \$7,000,000 and an annual rental of \$600,000,

offered the same thing as a perpetual lease of the 6-mile strip and the interests in the canal reserved in the contract with the company. A lease in perpetuity was illegal under the Colombian Constitution, but a lease for the term of one hundred years, renewable after each term at the option of the United States, answers the same purpose. Attorney-General Knox examined the title of the Panama Canal Company and its power under the French law to transfer its property and rights to the United States Government. The new company when constituted assumed an obligation to pay 60 per cent. of the profits of the canal to the stockholders of the old company. Since the entire assets of the old company were turned over to the new company the latter can dispose of this claim of 60 per cent. of the profits. The new company was found to be solvent, with full power to sell with the consent of the French court, which was given. The United States Government can take title to the shares of the canal company in the Panama Railroad. It can take and hold any kind of property it may have need of in the same manner that an individual can. The Colombian Government raised difficulties regarding the policing of the canal strip and the terminal ports. A joint jurisdiction was proposed, the administration of justice to be by mixed tribunals, with American and Colombian police both employed, having the right to pursue persons charged with crimes committed within the limits of the belt into any part of Colombia. A treaty was concluded between Secretary Hay and Señor Concha on May 18, but further arrangements were necessary to provide for these questions of sovereignty and jurisdiction. When the United States naval authorities stopped the transport of Colombian troops by the Panama Railroad the Colombian minister delayed negotiations. The canal is to be completed in six years.

The Civil War.—The armed conflict, begun on Oct. 17, 1899, between the Liberals and the Conservatives, who have been entrenched in power for seventeen years, was mostly confined, in the early part of 1902, to the Department of Panama. The people of the isthmus, who originally joined the Republic of New Granada of their own free will, have always felt more or less detached in political sentiment, as they are geographically and racially, and in an increasing degree economically detached from the natives of the interior parts of the republic, who provide their administrators and subject them to taxes and monopolies that they consider unequal. They sympathized generally with the Liberal cause, and in other parts of the republic the common people, on whom the stress of the war taxation and the conscription mainly fell, sympathized more and more with the Liberals, who began the war, and blamed the Government for not making peace. Duties on all imported merchandise were raised, in some cases doubled. The effect in Panama was more marked than elsewhere. The once lively commerce was paralyzed; prosperous industries went out of existence. The necessities of life were hard to get. Hundreds of suspected Liberals filled the prisons. At the opening of the year an insurgent force of 2,000 men camped within 6 miles of the city of Panama. Risings occurred from time to time in various parts of the republic. The struggle grew fiercer and subsided intermittently, but was the most exhausting and disastrous in the history of the country. Sometimes the revolutionists had 35,000 men under arms. The Government raised now and then a total force of 75,000 men, im-

pressing boys of ten and twelve years, who served as foragers for the soldiers. The peso, which was worth 25 cents in gold at the beginning of the war, fell with every new emission of inconvertible paper, until, when 250,000,000 pesos were in circulation, it was worth only 2 cents, and subsequently it sank below 1½ cent. The Liberals charged the Conservatives with having established a despotic government in which the President can legislate by executive decrees and enforce these by administrative process. The Cabinet officers, the governors of states, the whole administrative *personnel*, being his nominees, are his political creatures and agents. The favors shown to the clergy in exempting them from trial in the ordinary courts and from the payment of taxes and import duties, and the political influence that they wield, are specially repugnant to the Liberals, and the secularist principle that they seek to establish offends the religious sentiment of the Conservatives, who accuse them of wishing to destroy the Church and sweep away the moral foundations of the social fabric.

A new Cabinet was constituted at Bogotá on Jan. 19, as follows: Minister of State and Minister of the Interior, Señor Veles, afterward replaced by Señor Laforest; Minister of War, Gen. Fernandez; Minister of Finance, Señor Cordoba; Minister of Foreign Affairs, Dr. Mendez. On the following day a naval battle took place in the Bay of Panama, where the Liberals tried to force a landing near Sabina from their vessels, the Padilla, Darien, and Gaitan. The Government forces entrenched themselves to oppose them, while the guns from the fortifications of Las Bovedas fired at the ships. The Government vessels Lautaro and Chicuito were brought into the action. The Padilla went after the Lautaro, and a battle ensued at close quarters while the Lautaro was sinking. Dr. Alban, Governor of Panama, was killed and 9 others were hit on the Government side, while the revolutionists had 17 casualties. Gen. Garcia was made military commander in succession to Dr. Alban, and Señor Amaya Civil Governor. The attempt to capture Panama failed. A sharp battle occurred within 20 miles of Bogotá, at Facacativa, where the insurgents were driven back, leaving 360 dead, while 90 were killed on the Government side. The capital city was disturbed and business suspended. The new Minister of War sent to Antioquia and other provinces for troops. At La Cruz the Liberals, under Gen. Soto, captured cannon, rifles, and ammunition from a Government detachment after a spirited engagement. Gen. Benjamin Herrera, the revolutionary commander in Panama, proposed to the foreign consuls that the railroad line, though not the ports of Panama and Colon, should be declared neutral. The consuls approved the suggestion, but the Government would not agree. On Feb. 20 Gen. Herrera attacked Aguadulce. After repeated assaults, in which his force was said to have lost 550 men, he forced the town, and Gen. Castro retreated with the Government troops, breaking through the line of besiegers and reaching Bocas del Toro with 400 men left out of 1,000. This place was taken some weeks afterward by insurgents brought by steamers, and later was recaptured by the Government. Gen. Uribe Uribe made a fresh advance on Bogotá, and was met and thoroughly defeated at Medina, and forced to retire over the Venezuelan border. Gen. Salazar was appointed Governor of Panama, and the forces on the isthmus were largely reinforced with the object of

attacking the insurgents by land and sea, their forces in other parts of the republic having been reduced to guerrilla bands. At David and Aguadulce the Liberals suffered much from disease. The town of Aguadulce, which had been reoccupied by the Conservatives, was invested by the rebels, and Government troops were sent to the relief of the garrison. The Government troops landed there were soon in worse case than the rebels, without shelter and short of provisions and unused to the climate. Severe fighting began on July 29, continuing two days, and beginning again after a short armistice to allow both sides to care for the wounded and bury the dead. The insurgent gunboat Padilla cut off the communications of the Government troops, which had to depend on a sea base, and were therefore practically surrounded. The Government steamers Boyaca and Chicuito on July 30 attempted to enter the river with supplies and reinforcements, but retired after some firing, the Chicuito returning to Panama, while the Boyaca was chased and captured with 300 soldiers, besides the crew, stores of provisions and ammunition, and two fine new guns. Gen. Salazar made ready to seize a British merchant steamer, there being no British war-vessel at Panama, but, under instructions from Washington, Capt. Potter of the Ranger interfered by the courtesy of nations when requested by the British consul. Most of the Liberal troops on the isthmus were sent to the siege of Aguadulce, where Gen. Morales Berti with 2,200 men was held by 2,500. Gen. Herrera at the same time made a demonstration against Colon, where the Government troops improved their entrenchments. They held both terminal ports in strength, while the rebels occupied the line. The mortality among the Government troops from bad food, exposure, and lack of sanitary regulations was excessive, not less than 25 per cent. of the reinforcements. American marines were landed to guard the railroad and the stations at Panama and Colon. While the siege of Aguadulce was going on peace negotiations were begun in Washington between the Colombian minister and Gen. Soto y Vargas-Santos, the supreme chief of the revolutionists. Peace commissioners went to Aguadulce to arrange a truce, but were unable to communicate with Gen. Herrera. Dr. Concha was sent from Washington with more definite instructions. After a siege lasting over a month Gen. Berti surrendered with honor. This victory not only released the besiegers for operations against Colon, held by 1,000 Government troops, and Panama, held by 2,500, but it stimulated the rebels to fresh exertions in other parts of the republic. At Santa Marta the Government troops were suddenly attacked and routed with a loss of 100 by revolutionists who committed barbarities in revenge for the execution of rebel officers at Panama. Gen. Uribe Uribe and Gen. Castillo appeared on the Magdalena river with fresh forces. Gen. Herrera sent arms and ammunition to the rebels in Cauca. Gen. Perdomo was sent with 4,000 men to reinforce the Government troops on the isthmus, but he waited at Barranquilla until he could complete arrangements for commissariat and sanitation. At the prospect of active operations at the isthmian ports United States war-ships were ordered to the isthmus, the Wisconsin to Panama and the Cincinnati to Colon, to enforce the treaty stipulations by preventing any interference of traffic, even by the bombardment of Panama. The steamer Panther carried a battalion of marines to Colon. Capt. McLean of the Cincinnati on arrival noti-

fied both parties that neither army would be allowed to obstruct traffic, and landed a force of bluejackets. He allowed an exchange of Government troops between Colon and Panama, their arms being taken in a separate train and guarded by a naval force. Before the end of September 2,000 United States marines and sailors were landed in spite of the protest of Gen. Salazar, who had forbidden the continued employment of Liberals on the railroad, but was overruled by his Government. When the Pacific Steam Navigation Company declined to transport troops to the isthmus an order exempting foreign vessels from tonnage dues was revoked. The main revolutionary force operating on the great plains east of Bogotá, under Gen. Carreazo, surrendered in the middle of September. An attempt of rebels to take a Government gunboat on the Magdalena river failed. After the arrival of Gen. Perdomo's reinforcements the military situation became more critical. Capt. McLean had notified the opposing commanders that the United States navy had taken the direction of the railroad from sea to sea and would not permit any fighting along the line. By the treaty of 1846 between the United States and New Granada Colombia guarantees the right of way for transit across the isthmus to the Government and citizens of the United States and their property, and the United States guarantees the neutrality of the isthmus and undertakes to protect free transit from sea to sea so that it shall not be interrupted or embarrassed. The instructions of the United States Navy Department were not to allow any transportation of troops which might contravene these provisions of the treaty, nor to sanction any use of the road which might convert the line of transit into a theater of hostility. Capt. McLean had permitted Government troops to go by special train. When Rear-Admiral Casey arrived on the Wisconsin he ordered that no more Colombian officers, troops, arms, or ammunition be permitted unless by special permission. The Colombian Government, through its minister at Washington, protested against being prevented from transporting troops at will by any route or means of transit within its territory. The withdrawal of Government troops from the Magdalena river was followed by such renewed activity of the insurgents that some of them were sent back from Panama. Gen. Uribe held Tenerife, near Santa Marta, and with quick-firing guns cut communications on the river. The Government was reduced to such financial straits that its ability to continue the war was in question. All classes endured severe hardship and the poor were reduced to pitiable destitution. The troops sent out from the interior, now including boys eight years of age, were half starved. Already over 50,000 men had fallen in the 400 engagements that had been fought, or died in the camps. The misery and privation attending the war had decimated the population. Much valuable property belonging to foreign nations had been destroyed, and several times the United States had interfered to protect the property of its own citizens and those of European countries, although, as a rule, both sides spared and protected foreigners. The blockade of the Magdalena river ceased when the Government sent a sufficient force to cause Gen. Uribe to retire. Later Gen. Uribe surrendered at Rio Frio. Gen. Castillo's force was beaten at La Ciénaga by troops under Gen. Marjarres. In accordance with the proposal of the Government, at a peace parley a general amnesty was proclaimed, and this helped

to pacify the interior and encouraged the people to resume their peaceful occupations. The President called upon each department to raise 2,000 men to clear the rebels from the isthmus. The Government had bought a steamer in the United States and expected to get an armored cruiser from Chile. The peace negotiations were to be resumed on board the battle-ship Wisconsin by representatives of the Government and of the revolutionary party. The Government, however, after the latest successes declined to discuss anything but the acceptance of the decree of amnesty. Gen. Vargas-Santos thereupon refused to attend the conference, which he had arranged with Gen. Santo Domingo with the object of bringing about an effective and lasting peace by harmonizing the interests of the several political parties concerned in the revolutionary contest. Gen. Uribe Uribe's condemnation to death after he had capitulated further decided him to withdraw from the conference and issue orders to the revolutionary army to continue the warfare until the Government should recognize the civil and political rights for which the Liberals had taken up arms.

COLORADO. (See under UNITED STATES.)

CONGO, INDEPENDENT STATE OF THE, a sovereign, monarchical, neutral, and independent state in central Africa, created out of the Congo International Association, which was founded in 1883 by King Leopold of Belgium, and exercised sovereign power recognized by the powers. The general act of Berlin, signed on Feb. 25, 1885, recognized the Independent State with Leopold II, King of the Belgians, as its sovereign. A convention was signed on July 3, 1890, between Belgium and the Congo State, which provided for the annexation of the territories of the Independent State to Belgium after the expiration of ten years, King Leopold having by a will dated Aug. 2, 1889, bequeathed his sovereign rights in the Congo territories to the Belgian state after his death. In the convention the Belgian Government agreed to advance to the Congo Independent State the sum of 25,000,000 francs, 5,000,000 francs to be paid immediately and 2,000,000 francs a year for ten years. The loans were to bear no interest during the period of ten years, at the end of which the Belgian Government would have the option of annexing the territories of the Independent State, with all the rights, appurtenances, and advantages attaching to the sovereignty of that State, in which case a law would be made to determine the special *régime* under which the territories should then be placed. If the Belgian Government should decide against annexation the sums advanced were to bear 3½ per cent. interest thenceforth and be redeemed after a further period of ten years, the sums accruing from concessions of State lands or mines being set aside for the payments. The Belgian Chambers on Aug. 10, 1901, passed a law reserving the option of annexation for a further period of ten years in consideration of the remission of all claims for interest and the repayment of the loan during this period. An additional loan was made for the purpose of repaying one obtained from an Antwerp bank and to cover a deficit caused by an expedition into the Nile valley and a revolt of the Arabs. This increased to 32,000,000 francs the indebtedness of the Congo State to the Belgian Government.

The seat of the Central Government is at Brussels, where the Secretary of State, Baron Edmond van Eetvelde, directs the administration with the assistance of secretaries in the various depart-

ments. The headquarters of the local Government is at Boma, where E. Wangermée, Vice-Governor-General, directs the administration with the assistance of Secretary-General van Damme and a consultative committee composed of the chief officials and non-official members, not exceeding 5, appointed annually. The territories are divided into 14 districts: Banana, Boma, Matadi, the Cataracts, Stanley Pool, the district of the Equator, the Eastern Province, Lualaba-Kasai, Eastern Kwango, Lake Leopold II, Bangala, Ubangi, Welle, Aruwimi. The public force consists of 12,800 trained native soldiers under 116 European commissioned officers and 348 sergeants.

Area and Population.—The area of the Congo State is estimated at 900,000 square miles, and the population at 30,000,000. There were 2,204 Europeans on Jan. 1, 1901, comprising 1,187 Belgians, 170 Italians, 115 British, 114 Dutch, 107 Swedes, 91 Portuguese, 62 Germans, 58 French, 43 Danes, 30 Americans, 19 Swiss, 19 Norwegians, 14 Russians, 11 Spaniards, 9 Austrians, and 141 others. These include the white officers in the Congo service, the traders of various nationalities, and 180 Catholic and 120 Protestant missionaries. The missionaries teach mostly in the Swaheli language of the Arabs rather than in the numerous Bantu dialects. The Government aids their schools and has established schools of its own in 3 agricultural colonies.

Finances.—The revenue for 1900 was estimated at 26,256,500 francs and the expenditure at 27,731,254 francs; the revenue for 1901 at 30,751,054 francs and the expenditure at 31,256,054 francs. For 1902 the estimate of revenue was 28,709,000 francs, of which 6,055,000 francs were derived from customs, 4,160,000 francs from transport, 15,452,000 francs from domains, 1,703,000 francs from loans, 580,000 francs from direct taxation, and 759,000 francs from various sources. The expenditures for 1902 were estimated at 32,405,492 francs, of which 647,460 francs were for administration in Europe, 3,630,545 francs for administration in Africa, 7,865,132 francs for the public force, 2,118,036 francs for marine, 2,300,000 francs for transport, 1,137,755 francs for public works, 1,466,462 francs for agriculture, 5,752,905 francs for domains, 3,630,705 francs for various expenses, and 3,850,494 francs for extraordinary purposes.

The debts of the Congo State consist of 422,220 francs of 2½-per-cent. bonds given in 1887 to the original subscribers for the exploration of the Congo region; 70,000,000 francs of bonds issued under a decree of Feb. 7, 1888, authorizing the issue of 150,000,000 francs; 14,000,000 francs of 4-per-cent. bonds issued under the decrees of Oct. 17, 1896, and June 14, 1898; 25,000,000 francs advanced by Belgium under the convention ratified by the Belgian Chambers on July 25, 1890; 6,804,415 francs advanced by the Belgian Government under a convention of June 10, 1895; and 50,000,000 francs of 4-per-cent. bonds issued in October, 1901, for railroads and other public works.

Commerce and Production.—The chief product of the Congo basin is rubber. Ivory is a diminishing article of export. Palm-nuts and palm-oil are less important than they are on the Guinea coast. Coffee and cacao are grown with success. The natives cultivate tobacco for their own use, and an export trade has begun. The Government has planted the Havana and Sumatra varieties for an experiment. All land belongs to the Government except the districts expressly reserved for native occupancy and the registered private estates.

The general commerce for 1900, including products brought down from beyond the confines of the State for export and imported merchandise sent beyond the borders, amounted to 31,803,214 francs for imports and 51,775,978 francs for exports. The special imports were 24,724,109 francs in value, and the special exports were 47,377,401 francs. The special imports of textile fabrics and clothing were 6,673,563 francs; of articles of food, 4,316,158 francs; of machinery, 1,939,653 francs; of beverages, 1,803,125 francs; of steamers and parts of steamers, 1,783,302 francs; of hardware and metals, 1,355,148 francs; of arms and ammunition, 761,804 francs. The special exports of rubber were 39,874,005 francs in value; of ivory, 5,253,300 francs; of palm-nuts, 1,318,810 francs; of palm-oil, 813,300 francs; of woods, 39,886 francs; of coffee, 27,825 francs; of skins, 2,811 francs. Of the total value of the special imports Belgium furnished 17,270,483 francs; Great Britain, 2,959,590 francs; Netherlands, 1,507,490 francs; Germany, 1,302,336 francs. Of the special exports Belgium received 42,694,998 francs; Netherlands, 2,604,617 francs; Portuguese Africa, 1,563,352 francs; Great Britain, 270,090 francs. The general commerce was distributed as follows:

COUNTRIES.	Imports.	Exports.
Belgium.....	18,537,000	44,741,000
Netherlands.....	2,990,000	4,708,000
Great Britain.....	4,222,000	864,000
France.....	3,114,000	33,000
Germany.....	1,798,000	219,000
Portuguese possessions.....	484,000	1,683,000
Portugal.....	123,000	7,000
Other countries.....	564,000	76,000
Total.....	31,803,000	51,775,000

The special imports in 1901 amounted to 23,100,000 francs; special exports, 50,500,000 francs, including 43,900,000 francs for rubber, 5,700,000 francs for palm-kernels, 3,900,000 francs for ivory, 300,000 francs for copal. Coffee, earthenuts, cacao, and tobacco are represented by petty sums.

Navigation.—The number of ocean vessels that were entered at the ports of Banana and Boma during 1900 was 230, of 465,674 tons; cleared, 227, of 458,562 tons. Of the tonnage entered 273,059 tons and of that cleared 270,111 tons were Belgian, while 81,842 tons entered and 80,330 cleared were British and 62,394 tons entered and cleared were German. There were entered coastwise 408 vessels, of 18,232 tons, and cleared 428, of 18,746 tons.

Communications.—The Congo and its tributaries have 3,000 miles of navigable water. The Congo itself is navigable for 1,000 miles above Stanley Pool. On the lower Congo the State had 7 steamers plying from Banana to Matadi. The Congo railroad transports goods and passengers from this point to Leopoldville, 200 miles above. The railroad has a length of 250 miles. On the upper river the Government transport service comprises 28 steamers. A railroad is under construction in Mayumbe, of which 20 miles were completed at the beginning of 1902. A Belgian syndicate has obtained a concession for ninety-nine years for railroads from Stanleyville, on the upper Congo, to Lake Albert, and from Nyangwe to Lake Tanganyika. The head of navigation on the Lualaba will be connected with the southern frontier of the Free State by a line 350 miles long which is destined to form part of the Cape to Cairo line planned by Cecil Rhodes, and in the meantime will open up the metalliferous district of Katanga. There are 744

miles of telegraph connecting Leopoldville with Boma and with Equator, and 51 miles of short lines in Mayumbe and between Lisala and Umangi.

The post-office in 1900 forwarded 138,788 pieces of mail-matter in the internal and 358,451 in the external service.

Internal Affairs.—The Manyema district was pacified before the middle of 1902 by Major Malfait, and in the Belgian portion of the Bahr el Ghazal the Ababuas and other tribes that had been troublesome were quiet. Posts on the Nile and in the Makraka region were reinforced. A joint commission surveyed the territory in dispute between Germany and the Congo State in the region of Lake Kivu. In the autumn disturbances occurred in the region of the Welle, necessitating the reinforcement of the native troops stationed there. When an English philanthropic society appealed to the British Government to draw the attention of the powers responsible for the general act of the Berlin conference of 1885 and the Brussels conference of 1892 to the violation of the provisions as regards protection of the native populations and improvement of their conditions of life, as well as those prohibiting monopolies and other restraints on freedom of trade, and at a public meeting called attention to grievous wrongs to which native populations were said to be subjected, the King of the Belgians telegraphed that the Government of the Congo Free State would open an inquiry into any specific charges brought before it. A representative of the Congo Government denied that any official or soldier had committed atrocities, such as cutting off the hands of natives who failed to collect a certain quantity of rubber in a given time, but persons calling themselves agents of the State were reputed to have done such things. By a decree of the sovereign of the Free State 50 per cent. of all personal and direct taxes payable by religious, charitable, and scientific societies in the Congo State is remitted from July 1, 1902.

CONGREGATIONALISTS. The statistical tables published in the Congregational Year-Book for 1902 give the following total numbers for the American Congregational churches: Of churches, 5,753, of which 1,045 were "vacant"; of ministers, 5,717, of whom 1,814 were "without charge"; of members, 645,994; of members added during the year on confession, 28,398; of baptisms during the year, 11,740 of adults and 12,355 of infants; of families, 449,555; of members of Sunday-schools, 658,405, with an average attendance of 394,905; of Young People's Societies of Christian Endeavor, 3,655, with 178,407 members. These figures show an increase during the year of 43 churches, 149 ministers, and 10,356 members, and a decrease of 13,934 pupils in Sunday-schools and 12,041 members of Christian Endeavor Societies. The contributions of the churches for the year were: For foreign missions, \$490,024; for education, \$164,082; for church building, \$100,877; for home missions, \$508,866; for the American Missionary Association, \$126,020; for Sunday-schools, \$52,180; for ministerial aid, \$20,876; other contributions, \$770,797; total contributions (according to the footings of the table) for benevolent objects, \$2,233,722; legacies, \$461,718; contributions for home expenditures, \$7,580,665. The 8 theological seminaries at Andover, Atlanta, Bangor, Chicago, Hartford, Oberlin, Oakland, Cal. (Pacific), and New Haven, Conn. (Yale), return 61 professors, 27 instructors or lecturers, 13 resident licentiates or fellows, 45 in the advanced or graduate class, and 320 undergraduates.

A table of the Congregational churches for the world published in the Year-Book gives:

	Churches, chapels, and stations.	Members.	In Sunday- schools.
In Australia	232	10,478	20,990
Tasmania	52	829	2,001
New Zealand	22	1,083	2,216
Jamaica	61	3,502	1,298
British Guiana	59	4,882	4,608
South Africa	308	11,343	6,783
Channel Islands	4,873	359	472
Ireland		2,298	3,426
Scotland		30,270	48,473
England and Wales		408,352	652,577
Nova Scotia and New Brunswick	33	954	955
Ontario	60	5,859	4,228
Quebec	26	2,084	1,374
Newfoundland	18	222	346
United States	5,753	645,694	658,405
American Board .....	...	50,873	66,601
Total	17,063	1,175,783	1,426,549

Church Building Society.—The forty-ninth annual report of the Congregational Church Building Society, presented at the annual meeting in January, gave the total receipts of the year as having been \$251,668. Loans and grants amounting to \$253,195 had been paid to 93 churches to aid in building houses of worship, and parsonage loans amounting to \$22,510 had been paid to 47 churches. By the aid of these sums church property valued at \$979,207 had been secured. Grants amounting to \$42,352 had been voted to 69 churches; church building loans of \$79,300 to 39 churches; and loans on parsonages of \$30,005 to 61 churches. A considerable number of contributions on the annuity plan had been received.

Home Missionary Society.—The seventy-sixth annual meeting of the Congregational Home Missionary Society was held at Syracuse, N. Y., June 3 to 6. In the absence of the president, the Rev. Newell Dwight Hillis, D. D., Mr. William H. Wanamaker presided. Eighteen hundred and forty-five missionaries had been employed during the year in 47 States and Territories, of whom 1,262 had been pastors or stated supplies of single congregations and 586 had ministered to two or three or more congregations each. Under their labors the Gospel had been preached regularly or at stated intervals to 2,484 congregations or missions. Two hundred and eighteen missionaries had preached in foreign languages to German, Scandinavian, Bohemian, Polish, French, Mexican, Italian, Spanish, Finnish, Armenian, Greek, and Welsh congregations. The missionaries returned 2,018 Sunday-schools under their special care with about 133,378 pupils, 166 new schools organized, 4,321 additions on confession of faith, 65 churches organized, 42 churches assumed self-support, and many new church buildings, parsonages, and improvements. The total receipts of the National Society for the year had been \$346,849, and its expenditures \$293,064. The debt at the beginning of the year had been \$63,698, and at the close \$9,912, having been reduced \$53,785. The auxiliary societies had raised and expended on their own fields during the year \$255,612. Adding this sum to the receipts and expenditures of the National Society, the total of receipts for home missions during the year was \$602,462, and of expenditures \$548,676. The woman's department had completed twenty years of organized activity. It had been conducted during the past year as a part of the general executive office. Besides the continued publication of its

periodical, the Home Missionary, now monthly, the society had added much to its department of junior literature. The invested funds, registered under seven heads and including funds temporarily in the hands of trustees and "temporary investments," amounted to \$207,599. At the business meeting of the society, the Committee of Fifteen, appointed in the previous year to consider some plan for perfecting the relations between the auxiliaries and the National Society, reported, proposing changes in the constitution intended to substitute for the present voting membership a corporate body elected for a term of years by the churches, to read as follows:

"ARTICLE III. MEMBERSHIP.

"The members of this society shall consist of honorary life members, life members, members elected by the churches, and the officials of the society during their respective terms of office. 1. Any person chosen as president, vice-president, recording secretary, treasurer, corresponding secretary, auditor, or member of the Executive Committee, shall be a voting member during his term of service. 2. Life members appearing on the roll at the date of the passage of this article shall retain their voting right unless it be voluntarily surrendered. 3. The churches shall be represented in the voting membership of this society by members elected in number and manner as follows: Each State association or conference of churches may elect three members, and in addition, one member for every 5,000 church-members; at the first election by the State associations or conferences, one-third of the members shall be elected for one year, one-third for two years, and one-third for three years; and thereafter one-third shall be elected each for a term of three years. In any year the State bodies may elect members to fill vacancies. It is recommended that the number of members be in all cases divided between ministers and laymen as nearly equally as is practicable. 4. Honorary life members. Any person on whose behalf \$50 shall be paid into the treasury of this society at any one time, or into the treasury of any of its auxiliaries at any one time, accompanied by a request for honorary life membership, shall be an honorary life member, with all the privileges of membership except voting.

"ARTICLE VI. VOTERS.

"All members elected by the churches through their State associations or conferences as herein provided, bringing proper credentials, and life members and officers of the society, who shall be present and cause their names to be registered upon a roll to be made at each annual or other meeting of this society by the recording secretary, and no other persons, shall have the right to vote at the annual election and in annual or other meetings of the society, upon questions there arising."

The committee further recommended that an annual conference be held at the place of the annual meeting of the society, and at an hour preceding its opening session, in which the representatives of the auxiliary societies and the officers and Executive Committee of the Congregational Home Missionary Society shall confer with regard to the condition and problems of home missionary work in all parts of the land. The report was adopted unanimously. It was also resolved that hereafter the president of the society should not hold office for two successive years.

Education Society.—The annual meeting of the Congregational Education Society was held in Boston, Mass., June 11. The receipts of the

society for the year had been \$135,288, or \$35,612 more than those of the previous year, and it was free from debt, with a small balance in its treasury. It had aided 22 academies and 3 colleges. Five of its 6 schools in Utah were in centers entirely Mormon.

American Missionary Association.—The fifty-sixth annual meeting of the American Missionary Association was held at New London, Conn., Oct. 21 to 23, the Rev. Washington Gladden, D. D., presiding. The total receipts for the year, including those on account of the Daniel Hand fund, had been \$464,291, and the expenditures \$368,347. The Daniel Hand Educational fund for colored people was credited with \$68,636 on income and \$14,440 on endowment account; and other endowment funds of \$10,000 had been received. A balance of \$73,907 was shown in the reserve legacy account.

The religious and educational work of the association was carried on in 22 States and Territories of the United States, and among people of 6 different races. The educational work in the South included 6 chartered institutions for the higher learning, having classes also in the preparatory grades; 43 normal and graded schools, with nearly 8,000 pupils; and 30 common schools, with 5,465 pupils; having in all 480 instructors, and showing a total of 14,048 pupils. Of these pupils 95 were in theological, 271 in collegiate, 365 in collegiate preparatory, and 1,597 in normal departments. Much attention was given in most of the schools to manual and industrial training. Eleven of the schools were "mountain schools", among the white people of the Appalachian range, and returned 68 instructors and 2,198 pupils. Two schools, with 10 instructors and 343 pupils, were in Porto Rico. The Church work in the South included 230 churches, with 139 ministers and missionaries, and 12,155 church-members, who had contributed \$2,813 for benevolences and raised \$39,398 for church purposes, 17,311 pupils in Sunday-schools, and 1,190 members added on profession during the year. A larger number of new churches had been enrolled during the past year than in any year since 1895. In the Indian missions, 20 churches and 10 out-stations were returned, with 47 white and 41 Indian teachers and missionaries, 1,453 church-members, 2,661 pupils in Sunday-schools, and contributions for benevolence and church support of \$2,681. Six Indian schools, in Nebraska, the Dakotas, and Alaska, returned 342 pupils. While the number of churches in these missions remained the same as in the previous year and the number of substations and workers and the benevolent contributions had decreased, substantial gains had been made in church-membership and in the attendance at the 6 schools. An unexpected development was mentioned in Alaska, in that Eskimos from the islands of Bering's Straits, and even from Siberia, were finding their way to the American islands and coming in touch with the spirit and power of Christianity. At the business meeting of the association, the question of the election of salaried officers by the Executive Committee rather than at the annual meeting was referred; the president of the association was made *ex officio* a member of the Executive Committee. It was reported that no plan had been matured for holding one annual meeting of all the Congregational benevolent societies, nor for publishing one magazine in cooperation with the other societies, and that the proposition to have but one treasurer for the three societies whose headquarters were in New York had not been found feasible. A plan was substituted providing

for a limited corporate and responsible membership of the association. Being, in effect, a notice of a proposed amendment to the constitution, its consideration was deferred for one year.

The American Board.—The ninety-third annual meeting of the American Board of Commissioners for Foreign Missions was held at Oberlin, Ohio, Oct. 14 to 17, Mr. Samuel Capen presiding. The Prudential Committee reported that the receipts for the year, not including moneys for the debt, had been \$741,454, an increase from the previous year of \$44,083. After paying the debt of \$102,341, largely through a collection taken at the previous meeting (see Annual Cyclopaedia for 1901, p. 139) an overplus remained of \$1,310. Counting in these sums, the grand total of receipts from all sources was \$845,105. While the receipts from regular unconditioned donations, individuals, churches, and societies (\$505,935) had fallen off \$4,262, those contributed through the Woman's Boards (\$214,710) had increased \$16,055, and those from legacies \$49,810. The special gifts amounted to \$42,717. The expenditures had been \$741,303. The Twentieth Century fund, contemplated to be of \$250,000, now amounted to \$115,796. It had not been pressed during the past year. Fifty thousand dollars had been raised in behalf of the National Armenian Relief Committee and the Orphans' Homes in India. Relations were maintained with the Congregational Foreign Mission Board of Canada, whose contributions went largely to the support of the work in the West Central African Mission. The Yale Foreign Missionary Society, connected with Yale University, had been organized to be independent of denominational control, but would cooperate with the board, and was to establish a mission in China.

From the 20 mission fields, with 101 stations, 1,301 out-stations, and 1,679 places for stated preaching, were returned 168 ordained missionaries (15 being physicians), 15 other men physicians, and 360 woman missionaries (12 of them physicians), making, with 6 other assistants, the whole number of 549 laborers sent from the United States; 268 native pastors and, including also native preachers and catechists, school-teachers, Bible women, and others, totals of 3,581 native laborers and of 4,130 Americans and natives; 524 churches, with 55,645 members, 5,609 having been added during the year, and 60,321 members of Sunday-schools. The whole number of church-members from the first, as nearly as could be learned, was 163,267. The educational department included 14 theological seminaries and station classes, with 167 students for the ministry and 916 students in collegiate training, 118 boarding and high schools, with 10,895 pupils, and 1,134 common schools, with 46,149 pupils; making the whole number under instruction, 60,964. The native contributions, so far as reported, amounted to \$167,512. An additional college at Smyrna had been formally recognized, making 3 colleges in the Western Turkey mission. Central Turkey College, having completed twenty-six years of work, was beginning to pass gradually into the hands of the native constituency. In the Marshall Islands the church-membership had almost trebled in ten years, and the German Government was friendly. The devastated missions in northern China had been largely reestablished. A headquarters building had been completed for the mission at Hong-Kong, without expense to the board. Advances were mentioned in the African missions. A unique incident in the European Turkey mission was the capture of Miss Ellen M. Stone and a native assistant by brigands and

their retention for six months, when their release was secured on payment of a ransom of \$68,200. Notwithstanding this disturbance, good progress was reported. The missions in India and Ceylon had been visited by a deputation sent out by the Prudential Committee, a full report of whose observations had been published, and there had been a marked growth in the churches. A union evangelistic movement, in which all the evangelical denominations except one were cooperating, was the most notable event in Japan. The Doshisha was now firmly established on a Christian basis, and its diplomas were recognized by the Government.

"The Forward Movement," as a plan is called under which individuals and local churches contribute to the support of special missions or missionaries, was approved, and the Prudential Committee was directed to provide for its maintenance. A proposition made by the Committee of the National Congregational Council that the appointment of paid secretaries be vested in the Executive or Prudential Committee was referred. In view of certain legal questions arising in connection with a proposition to make some changes in the composition of the membership of the board, the Prudential Committee was given permission to seek to obtain modifications in its charter to meet the case. In view of the extension of German sovereignty and the German language over that region, the Prudential Committee was empowered to transfer the missions in Micronesia, except in Guam, when that can be done advantageously, to societies of other nations. During the period of the meetings the corner-stone was dedicated for a memorial arch of the missionaries of the board in China who lost their lives during the "Boxer" troubles. The arch will stand in the grounds of the university at Oberlin.

Deputation to India and Ceylon.—A deputation which had been appointed by the American Board to visit the missions in India and Ceylon presented the report of its visitation to the Prudential Committee Feb. 4. Besides investigating the specific work of the board, the deputation was commissioned to look into the general religious conditions in the country, the progress of Christianity, and the work of Christian missions. Its report related principally to the Ceylon, Madura, and Marathi (Bombay) missions. The deputation found that the Christian movement in India was gaining in momentum with every decade. In the forty years from 1851 to 1891 the number of Protestant Christians had increased 145 per cent., while the population had increased only 20 per cent. But the entire Christian force now in the country, though larger than it had ever been before, was far too small to reach all parts of the empire. The attention of the deputation was frequently called by educated Hindus and by English Government officials to the need of industrial education. A false sentiment prevailed against students who had advanced as far as entrance to college engaging in manual labor, and it had created a class of educated idlers. The large proportion of Christian converts were from the lower castes, although there were many devout Christians from among the Brahmins. Every year new castes were reached, and the work was broadening among the old castes. In one school children of 18 different castes lived and studied together. The Government of India was in sympathy with mission work, and the rulers of the native states were not hostile to it. Every large Protestant missionary society in the world had its representatives in the field. The mission

in Ceylon would probably not call for a mission force larger than it now possessed. In it a more extensive work was conducted at less relative cost than in any other mission of the board. The Madura mission, lying in a field in which the American Board worked exclusively, was compact, and marked by the number and prosperity of its educational enterprises and hospitals, and the efficiency of the Young People's Society of Christian Endeavor. In the Marathi mission the stations covered more territory and were farther separated. A proposition had been made to the other evangelical mission boards which use the Marathi language to unite in the conduct of the theological seminary at Ahmednagar upon a union basis, and some of them had responded favorably. The deputation made a number of recommendations, among which was one that the missionaries so modify their courses of instruction that all male pupils aided through the mission should have some practical instruction in productive manual labor adapted to the conditions and needs of the country, and the female pupils also, with necessary modifications; and that such a course be entered upon systematically, so that it should be operative alike in all parts of the field. The organization of self-supporting and even lucrative enterprises, having at the same time a distinct educational value, was suggested. The report further advised that the missions should plan to provide as much English education as is practicable for carefully selected candidates for the position of pastors and preachers. "In the effort to carry the Gospel to the needy, no caste should be overlooked. A Christian community drawn from various existing castes will necessarily be stronger than if confined to any single class, trade, or caste. The time has passed when missions should provide free education to all who are willing to attend mission schools. As the course of study rises so as to include English, which already has a recognized commercial value, the fees demanded should be increased so as to cover, in a large measure, the increased expense of the higher courses."

Woman's Societies.—The thirty-fourth annual meeting of the Woman's Board of Missions of the Interior was held in Chicago, Oct. 28. The receipts for the year had been \$81,220, a larger sum than had been received in any former year, but which still fell short more than \$8,000 of the sum actually expended. Contributions were made during the meeting of \$2,365 toward paying the debt of \$5,500. Accounts were given of enterprises in which the society is interested in Turkey, India, China, Japan, West Africa, Spain, and Micronesia.

Reports made at the annual meeting of the Woman's Home Missionary Association, in Boston, Mass., Oct. 29, showed that it had stations in 20 different States and Alaska, and in Cuba, and was laboring among Americans and foreigners.

The thirty-fifth annual meeting of the Woman's Board of Missions was held in Washington, D. C., Nov. 4 to 6.

Congregational Union of Ontario and Quebec.—The meeting of the Congregational Union of Ontario and Quebec was held at Ottawa in June. The Rev. J. P. Gerrie was elected chairman. The statistical reports showed that there were 82 churches connected with the union, with 7,705 members and 21,000 persons under pastoral care. The total value of church property was \$850,000. Forty-three churches were free from debt. The sum of \$100,000 had been raised during the year. The figures show an in-

crease of 518 members and \$9,500 in contributions. Sixty-two of the churches, with 5,659 members, are in Ontario.

The Canadian Congregational churches were visited in September by a deputation of representatives of the Congregational Union of England and Wales, who were despatched in the interests of the Colonial Missionary Society to inquire into the condition and prospects of the Congregationalists of the Dominion, with a view to ascertaining what responsibilities rested upon English Congregationalists for the evangelization of the new townships in the far West.

English Congregationalists.—The English Congregational Year-Book for 1902 gives the number of Congregational churches, chapels, and mission stations in England and Wales as 4,873, with 1,743,583 sittings; of ministers as 3,121, of whom 572 were out of service and 118 were in professional, secretarial, or other work; of lay preachers as 5,128, besides 227 evangelists; of church-members as 436,279, showing an increase of 4,762 over the previous year; of members of Sunday-schools, 684,747, showing a decrease of 8,600. The theological seminaries returned 395 students and 62 professors. Fourteen new churches and 66 new chapels and halls had been built during the year. Fifty ministers had been ordained. In 1900 1,184 churches and mission stations were returned as being on the Continent of Europe and in the British colonies. Of the latter, 143 were in Canada, 283 in Australasia, and 288 in South Africa. The ministers abroad comprised 473 in the British colonies and on the Continent of Europe, and 273 English missionaries in the service of the London Missionary Society. The colleges were attended by 401 students, and the 10 institutions of the London Missionary Society in heathen lands by 300 students.

Congregational Union of England and Wales.—The Congregational Union of England and Wales met in its annual assembly in London, May 12. In the absence of the chairman, Principal Caleb Scott, who was seriously ill, the Rev. Dr. G. S. Barrett, of Norwich, presided. In his opening address the chairman, referring to the question of the "United Congregational Church," which was to come before the meeting, said that whatever might be the result of the discussions of the subject, he thought that the mind of the Church was clear upon the point that the time had come for their churches when, without sacrificing any of their independence, they might be drawn together in a closer federation that should reveal their common brotherhood.

The report of the committee opened with a brief survey of the work achieved by the union since its formation seventy years before. During this period it had established the Colonial, Evangelical Continental, English Chapel-Building, Church Aid, Pastors' Insurance Aid, and Total Abstinence Societies; had created the Memorial Hall Trust, the Pastors' Retiring Fund, the Pastors' Widows' Fund, the Young People's Union, and other societies; had published the Congregational Lectures, the Year-Book, and hymnals; had given substantial aid to Congregational societies through its earnings in the publication department; and had given stimulus to churches from its platform and engendered friendly feeling among them. An important step in the evolution of Congregational affairs had been taken in the creation of an incorporated society by means of which the business of the union might be transacted without the intervention of trustees and without necessitating the acceptance of personal liability by its officers

and members. The new corporate society would hold the property intended for the use of the union and act as trustee to hold and deal with property of any particular Congregational church. The Committee of the Union would be the executive of the incorporated body. The report of the Special Committee on Ministerial Settlements and Removals recommended that provision be made for the adoption of the same rules by all the county unions. The Committee on Superannuation reported a scheme which was referred back to it with instructions to bring it up at a subsequent assembly. The general account of the publication business showed total receipts of £14,172, and an expenditure of £16,585. Certain recommendations submitted to the colleges by the assembly of the spring of 1901 had been approved by them. A special committee was ordered to inquire into the inner working of the colleges, to make recommendations as to ways in which the union can best cooperate with the college authorities, and to consider whether it is desirable to form a Central College Board. The Church Aid Society had during the year distributed a little more than £4,000 in grants, and had aided 368 churches and 148 mission stations, while 218 pastors and 62 evangelists had received aid from the fund. The report of the replies received to the circular letter sent out with Dr. Joseph Parker's Addresses to the Churches and County Unions concerning his United Congregational Church scheme embraced many details. No union had declared absolute agreement with Dr. Parker's proposal of a federation of churches on lines suggested in his letters; 6 unions, representing 82,714 members, had expressed general approval of it; 10, representing 54,000 members, had asked for closer federation without committing themselves to any scheme; and 7, with 72,000 members, had declared for organic association with the county unions.

Two hundred and fifty-two churches, with a total of 28,748 members, had voted for Dr. Parker's proposal; 168 churches, with 30,419 members, opposed it; 75 churches, with 11,623 members, gave it general approval; 80 churches, with 18,310 members, approved closer federation without committing themselves to any scheme; 60 churches, with 12,946 members, favored amalgamation of the county unions with the Union of England and Wales; 149 churches, with 31,256 members, were for closer federation; and the replies in general indicated that the larger churches lean in that direction. Forty-six churches, with 8,990 members, advised the Congregational Union, in various forms of expression, to seek larger powers. With respect to Dr. Parker's proposed title, "The United Congregational Church," 164 churches, with 17,832 members, had voted "Yes"; 352 churches, with 63,891 members, had voted "No"; and 161 churches, with 33,769 members, had declared their positive preference for the present title, "The Congregational Union of England and Wales." Twenty-two other titles had been suggested. Replies in like manner various had been received from a number of churches not in the union and of aided churches, to which the questions had been sent. Several of the unions and churches had prepared draft constitutions embodying the changes which they approved. The replies as a whole were regarded by the committee on the subject as emphasizing the duty devolving upon the union "to continue its work for the common service of the churches, and to provide opportunity for such changes as may commend themselves to a majority of the most earnest men among them."

The proposals of Dr. Parker, as they had been summarized in the circular sent out by the committee to the churches and county unions, embodied the following features:

I. The name. The United Congregational Church.

II. Constitution. To be the Confederation of the Congregational Churches of England and Wales.

III. Administration. The churches thus confederated shall appoint a general council, in whom shall be vested full powers of administration. This council might consist of representatives nominated by the churches and elected either annually or triennially by the county unions in such proportions as may hereafter be determined. The general council may consist of not less than 600 members.

IV. This general council shall meet at least once in each year, and the business entrusted to it by the United Congregational Church shall be transacted.

While it was conceded that there are certain prerogatives, responsibilities, and privileges which belong to the individual churches, it was maintained that there are other great questions, such as the introduction of proper men into the ministry, the administration and management of the Congregational societies and institutions, the conduct of missions at home and abroad, etc., which concern all the churches of the Congregational faith and order. It was with the latter questions that the general council would have to do.

The churches were asked to answer certain questions: 1, If they approved the federation; 2, if they did not like it, what plan they had to suggest; 3, if they approved the name.

Upon hearing the report of the answers to the circular of the committee, the assembly resolved "that the General Committee of the union, having already carefully considered various branches of Congregational reform, and having consulted the churches on Dr. Parker's proposal, is hereby requested to prepare a scheme which may serve to unite Congregational churches more closely for common purposes. And to this end, the General Committee is authorized to appoint a special committee of 24, not more than 16 of whom shall be members of its own body, to draft proposals for its consideration. The General Committee shall report its recommendations to the assembly as early as practicable." Resolutions were adopted unreservedly condemning the education bill and recording the sense of the assembly "not only of the public damage to religion in the bill proposed, but far more of the wound to Christ's body and the grief to the Holy Spirit. We see in it one section of his true flock using an accidental political advantage to compel from the other's conscience the support of teaching which we think (rightly or wrongly) that he has led us to regard as unscriptural and not merely as inadequate. And not only so, but we are forced to support teaching which unchurches us; and yet worse, which invades our hearths by instructing our children to deny their fathers' faith and despise the religion of their homes. The safeguards proposed are, have been, and must be, illusory in practise." Copies of these resolutions were ordered sent to the Archbishops of Canterbury and York and the Bishops of London, Durham, and Hereford. The final statement of the Twentieth Century fund showed that the total amount contributed had been £710,123; of which £83,121 had been for the central fund. £407,811 for supplemental funds, and £219,791 (incomplete) for affiliated funds. The sum of £82,-

492 had been disbursed on account of the central fund, while the supplemental and affiliated funds were shown as having been disbursed by the reporting churches and unions. Some churches having made promises, which at present they were unable to fulfil, arrangements had been made to keep the fund open so as to receive their contributions. Of whatever came in half would be forwarded to the London Missionary Society, and the remainder would be divided equally between the Church Aid Society and the Colonial Missionary Society. The Special Committee on a Uniform Code of Rules regarding Ministerial Removals reported concerning the answers of the unions to the propositions sent them, showing a variety of views and action on the subject. The General Committee was instructed to summon a conference of representatives of the county unions to promote the adoption by all of them of the same code of rules. A Sunday-school conference and the annual meeting of the Young People's Union were held in connection with the assembly. The Rev. Dr. R. F. Horton was elected chairman of the union for the ensuing year.

The autumnal meetings of the Union were held at Glasgow jointly with the Congregational Unions of Scotland and Ireland, beginning Sept. 23. The most prominent subject of the discussions was the education bill, against which the assembly protested most strongly, because, as its resolution reads: "1. It sacrifices educational efficiency to sectarian and priestly ends. 2. By the summary abolition of the school boards of England and Wales, which have powerfully promoted the education of the people, while they have enlarged religious liberty for parents, teachers, and scholars, it has seriously impaired the direct control of the people over schools supported by public funds, while it also tends to withdraw the schools out of the range of their immediate interests. 3. It has not only been introduced without mandate from the constituents, but it is also being forced through Parliament in the face of direct indications that the opinion of the country is opposed to its main provisions. 4. It violates the principle of civil and religious liberty (a) by placing the entire support of denominational schools on public funds without providing for public control in all respects of such schools, and (b) by confining the appointment of teachers in denominational schools to members of the denomination. This assembly therefore calls upon his Majesty's Government to withdraw the bill or forthwith to appeal to the country upon it. And if the act is forced upon the nation, the assembly is prepared to advise its members to refuse to pay the rates." Only six votes were cast against the resolution as a whole, but about 20 dissentients were recorded against the final clause advising refusal to pay the rates in the event of the enactment of the bill. The officers of the London Missionary Society represented that £14,000 were still required to clear off the deficiency of the past three years, amounting to £63,000; and that an increase of from 20 to 25 per cent. on the present income was needed to meet the annual expenditure of £151,000, which the board was pledged not to exceed for the next five years. Eighty new missionaries had been sent into the field, but the income had not been proportionately increased. At a meeting of the Congregational Historical Society mention was made of the mass of unedited manuscripts in certain libraries which might afford valuable information upon the subjects with which the society was concerned, and a paper was read on Historical Points of Contact of English and Scottish Con-

gregationalism. Papers were read on Difficulties in the Way of Belief which beset the Young, Free Church Life in Rural England, and The Relation of the Evangelical Basis of our Church Life to Social Questions. Meetings were held representative of the Young People, the Women, Congregational Settlements, and the Total Abstinence Association.

The report of the subcommittee appointed to draft a superannuation scheme for ministers embodied a plan resting on a basis of equal contributions by ministers and churches, the amount to be determined by the age when each contribution is paid, the amount of the contributions, and the age at which superannuation begins. A minister's contributions are to cease on his attaining the age of sixty-five, after which, on his retirement, the full amount will be payable. Each separate annual contribution will provide a corresponding annuity beginning at the retiring age, the total annuity being the aggregate secured by the several annual payments. Any minister, or any church on his behalf, may at any time pay a lump sum in order to secure for him an annuity or an increased annuity. A minister may be assured under either of two tables, viz., (1) with no return of contribution, or (2) with a lower rate of annuity, but with return of the amount of his own paid contributions in the event of his death or of his retirement through failure of health or other approved cause before the age of sixty-five years.

The English Chapel-Building Society had considered 50 cases during the year, and had made grants to 40 of them, amounting to £8,566. Contributions had fallen off, having been received from only 187 churches. The receipts, apart from interest and dividends on investments and a loan from bank, had amounted to £3,589, of which £3,000 were from the return of advances.

The report of the Congregational Total Abstinence Association showed that while twenty-five years before out of 2,000 Congregational ministers there were 700 abstainers, at the present time out of 2,887 pastors in England and Wales the number of total abstainers was 2,551.

The income of the Colonial Missionary Society, including a grant of £4,100 from the Twentieth Century fund, had been £9,500. The society had worked during the year in 12 colonies, and had sent out 5 young men to the colonial field.

From the Pastors' Retiring fund £6,690 had been paid in annuities to 185 annuitants. On account of the Pastors' Widows' fund £1,221 had been paid to 101 annuitants.

In the third volume of the Transactions of the Congregational Historical Society, published in 1902, is a paper by Dr. F. J. Powicke giving lists of the early separatists compiled from the records of arrests and prosecutions. The striking facts are remarked that the great majority of the number were very young, that they were mostly of the tradesman or artisan class, and that very few of them drew back or wavered.

London Missionary Society.—The one hundred and seventh annual meeting of the London Missionary Society was held in London, May 12. The report showed that the total income from all sources had been £121,000, while the expenditure had risen to £153,700. This left a deficit of £23,000 on the year's working, to be added to the deficit of £36,000 accumulated from previous years. Toward removing this debt \$17,845 had been received from the Twentieth Century fund, and more than £20,000 had been already promised by friends of the society. The alternative was presented of abandoning some field of labor or in-

creasing the income. The statistics as to the staff of the society and facts in its mission work showed that it employed 206 men and 70 women as missionaries, with 940 ordained native pastors, 3,474 native preachers, 1,208 Christian men and 310 Christian women as teachers, and 271 Bible women, and had 64,716 church-members and 194,777 native adherents. The mission Sunday-schools numbered 1,283 and returned 54,249 pupils, while there were 1,642 boys' day-schools, with 59,966 pupils, and 190 girls' day-schools, with 30,467 pupils. The local contributions amounted to £22,116, the school fees to £5,964, and the receipts of the medical missions to £3,343; making a total of £31,414 raised and locally appropriated at mission stations. The report reviewed the condition of the missions in China, where restoration was going on, the Theological College at Hankow had been opened, and education seemed to have received a great impetus from the change in the political situation; in India, where progress was slow but steady; and represented that the reports from Madagascar showed that the troubles of past days were apparently over, and that the missionaries of the society were no longer victims of suspicion and mistrust. The resumption of responsibility for the elementary schools contributed largely to the financial difficulty. The conditions of work in Africa and New Guinea, where the mission was understaffed in consequence of the murder of Messrs. James Chalmers and Oliver Tomkins and the prevalence of exceptional sickness among missionaries and natives, were noticed. The work in Tahiti and the Loyalty Islands and part of that in Madagascar, those regions being now French possessions, had been transferred to the Paris Missionary Society. The secretary of this society was present at the meeting with a fraternal message from the directory. He said that in ten years, although there were only 600,000 Protestants in France, the number of missionaries of the Paris society had increased from 37 to 97 and its income from £13,000 to £45,000.

The Gainsborough Tercentenary.—The tercentenary of the Congregational church at Gainsborough, of which John Robinson was pastor, and where the separatists, or American Pilgrims, worshiped previously to their flight to Holland, was celebrated June 8 with commemorative services at the John Robinson Memorial Church, which had been built in 1897 by the aid of the contributions of English and American Congregationalists. Officials and other delegates of the Congregational churches in the United States were present, and brought with them the contributions which had been made in the United States for the liquidation of the debt of the new church. A sermon was preached on Sunday by Prof. Duff, of the United College, Bradford, who made allusions to the events which gave the memorial services their importance. A Free Church meeting was held on Sunday afternoon, when the American delegates spoke in behalf of the Congregationalists of the United States. The tercentenary sermon was preached on Tuesday evening, May 10, by the Rev. Dr. Fairbairn, of Oxford, who spoke of the share of John Robinson and the Pilgrims in spreading the Gospel of Christ. At a public meeting held in the Gainsborough "Old Hall" a paper was read by Mr. Edward McKnight, of Chorley Public Library, on the historic associations of the Old Hall and its connection with the New England Pilgrims. A bronze tablet to the memory of the Pilgrims, placed in the vestibule of the church and commemorating the cooperation of English and

American Congregationalists in the erection of the John Robinson Memorial, was unveiled by Mr. George Spicer, of Enfield.

Welsh Congregational Union.—The Welsh Congregational Union, at its annual meeting, held in Carnarvon in June, returned 1,068 incorporated churches, 197 mission rooms, 148,818 full members, 153,511 pupils and 15,197 teachers in Sunday-schools, 651 ministers with and 98 without pastoral charges, 22 ministers ordained during the year, 222 ministerial students, and 274 lay preachers. During the year £56,575 of chapel debts had been paid, leaving outstanding debts to the amount of £239,058, of which £45,735 represented the cost of new buildings. The voluntary contributions had amounted to £204,858, showing an increase of £40,755. A resolution recommending closer relations with the Congregational Union of England and Wales was passed. Other resolutions welcomed the licensing bill and recommended the use of unfermented wine in the sacrament of the Lord's Supper. The treasurer of the Twentieth Century fund represented that the total receipts had been £22,443, nearly half of which had been collected by the secretaries since the last meeting. A connectional publication department had been established, and a Welsh Independent Year-Book was to be issued.

Irish Congregational Union.—The seventy-third annual meeting of the Irish Congregational Union was held at New Row, Coleraine, May 25. The report of the Irish Evangelical Society and Congregational Home Mission showed that there were 12 self-supporting Congregational churches in Ireland, while the remaining 16 churches, with 60 out-stations, were dependent on contributions raised by the society. Contributions from England had decreased in past years, but nearly £1,200 had been paid during the last twelve months in grants to the mission stations. The executive of the union has addressed a memorial to the Royal Commission on Education in Ireland, calling their attention to the fact that there were 123,000 of the population of the country who did not belong to the Roman Catholic, Episcopal, or Presbyterian Church, and asking equal rights for them with these bodies in any legislation that may be proposed, to representation on governing bodies, professorial staff, and students' roll. "Speaking as Congregationalists only," the memorial says, "we desire a university system which shall make no inquiry as regards religious opinion."

CONGRESS. The Fifty-seventh Congress, beginning March 4, 1901, and to close March 4, 1903, was composed as follows:

THE SENATE.

William P. Frye, of Maine, President *pro tempore*; Charles G. Bennett, of New York, secretary.

Senators by States, with the expiration of term and party affiliation indicated:

<i>Alabama.</i>		<i>Connecticut.</i>	
1908. Edmund W. Pettus, D.		1908. Orville H. Platt, R.	
1907. John T. Morgan, D.		1906. Joseph R. Hawley, R.	
<i>Arkansas.</i>		<i>Delaware.</i>	
1908. James K. Jones, D.		1905. Vacancy.	
1907. James H. Berry, D.		1907. Vacancy.	
<i>California.</i>		<i>Florida.</i>	
1908. George C. Perkins, R.		1908. Stephen R. Mallory, D.	
1906. Thomas R. Bard, R.		1906. J. P. Taliaferro, D.	
<i>Colorado.</i>		<i>Georgia.</i>	
1908. Henry M. Teller, D.		1908. Alexander S. Clay, D.	
1907. T. MacD. Patterson, D.		1907. Augustus O. Bacon, D.	

<i>Idaho.</i>		<i>New Jersey.</i>	
1908. Henry Heltfeld, D.		1906. John Kean, R.	
1907. Fred. T. Dubois, D.		1907. John F. Dryden, R.	
<i>Illinois.</i>		<i>New York.</i>	
1908. William E. Mason, R.		1908. Thomas C. Platt, R.	
1907. Shelby M. Cullom, R.		1906. C. M. Depew, R.	
<i>Indiana.</i>		<i>North Carolina.</i>	
1908. Chas. W. Fairbanks, R.		1908. Jeter C. Fritchard, R.	
1906. Albert J. Beveridge, R.		1907. F. M. Simmons, D.	
<i>Iowa.</i>		<i>North Dakota.</i>	
1908. William B. Allison, R.		1908. H. C. Hansbrough, R.	
1907. Jona. P. Dolliver, R.		1906. F. J. McCumber, R.	
<i>Kansas.</i>		<i>Ohio.</i>	
1908. William A. Harris, P.		1908. Joseph B. Foraker, R.	
1907. Joseph R. Burton, R.		1906. Marcus A. Hanna, R.	
<i>Kentucky.</i>		<i>Oregon.</i>	
1908. William J. Deboe, R.		1908. Joseph Simon, R.	
1907. J. C. S. Blackburn, D.		1907. John H. Mitchell, R.	
<i>Louisiana.</i>		<i>Pennsylvania.</i>	
1908. Samuel D. McEnery, D.		1908. Botes Penrose, R.	
1907. Murphy J. Foster, D.		1906. Matthew S. Quay, R.	
<i>Maine.</i>		<i>Rhode Island.</i>	
1906. Eugene Hale, R.		1906. Nelson W. Aldrich, R.	
1907. William P. Frye, R.		1907. George F. Wetmore, R.	
<i>Maryland.</i>		<i>South Carolina.</i>	
1908. Geo. L. Wellington, R.		1908. John L. McLaurin, D.	
1906. Louis E. McComas, R.		1907. Benjamin R. Tillman, D.	
<i>Massachusetts.</i>		<i>South Dakota.</i>	
1906. Henry C. Lodge, R.		1908. A. B. Kittredge, R.	
1907. George F. Hoar, R.		1907. Robert J. Gamble, R.	
<i>Michigan.</i>		<i>Tennessee.</i>	
1906. Julius C. Burrows, R.		1906. William B. Bate, D.	
1907. James McMillan, R.		1907. Edw. W. Carmack, D.	
<i>Minnesota.</i>		<i>Texas.</i>	
1906. Moses E. Clapp, R.		1906. C. A. Culberson, D.	
1907. Knute Nelson, R.		1907. Joseph W. Bailey, D.	
<i>Mississippi.</i>		<i>Utah.</i>	
1906. H. D. Money, D.		1908. Joseph L. Rawlins, D.	
1907. A. J. McLaurin, D.		1906. Thomas Kearns, R.	
<i>Missouri.</i>		<i>Vermont.</i>	
1908. George G. Vest, D.		1908. W. P. Dillingham, R.	
1906. F. M. Cockrell, D.		1906. Redfield Proctor, R.	
<i>Montana.</i>		<i>Virginia.</i>	
1906. Paria Gibson, D.		1906. John W. Daniel, D.	
1907. William A. Clark, D.		1907. Thomas S. Martin, D.	
<i>Nebraska.</i>		<i>Washington.</i>	
1906. Charles H. Dietrich, R.		1908. George Turner, D.	
1907. Joseph S. Millard, R.		1906. Addison G. Foster, R.	
<i>Nevada.</i>		<i>West Virginia.</i>	
1908. John P. Jones, R.		1906. Nathan B. Scott, R.	
1906. William M. Stewart, R.		1907. Stephen B. Elkins, R.	
<i>New Hampshire.</i>		<i>Wisconsin.</i>	
1908. Jacob H. Gallinger, R.		1908. John C. Spooner, R.	
1907. H. E. Burnham, R.		1906. Joseph V. Quarles, R.	
<i>Wyoming.</i>			
		1906. Clarence D. Clark, R.	
		1907. Francis E. Warren, R.	

Republicans, 56; Democrats, 29; Populist, 1; Independent, 1; Fusionist, 1.

James H. Kyle died July 1, 1901; and Alfred B. Kittredge was appointed by the Governor of South Dakota.

William J. Sewell died Dec. 27, 1901; and John F. Dryden was elected to succeed him.

James McMillan died after the close of the first session of the Congress.

THE HOUSE OF REPRESENTATIVES.

David B. Henderson, of Iowa, Speaker; Alexander McDowell, of Pennsylvania, clerk.

Members by States, with the districts and political affiliations indicated:

Alabama.

1. George W. Taylor, D.
2. Arlosto A. Wiley, D.
3. Henry D. Clayton, D.
4. S. J. Bowie, D.
5. Charles W. Thompson, D.
6. J. H. Bankhead, D.
7. John L. Burnett, D.
8. William Richardson, D.
9. O. W. Underwood, D.

Arkansas.

1. P. D. McCulloch, Jr., D.
2. John S. Little, D.
3. Thomas C. McRae, D.
4. Charles C. Reid, D.
5. H. A. Dinsmore, D.
6. S. Brundidge, Jr., D.

California.

1. F. L. Coombs, R.
2. Samuel D. Woods, R.
3. Victor H. Metcalf, R.
4. Julius Kahn, R.
5. Eugene F. Loud, R.
6. James McLachlan, R.
7. James C. Needham, R.

Colorado.

1. John F. Shafroth, D.
2. John C. Bell, D.

Connecticut.

1. E. Stevens Henry, R.
2. N. D. Sperry, R.
3. Charles A. Russell, R.
4. Ebenezer J. Hill, R.

Delaware.

Lewis H. Ball, R.

Florida.

1. S. M. Sparkman, D.
2. Robert W. Davis, D.

Georgia.

1. Rufus E. Lester, D.
2. James M. Griggs, D.
3. Elijah B. Lewis, D.
4. William C. Adamson, D.
5. L. F. Livingston, D.
6. Charles L. Bartlett, D.
7. John W. Maddox, D.
8. William M. Howard, D.
9. Farish Carter Tate, D.
10. William H. Fleming, D.
11. W. G. Brantley, D.

Idaho.

Thomas L. Glenn, P.

Illinois.

1. James R. Mann, R.
2. John J. Feely, D.
3. George P. Foster, D.
4. James McAndrews, D.
5. William F. Mahoney, D.
6. Henry S. Boutell, R.
7. George E. Foss, R.
8. A. J. Hopkins, R.
9. Robert R. Hitt, R.
10. George W. Prince, R.
11. Walter Reeves, R.
12. Joseph G. Cannon, R.
13. Vespasian Warner, R.
14. Joseph V. Graff, R.
15. J. Ross Mickey, D.
16. T. J. Selby, D.
17. Benjamin F. Caldwell, D.
18. Thomas M. Jett, D.
19. Joseph B. Crowley, D.
20. J. R. Williams, D.
21. F. J. Kern, D.
22. George W. Smith, R.

Indiana.

1. James A. Hemenway, R.
2. Robert W. Miers, D.
3. William T. Zenor, D.
4. Francis M. Griffith, D.
5. Elias S. Holliday, R.
6. James E. Watson, R.
7. Jesse Overstreet, R.
8. George W. Cromer, R.
9. Charles B. Landis, R.
10. E. D. Crumpecker, R.
11. George W. Steele, R.
12. James M. Robinson, D.
13. Abraham L. Brick, R.

Iowa.

1. Thomas Hedge, R.
2. J. N. W. Rumble, R.
3. D. B. Henderson, R.
4. Gilbert N. Haugen, R.
5. Robert G. Cousins, R.
6. John F. Lacey, R.
7. John A. T. Hull, R.
8. William P. Hepburn, R.
9. Walter I. Smith, R.
10. J. P. Conner, R.
11. Lot Thomas, R.

Kansas.

1. Chas. F. Scott (at large), R.
2. Charles Curtis, R.
3. J. D. Bowersock, R.
4. Alfred M. Jackson, D.
5. James M. Miller, R.
6. W. A. Calderhead, R.
7. William A. Reeder, R.
8. Chester I. Long, R.

Kentucky.

1. Charles K. Wheeler, D.
2. H. D. Allen, D.
3. John S. Rhea, D.
4. Daniel H. Smith, D.
5. Harvey S. Irwin, R.
6. Daniel L. Gooch, D.
7. South Trimble, D.
8. G. G. Gilbert, D.
9. J. N. Kehoe, D.
10. J. B. White, D.
11. Vincent Boreling, R.

Louisiana.

1. Adolph Meyer, D.
2. Robert C. Davey, D.
3. Robert F. Broussard, D.
4. Phanor Breazeale, D.
5. Joseph E. Ransdell, D.
6. S. M. Robertson, D.

Maine.

1. Amos L. Allen, R.
2. Charles E. Littlefield, R.
3. Edwin C. Burleigh, R.
4. Llewellyn Powers, R.

Maryland.

1. William H. Jackson, R.
2. Albert A. Blakeney, R.
3. Frank C. Wichter, R.
4. Charles R. Schirm, R.
5. Sydney E. Mudd, R.
6. George A. Pearre, R.

Massachusetts.

1. George P. Lawrence, R.
2. Frederick H. Gillett, R.
3. John R. Thayer, D.
4. Charles O. Tirrell, R.
5. William S. Knox, R.
6. William H. Moody, R.
7. Ernest W. Roberts, R.
8. Samuel W. McCall, R.
9. Joseph A. Conry, D.
10. Henry F. Naphen, D.
11. Samuel L. Powers, R.
12. William C. Lovering, R.
13. William S. Greene, R.

Michigan.

1. John B. Corliss, R.
2. Henry C. Smith, R.
3. Washington Gardner, R.
4. E. L. Hamilton, R.
5. William Alden Smith, R.
6. Samuel W. Smith, R.
7. Edgar Weeks, R.
8. J. W. Fordney, R.
9. Roswell F. Bishop, R.
10. Henry H. Aplin, R.
11. A. B. Darragh, R.
12. Carlos D. Shelden, R.

Minnesota.

1. James A. Tawney, R.
2. James T. McCleary, R.
3. Joel P. Heatwole, R.
4. Frederick C. Stevens, R.
5. Loren Fletcher, R.
6. Page Morris, R.
7. Frank M. Eddy, R.

Mississippi.

1. E. S. Candler, Jr., D.
2. Thomas Spight, D.
3. Patrick Henry, D.
4. Andrew F. Fox, D.
5. John S. Williams, D.
6. Frank A. McLain, D.
7. Charles E. Hooker, D.

Missouri.

1. James T. Lloyd, D.
2. W. W. Rucker, D.
3. John Dougherty, D.
4. C. F. Cochran, D.
5. W. S. Cowherd, D.
6. D. A. De Armond, D.
7. James Cooney, D.
8. Dorsey Shackelford, D.
9. Champ Clark, D.
10. Richard Bartholdt, R.
11. Charles F. Joy, R.
12. J. J. Butler, D.
13. Edward Robb, D.
14. W. D. Vandiver, D.
15. M. E. Benton, D.

Montana.

Caldwell Edwards, P.

Nebraska.

1. E. J. Burkett, R.
2. David H. Mercer, R.
3. John S. Robinson, D.
4. William L. Stark, P.
5. A. C. Shallenberger, D.
6. William Neville, P.

Nevada.

F. G. Newlands, S.

New Hampshire.

1. Cyrus A. Sulloway, R.
2. F. D. Currier, R.

New Jersey.

1. H. C. Loudenslager, R.
2. John J. Gardner, R.
3. Benjamin F. Howell, R.
4. Joshua S. Salmon, D.
5. James F. Stewart, R.
6. Richard W. Parker, R.
7. A. L. McDermott, D.
8. Charles N. Fowler, R.

New York.

1. Frederic Storm, R.
2. John J. Fitzgerald, D.
3. Henry Bristow, R.
4. Henry A. Hanbury, R.
5. Frank E. Wilson, D.
6. George H. Lindsay, D.
7. Montague Lessler, R.
8. Thomas J. Creamer, D.
9. Henry M. Goldfogle, D.
10. Amos J. Cummings, D.
11. William Sulzer, D.
12. George B. McClellan, D.
13. O. H. P. Belmont, D.
14. William H. Douglas, R.
15. Jacob Ruppert, Jr., D.
16. Cornelius A. Fugateley, D.
17. A. S. Tompkins, R.
18. J. H. Ketcham, R.
19. William H. Draper, R.
20. George N. Southwick, R.
21. John K. Stewart, R.
22. L. N. Littauer, R.
23. L. W. Emerson, R.
24. Charles L. Knapp, R.
25. James S. Sherman, R.
26. George W. Ray, R.
27. M. E. Driscoll, R.
28. Sereeno E. Payne, R.
29. Charles W. Gillet, R.
30. J. W. Wadsworth, R.
31. James B. Perkins, R.
32. William H. Ryan, D.
33. D. S. Alexander, R.
34. Ed. B. Vreeland, R.

North Carolina.

1. John H. Small, D.
2. C. Kitchin, D.
3. Charles R. Thomas, D.
4. Edward W. Fou, D.
5. William W. Kitchin, D.
6. John D. Bellamy, D.
7. Theodore F. Kluttz, D.
8. Spencer Blackburn, R.
9. J. M. Moody, R.

North Dakota.

Thomas F. Marshall, R.

Ohio.

1. William B. Shattuc, R.
2. J. H. Bromwell, R.
3. Robert M. Nevin, R.
4. Robert B. Gordon, D.
5. John S. Snook, D.
6. C. Q. Hildebrandt, R.
7. Thomas B. Kyle, R.
8. W. R. Warnock, R.
9. J. H. Southard, R.
10. Stephen Morgan, R.
11. C. H. Grosvenor, R.
12. E. Tompkins, R.
13. James A. Norton, D.
14. William W. Skiles, R.
15. H. C. Van Voorhis, R.
16. Joseph J. Gill, R.
17. John W. Cassingham, D.
18. Robert W. Taylor, R.
19. Charles Dick, R.
20. Jacob A. Beldier, R.
21. Theodore E. Burton, R.

Oregon.

1. Thomas H. Tongue, R.
2. Malcolm A. Moody, R.

Pennsylvania.

- | | |
|-----------------------------|-----------------------------|
| G. A. Grow, At large, R. | 14. M. E. Olmsted, R. |
| R. H. Foerderer, R. | 15. Charles F. Wright, R. |
| 1. H. H. Bingham, R. | 16. Elias Deemer, R. |
| 2. Robert Adams, Jr., R. | 17. Rufus K. Polk, D. |
| 3. Henry Burk, R. | 18. Thaddeus M. Mahon, R. |
| 4. James R. Young, R. | 19. Robert J. Lewis, R. |
| 5. Edward Morrell, R. | 20. Alvin Evans, R. |
| 6. Thomas S. Butler, R. | 21. Summers M. Jack, R. |
| 7. Irving P. Wanger, R. | 22. John Dalzell, R. |
| 8. Howard Mutchler, D. | 23. William H. Graham, R. |
| 9. Henry D. Green, D. | 24. Ernest F. Acheson, R. |
| 10. H. Burd Cassel, R. | 25. Joseph B. Showalter, R. |
| 11. William Connell, R. | 26. Arthur L. Bates, R. |
| 12. Henry W. Palmer, R. | 27. Joseph C. Sibley, R. |
| 13. George R. Patterson, R. | 28. James K. P. Hall, D. |

Rhode Island.

1. Melville Bull, R.
2. Adin B. Capron, R.

South Carolina.

1. William Elliott, D.
2. W. J. Talbert, D.
3. A. C. Latimer, D.
4. J. T. Johnson, D.
5. D. E. Finley, D.
6. Robert B. Scarborough, D.
7. A. F. Lever, D.

South Dakota.

- Charles H. Burke, At large, R.
- Eben W. Martin, At large, R.

Tennessee.

1. W. P. Brownlow, R.
2. Henry R. Gibson, R.
3. John A. Moon, D.
4. Charles E. Snodgrass, D.
5. J. D. Richardson, D.
6. John W. Gaines, D.
7. L. P. Padgett, D.
8. Thetus W. Sims, D.
9. Rice A. Pierce, D.
10. M. R. Patterson, D.

Texas.

1. Thomas H. Ball, D.
2. Samuel B. Cooper, D.
3. R. C. De Graffenreid, D.
4. John L. Sheppard, D.
5. Choice B. Randall, D.
6. Dudley G. Wooten, D.
7. Robert L. Henry, D.
8. S. W. T. Lanham, D.
9. Albert S. Burleson, D.
10. George F. Burgess, D.
11. Rudolph Kleberg, D.
12. James L. Slayden, D.
13. John H. Stephens, D.

Utah.

- George Sutherland, At large, R.

Vermont.

1. D. J. Foster, R.
2. Kittredge Haskins, R.

Virginia.

1. William A. Jones, D.
2. Harry L. Maynard, D.
3. John Lamb, D.
4. Francis R. Lassiter, D.
5. Claude A. Swanson, D.
6. Peter J. Otey, D.
7. James Hay, D.
8. John F. Rixey, D.
9. William F. Rhea, D.
10. Henry D. Flood, D.

Washington.

- F. W. Cushman, At large, R.
- W. L. Jones, At large, R.

West Virginia.

1. B. B. Dovenor, R.
2. Alston G. Dayton, R.
3. Joseph H. Gaines, R.
4. James A. Hughes, R.

Wisconsin.

1. Henry A. Cooper, R.
2. Herman B. Dahle, R.
3. Joseph W. Babcock, R.
4. Theobald Otjen, R.
5. Samuel S. Barney, R.
6. J. H. Davidson, R.
7. John J. Esch, R.
8. Edward S. Minor, R.
9. Webster E. Brown, R.
10. John J. Jenkins, R.

Wyoming.

- Frank W. Mondell, R.

Delegates.

- Arizona—Marcus A. Smith, D.
Hawaii—Robert W. Wilcox, R.
New Mexico—Bernard S. Rodey, R.
Oklahoma—Dennis T. Flynn, R.

Republicans, 198; Democrats, 153; Populists, 4.

Henry H. Aplin, Michigan, was elected in place of Rousseau O. Crump, deceased. The seat of J. J. Butler, Missouri, was declared vacant, June 28, 1902; H. Burd Cassel, Pennsylvania, was elected in place of Marriott Brosius, deceased; Amos J. Cummings died May 2, 1902; Charles L. Knapp, New York, was elected in place of Albert D. Shaw, deceased; Montague Lessler, New York, was elected in place of Nicholas Muller, resigned; Asbury F. Lever, South Carolina, was elected in place of J. M. Stokes, deceased; William H.

Moody, Massachusetts, resigned to become Secretary of the Navy, May 1, 1902; T. McKenzie Moss, Kentucky, took the place of John S. Rhea, unseated March 25, 1902; Peter J. Otey, Virginia, died May 4, 1902; Rufus K. Polk, Pennsylvania, died March 5, 1902; Llewellyn Powers, Maine, was elected in place of Charles A. Boutelle, resigned; Joshua S. Salmon, New Jersey, died May 6, 1902; Dudley G. Wooten, Texas, was elected in place of Robert E. Burke, deceased.

The Congress met for its first session, Monday Dec. 2, 1902. The House of Representatives organized by electing David B. Henderson, of Iowa, speaker by a vote of 192 out of 355; there were 152 votes cast for John D. Richardson, of Tennessee. Alexander McDowell, of Pennsylvania, was chosen clerk; Henry Casson, of Wisconsin, sergeant-at-arms; William J. Glenn, of New York, doorkeeper; Joseph C. McKelroy, of Ohio, postmaster; and Henry N. Conden, of Michigan, chaplain.

On assuming the chair Mr. Henderson said:

"Gentlemen of the House of Representatives, this high honor which you have conferred upon me I profoundly appreciate. All the more do I appreciate it coming, as it does, with this generous expression from both sides of the Chamber. There is yet left another method for a presiding officer to express his appreciation of such an honor; that is, by a kindly, firm, and faithful administration of the law and the rules that govern this body. It will be my aim to discharge impartially the duties of this office.

"As I said at the opening of the last Congress, no presiding officer can successfully administer the duties of his office unless he has the support of the body over which he presides. I asked for it then; you gave it to me throughout the entire Congress. Permit me once more to invoke that patience, kind consideration, and splendid support which was accorded to me in the last Congress.

"The maker of laws should not be a breaker of laws. We proceed under law and rules; and the duties devolving upon each and all of the membership of this House will be far better conserved if this principle is kept in mind and acted upon."

The rules of the Fifty-sixth Congress were then adopted for the conduct of business in the House, with the following modifications:

1. That the special orders adopted March 8 and March 14, 1900, providing a method for the consideration of pension bills, claim bills, and other private bills, shall be continued during the Fifty-seventh Congress.

2. That the place of the Select Committee on the Twelfth Census in the rules of the Fifty-sixth Congress shall be filled in the rules of the Fifty-seventh Congress by a standing Committee on the Census, to consist of 13 members, and have jurisdiction of all proposed legislation concerning the census and the apportionment of Representatives.

Resolved further, That there shall be appointed to serve during the Fifty-seventh Congress a Select Committee on Industrial Arts and Expositions, to consist of 9 members, which shall have jurisdiction of all matters (excepting those relating to the revenue and appropriations) referring to the Centennial of the Louisiana Purchase and to proposed expositions.

Resolved further, That the Select Committee on the Examination and Disposition of Documents of the Fifty-sixth Congress shall be continued during the Fifty-seventh Congress as a select committee.

THE PRESIDENT'S MESSAGE.

Dec. 3, after due notification from the Senate and the House, that they were organized and ready to receive any communication from the President, the annual message was sent in as follows:

To the Senate and House of Representatives:

The Congress assembles this year under the shadow of a great calamity. On the 6th of September President McKinley was shot by an anarchist while attending the Pan-American Exposition at Buffalo, and died in that city on the 14th of that month.

Of the last seven elected Presidents, he is the third who has been murdered, and the bare recital of this fact is sufficient to justify grave alarm among all loyal American citizens. Moreover, the circumstances of this, the third assassination of an American President, have a peculiarly sinister significance. Both President Lincoln and President Garfield were killed by assassins of types unfortunately not uncommon in history; President Lincoln falling a victim to the terrible passions aroused by four years of civil war, and President Garfield to the revengeful vanity of a disappointed office-seeker. President McKinley was killed by an utterly depraved criminal belonging to that body of criminals who object to all governments, good and bad alike, who are against any form of popular liberty if it is guaranteed by even the most just and liberal laws, and who are as hostile to the upright exponent of a free people's sober will as to the tyrannical and irresponsible despot.

It is not too much to say that at the time of President McKinley's death he was the most widely loved man in all the United States; while we have never had any public man of his position who has been so wholly free from the bitter animosities incident to public life. His political opponents were the first to bear the heartiest and most generous tribute to the broad kindness of nature, the sweetness and gentleness of character which so endeared him to his close associates. To a standard of lofty integrity in public life he united the tender affections and home virtues which are all-important in the make-up of national character. A gallant soldier in the great war for the Union, he also shone as an example to all our people because of his conduct in the most sacred and intimate of home relations. There could be no personal hatred of him, for he never acted with aught but consideration for the welfare of others. No one could fail to respect him who knew him in public or private life. The defenders of those murderous criminals who seek to excuse their criminality by asserting that it is exercised for political ends, inveigh against wealth and irresponsible power. But for this assassination even this base apology can not be urged.

President McKinley was a man of moderate means, a man whose stock sprang from the sturdy tillers of the soil, who had himself belonged among the wage-workers, who had entered the army as a private soldier. Wealth was not struck at when the President was assassinated, but the honest toil which is content with moderate gains after a lifetime of unremitting labor, largely in the service of the public. Still less was power struck at in the sense that power is irresponsible or centered in the hands of any one individual. The blow was not aimed at tyranny or wealth. It was aimed at one of the strongest champions the wage-worker has ever had; at one of the most faithful representatives

of the system of public rights and representative government who has ever risen to public office. President McKinley filled that political office for which the entire people vote, and no President—not even Lincoln himself—was ever more earnestly anxious to represent the well-thought-out wishes of the people; his one anxiety in every crisis was to keep in closest touch with the people—to find out what they thought and to endeavor to give expression to their thought, after having endeavored to guide that thought aright. He had just been reelected to the presidency because the majority of our citizens, the majority of our farmers and wage-workers, believed that he had faithfully upheld their interests for four years. They felt themselves in close and intimate touch with him. They felt that he represented so well and so honorably all their ideals and aspirations that they wished him to continue for another four years to represent them.

And this was the man at whom the assassin struck! That there might be nothing lacking to complete the Judas-like infamy of his act, he took advantage of an occasion when the President was meeting the people generally; and advancing as if to take the hand outstretched to him in kindly and brotherly fellowship, he turned the noble and generous confidence of the victim into an opportunity to strike the fatal blow. There is no baser deed in all annals of crime.

The shock, the grief of the country, are bitter in the minds of all who saw the dark days, while the President yet hovered between life and death. At last the light was stilled in the kindly eyes and the breath went from the lips that even in mortal agony uttered no words save of forgiveness to his murderer, of love for his friends, and of unfaltering trust in the will of the Most High. Such a death, crowning the glory of such a life, leaves us with infinite sorrow, but with such pride in what he had accomplished and in his own personal character, that we feel the blow not as struck at him, but as struck at the nation. We mourn a good and great President who is dead; but while we mourn we are lifted up by the splendid achievements of his life and the grand heroism with which he met his death.

When we turn from the man to the nation, the harm done is so great as to excite our gravest apprehensions and to demand our wisest and most resolute action. This criminal was a professed anarchist, inflamed by the teachings of professed anarchists, and probably also by the reckless utterances of those who, on the stump and in the public press, appeal to the dark and evil spirits of malice and greed, envy and sullen hatred. The wind is sowed by the men who preach such doctrines, and they can not escape their share of responsibility for the whirlwind that is reaped. This applies alike to the deliberate demagogue, to the exploiter of sensationalism, and to the crude and foolish visionary who, for whatever reason, apologizes for crime or excites aimless discontent.

The blow was aimed not at this President, but at all Presidents; at every symbol of government. President McKinley was as emphatically the embodiment of the popular will of the nation expressed through the forms of law as a New England town-meeting is in similar fashion the embodiment of the law-abiding purpose and practise of the people of the town. On no conceivable theory could the murder of the President be accepted as due to protest against "inequalities in the social order," save as the murder of all the freemen engaged in a town-meeting could be ac-

cepted as a protest against that social inequality which puts a malefactor in jail. Anarchy is no more an expression of "social discontent" than picking pockets or wife-beating.

The anarchist, and especially the anarchist in the United States, is merely one type of criminal, more dangerous than any other because he represents the same depravity in a greater degree. The man who advocates anarchy directly or indirectly, in any shape or fashion, or the man who apologizes for anarchists and their deeds, makes himself morally accessory to murder before the fact. The anarchist is a criminal whose perverted instincts lead him to prefer confusion and chaos to the most beneficent form of social order. His protest of concern for working men is outrageous in its impudent falsity; for if the political institutions of this country do not afford opportunity to every honest and intelligent son of toil, then the door of hope is forever closed against him. The anarchist is everywhere not merely the enemy of system and of progress, but the deadly foe of liberty. If ever anarchy is triumphant, its triumph will last for but one red moment, to be succeeded for ages by the gloomy night of despotism.

For the anarchist himself, whether he preaches or practises his doctrines, we need not have one particle more concern than for any ordinary murderer. He is not the victim of social or political injustice. There are no wrongs to remedy in his case. The cause of his criminality is to be found in his own evil passions and in the evil conduct of those who urge him on, not in any failure by others or by the state to do justice to him or his. He is a malefactor and nothing else. He is in no sense, in no shape or way, a "product of social conditions," save as a highwayman is "produced" by the fact that an unarmed man happens to have a purse. It is a travesty upon the great and holy names of liberty and freedom to permit them to be invoked in such a cause. No man or body of men preaching anarchistic doctrines should be allowed at large any more than if preaching the murder of some specified private individual. Anarchistic speeches, writings, and meetings are essentially seditious and treasonable.

I earnestly recommend to the Congress that in the exercise of its wise discretion it should take into consideration the coming to this country of anarchists or persons professing principles hostile to all government and justifying the murder of those placed in authority. Such individuals as those who not long ago gathered in open meeting to glorify the murder of King Humbert of Italy perpetrate a crime, and the law should insure their rigorous punishment. They and those like them should be kept out of this country; and if found here they should be promptly deported to the country whence they came; and far-reaching provision should be made for the punishment of those who stay. No matter calls more urgently for the wisest thought of the Congress.

The Federal courts should be given jurisdiction over any man who kills or attempts to kill the President or any man who by the Constitution or by law is in line of succession for the presidency, while the punishment for an unsuccessful attempt should be proportioned to the enormity of the offense against our institutions.

Anarchy is a crime against the whole human race; and all mankind should band against the anarchist. His crime should be made an offense against the law of nations, like piracy and that form of manstealing known as the slave-trade;

for it is of far blacker infamy than either. It should be so declared by treaties among all civilized powers. Such treaties would give to the Federal Government the power of dealing with the crime.

A grim commentary upon the folly of the anarchist position was afforded by the attitude of the law toward this very criminal who had just taken the life of the President. The people would have torn him limb from limb if it had not been that the law he defied was at once invoked in his behalf. So far from his deed being committed on behalf of the people against the Government, the Government was obliged at once to exert its full police power to save him from instant death at the hands of the people. Moreover, his deed worked not the slightest dislocation in our governmental system, and the danger of a recurrence of such deeds, no matter how great it might grow, would work only in the direction of strengthening and giving harshness to the forces of order. No man will ever be restrained from becoming President by any fear as to his personal safety. If the risk to the President's life became great, it would mean that the office would more and more come to be filled by men of a spirit which would make them resolute and merciless in dealing with every friend of disorder. This great country will not fall into anarchy; and if anarchists should ever become a serious menace to its institutions, they would not merely be stamped out, but would involve in their own ruin every active or passive sympathizer with their doctrines. The American people are slow to wrath, but when their wrath is once kindled it burns like a consuming flame.

During the last five years business confidence has been restored, and the nation is to be congratulated because of its present abounding prosperity. Such prosperity can never be created by law alone, although it is easy enough to destroy it by mischievous laws. If the hand of the Lord is heavy upon any country, if flood or drought comes, human wisdom is powerless to avert the calamity. Moreover, no law can guard us against the consequences of our own folly. The men who are idle or credulous, the men who seek gains not by genuine work with head or hand, but by gambling in any form, are always a source of menace not only to themselves, but to others. If the business world loses its head, it loses what legislation can not supply. Fundamentally the welfare of each citizen, and therefore the welfare of the aggregate of citizens which makes the nation, must rest upon individual thrift and energy, resolution and intelligence. Nothing can take the place of this individual capacity; but wise legislation and honest and intelligent administration can give it the fullest scope, the largest opportunity to work to good effect.

The tremendous and highly complex industrial development which went on with ever accelerated rapidity during the latter half of the nineteenth century brings us face to face, at the beginning of the twentieth, with very serious social problems. The old laws, and the old customs which had almost the binding force of law, were once quite sufficient to regulate the accumulation and distribution of wealth. Since the industrial changes which have so enormously increased the productive power of mankind, they are no longer sufficient.

The growth of cities has gone on beyond comparison faster than the growth of the country, and the upbuilding of the great industrial centers has meant a startling increase, not merely in the aggregate of wealth, but in the number of very large individual, and especially of very large

corporate, fortunes. The creation of these great corporate fortunes has not been due to the tariff nor to any other governmental action, but to natural causes in the business world, operating in other countries as they operate in our own.

The process has aroused much antagonism, a great part of which is wholly without warrant. It is not true that as the rich have grown richer the poor have grown poorer. On the contrary, never before has the average man, the wage-worker, the farmer, the small trader, been so well off as in this country and at the present time. There have been abuses connected with the accumulation of wealth; yet it remains true that a fortune accumulated in legitimate business can be accumulated by the person specially benefited only on condition of conferring immense incidental benefits upon others. Successful enterprise, of the type which benefits all mankind, can only exist if the conditions are such as to offer great prizes as the rewards of success.

The captains of industry, who have driven the railway systems across this continent, who have built up our commerce, who have developed our manufactures, have on the whole done great good to our people. Without them the material development of which we are so justly proud could never have taken place. Moreover, we should recognize the immense importance to this material development of leaving as unhampered as is compatible with the public good the strong and forceful men upon whom the success of business operation inevitably rests. The slightest study of business conditions will satisfy any one capable of forming a judgment that the personal equation is the most important factor in a business operation; that the business ability of the man at the head of any business concern, big or little, is usually the factor which fixes the gulf between striking success and hopeless failure.

An additional reason for caution in dealing with corporations is to be found in the international commercial conditions of to-day. The same business conditions which have produced the great aggregations of corporate and individual wealth have made them very potent factors in international commercial competition. Business concerns which have the largest means at their disposal and are managed by the ablest men are naturally those which take the lead in the strife for commercial supremacy among the nations of the world. America has only just begun to assume that commanding position in the international business world which we believe will more and more be hers. It is of the utmost importance that this position be not jeopardized, especially at a time when the overflowing abundance of our own natural resources and the skill, business energy, and mechanical aptitude of our people make foreign markets essential. Under such conditions it would be most unwise to cramp or to fetter the youthful strength of our nation.

Moreover, it can not too often be pointed out that to strike with ignorant violence at the interests of one set of men almost inevitably endangers the interests of all. The fundamental rule in our national life—the rule which underlies all others—is that, on the whole, and in the long run, we shall go up or down together. There are exceptions; and in times of prosperity some will prosper far more, and in times of adversity some will suffer far more, than others; but speaking generally, a period of good times means that all share more or less in them, and in a period of hard times all feel the stress to a greater or less degree. It surely ought not

to be necessary to enter into any proof of this statement; the memory of the lean years which began in 1893 is still vivid, and we can contrast them with the conditions in this very year which is now closing. Disaster to great business enterprises can never have its effects limited to the men at the top. It spreads throughout, and while it is bad for everybody, it is worst for those farthest down. The capitalist may be shorn of his luxuries; but the wage-worker may be deprived of even bare necessities.

The mechanism of modern business is so delicate that extreme care must be taken not to interfere with it in a spirit of rashness or ignorance. Many of those who have made it their vocation to denounce the great industrial combinations which are popularly, although with technical inaccuracy, known as "trusts," appeal especially to hatred and fear. These are precisely the two emotions, particularly when combined with ignorance, which unfit men for the exercise of cool and steady judgment. In facing new industrial conditions, the whole history of the world shows that legislation will generally be both unwise and ineffective unless undertaken after calm inquiry and with sober self-restraint. Much of the legislation directed at the trusts would have been exceedingly mischievous had it not also been entirely ineffective. In accordance with a well-known sociological law, the ignorant or reckless agitator has been the really effective friend of the evils which he has been nominally opposing. In dealing with business interests, for the Government to undertake by crude and ill-considered legislation to do what may turn out to be bad, would be to incur the risk of such far-reaching national disaster that it would be preferable to undertake nothing at all. The men who demand the impossible or the undesirable serve as the allies of the forces with which they are nominally at war, for they hamper those who would endeavor to find out in rational fashion what the wrongs really are and to what extent and in what manner it is practicable to apply remedies.

All this is true; and yet it is also true that there are real and grave evils, one of the chief being overcapitalization because of its many baleful consequences; and a resolute and practical effort must be made to correct these evils.

There is a wide-spread conviction in the minds of the American people that the great corporations known as trusts are in certain of their features and tendencies hurtful to the general welfare. This springs from no spirit of envy or uncharitableness, nor lack of pride in the great industrial achievements that have placed this country at the head of the nations struggling for commercial supremacy. It does not rest upon a lack of intelligent appreciation of the necessity of meeting changing and changed conditions of trade with new methods, nor upon ignorance of the fact that combination of capital in the effort to accomplish great things is necessary when the world's progress demands that great things be done. It is based upon sincere conviction that combination and concentration should be, not prohibited, but supervised and within reasonable limits controlled; and in my judgment this conviction is right.

It is no limitation upon property rights or freedom of contract to require that when men receive from Government the privilege of doing business under corporate form, which frees them from individual responsibility, and enables them to call into their enterprises the capital of the public, they shall do so upon absolutely truth-

ful representations as to the value of the property in which the capital is to be invested. Corporations engaged in interstate commerce should be regulated if they are found to exercise a license working to the public injury. It should be as much the aim of those who seek for social betterment to rid the business world of crimes of cunning as to rid the entire body politic of crimes of violence. Great corporations exist only because they are created and safeguarded by our institutions; and it is therefore our right and our duty to see that they work in harmony with these institutions.

The first essential in determining how to deal with the great industrial combinations is knowledge of the facts—publicity. In the interest of the public, the Government should have the right to inspect and examine the workings of the great corporations engaged in interstate business. Publicity is the only sure remedy which we can now invoke. What further remedies are needed in the way of governmental regulation, or taxation, can only be determined after publicity has been obtained, by process of law, and in the course of administration. The first requisite is knowledge, full and complete—knowledge which may be made public to the world.

Artificial bodies, such as corporations and joint-stock or other associations, depending upon any statutory law for their existence or privileges, should be subject to proper governmental supervision, and full and accurate information as to their operations should be made public regularly at reasonable intervals.

The large corporations, commonly called trusts, though organized in one State, always do business in many States, often doing very little business in the State where they are incorporated. There is utter lack of uniformity in the State laws about them; and as no State has any exclusive interest in or power over their acts, it has in practice proved impossible to get adequate regulation through State action. Therefore, in the interest of the whole people, the nation should, without interfering with the power of the States in the matter itself, also assume power of supervision and regulation over all corporations doing an interstate business. This is especially true where the corporation derives a portion of its wealth from the existence of some monopolistic element or tendency in its business. There would be no hardship in such supervision; banks are subject to it, and in their case it is now accepted as a simple matter of course. Indeed, it is probable that supervision of corporations by the National Government need not go so far as is now the case with the supervision exercised over them by so conservative a State as Massachusetts, in order to produce excellent results.

When the Constitution was adopted, at the end of the eighteenth century, no human wisdom could foretell the sweeping changes, alike in industrial and political conditions, which were to take place by the beginning of the twentieth century. At that time it was accepted as a matter of course that the several States were the proper authorities to regulate, so far as was then necessary, the comparatively insignificant and strictly localized corporate bodies of the day. The conditions are now wholly different and wholly different action is called for. I believe that a law can be framed which will enable the National Government to exercise control along the lines above indicated; profiting by the experience gained through the passage and administration of the interstate commerce act. If, however, the judgment of the Congress is that it lacks the con-

stitutional power to pass such an act, then a constitutional amendment should be submitted to confer the power.

There should be created a Cabinet officer, to be known as Secretary of Commerce and Industries, as provided in the bill introduced at the last session of the Congress. It should be his province to deal with commerce in its broadest sense; including among many other things whatever concerns labor and all matters affecting the great business corporations and our merchant marine.

The course proposed is one phase of what should be a comprehensive and far-reaching scheme of constructive statesmanship for the purpose of broadening our markets, securing our business interests on a safe basis, and making firm our new position in the international industrial world; while scrupulously safeguarding the rights of wage-worker and capitalist, of investor and private citizen, so as to secure equity as between man and man in this republic.

With the sole exception of the farming interest, no one matter is of such vital moment to our whole people as the welfare of the wage-workers. If the farmer and the wage-worker are well off, it is absolutely certain that all others will be well off, too. It is therefore a matter for hearty congratulation that on the whole wages are higher to-day in the United States than ever before in our history, and far higher than in any other country. The standard of living is also higher than ever before. Every effort of legislator and administrator should be bent to secure the permanency of this condition of things and its improvement wherever possible. Not only must our labor be protected by the tariff, but it should also be protected so far as it is possible from the presence in this country of any laborers brought over by contract, or of those who, coming freely, yet represent a standard of living so depressed that they can undersell our men in the labor market and drag them to a lower level. I regard it as necessary, with this end in view, to reenact immediately the law excluding Chinese laborers and to strengthen it wherever necessary in order to make its enforcement entirely effective.

The National Government should demand the highest quality of service from its employees; and in return it should be a good employer. If possible legislation should be passed, in connection with the interstate commerce law, which will render effective the efforts of different States to do away with the competition of convict contract labor in the open labor market. So far as practicable under the conditions of Government work, provision should be made to render the enforcement of the eight-hour law easy and certain. In all industries carried on directly or indirectly for the United States Government women and children should be protected from excessive hours of labor, from night work, and from work under unsanitary conditions. The Government should provide in its contracts that all work should be done under "fair" conditions, and in addition to setting a high standard should uphold it by proper inspection, extending if necessary to the subcontractors. The Government should forbid all night work for women and children, as well as excessive overtime. For the District of Columbia a good factory law should be passed; and, as a powerful indirect aid to such laws, provision should be made to turn the inhabited alleys, the existence of which is a reproach to our capital city, into minor streets, where the inhabitants can live under conditions favorable to health and morals.

American wage-workers work with their heads as well as their hands. Moreover, they take a keen pride in what they are doing; so that, independent of the reward, they wish to turn out a perfect job. This is the great secret of our success in competition with the labor of foreign countries.

The most vital problem with which this country, and for that matter the whole civilized world, has to deal, is the problem which has for one side the betterment of social conditions, moral and physical, in large cities, and for another side the effort to deal with that tangle of far-reaching questions which we group together when we speak of "labor." The chief factor in the success of each man—wage-worker, farmer, and capitalist alike—must ever be the sum total of his own individual qualities and abilities. Second only to this comes the power of acting in combination or association with others. Very great good has been and will be accomplished by associations or unions of wage-workers, when managed with forethought, and when they combine insistence upon their own rights with law-abiding respect for the rights of others. The display of these qualities in such bodies is a duty to the nation no less than to the associations themselves. Finally, there must also in many cases be action by the Government in order to safeguard the rights and interests of all. Under our Constitution there is much more scope for such action by the State and the municipality than by the nation. But on points such as those touched on above the National Government can act.

When all is said and done, the rule of brotherhood remains as the indispensable prerequisite to success in the kind of national life for which we strive. Each man must work for himself, and unless he so works no outside help can avail him; but each man must remember also that he is indeed his brother's keeper, and that while no man who refuses to walk can be carried with advantage to himself or any one else, yet that each at times stumbles or halts, that each at times needs to have the helping hand outstretched to him. To be permanently effective, aid must always take the form of helping a man to help himself; and we can all best help ourselves by joining together in the work that is of common interest to all.

Our present immigration laws are unsatisfactory. We need every honest and efficient immigrant fitted to become an American citizen, every immigrant who comes here to stay, who brings here a strong body, a stout heart, a good head, and a resolute purpose to do his duty well in every way and to bring up his children as law-abiding and God-fearing members of the community. But there should be a comprehensive law enacted with the object of working a threefold improvement over our present system. First, we should aim to exclude absolutely not only all persons who are known to be believers in anarchistic principles or members of anarchistic societies, but also all persons who are of a low moral tendency or of unsavory reputation. This means that we should require a more thorough system of inspection abroad and a more rigid system of examination at our immigration ports, the former being especially necessary.

The second object of a proper immigration law ought to be to secure by a careful and not merely perfunctory educational test some intelligent capacity to appreciate American institutions and act sanely as American citizens. This would not keep out all anarchists, for many of them belong to the intelligent criminal class. But it

would do what is also in point, that is, tend to decrease the sum of ignorance, so potent in producing the envy, suspicion, malignant passion, and hatred of order, out of which anarchistic sentiment inevitably springs. Finally, all persons should be excluded who are below a certain standard of economic fitness to enter our industrial field as competitors with American labor. There should be proper proof of personal capacity to earn an American living and enough money to insure a decent start under American conditions. This would stop the influx of cheap labor, and the resulting competition which gives rise to so much of bitterness in American industrial life; and it would dry up the springs of the pestilential social conditions in our great cities, where anarchistic organizations have their greatest possibility of growth.

Both the educational and economic tests in a wise immigration law should be designed to protect and elevate the general body politic and social. A very close supervision should be exercised over the steamship companies which mainly bring over the immigrants, and they should be held to a strict accountability for any infraction of the law.

There is general acquiescence in our present tariff system as a national policy. The first requisite to our prosperity is the continuity and stability of this economic policy. Nothing could be more unwise than to disturb the business interests of the country by any general tariff change at this time. Doubt, apprehension, uncertainty are exactly what we most wish to avoid in the interest of our commercial and material well-being. Our experience in the past has shown that sweeping revisions of the tariff are apt to produce conditions closely approaching panic in the business world. Yet it is not only possible, but eminently desirable, to combine with the stability of our economic system a supplementary system of reciprocal benefit and obligation with other nations. Such reciprocity is an incident and result of the firm establishment and preservation of our present economic policy. It was specially provided for in the present tariff law.

Reciprocity must be treated as the handmaiden of protection. Our first duty is to see that the protection granted by the tariff in every case where it is needed is maintained, and that reciprocity be sought for so far as it can safely be done without injury to our home industries. Just how far this is must be determined according to the individual case, remembering always that every application of our tariff policy to meet our shifting national needs must be conditioned upon the cardinal fact that the duties must never be reduced below the point that will cover the difference between the labor cost here and abroad. The well-being of the wage-worker is a prime consideration of our entire policy of economic legislation.

Subject to this proviso of the proper protection necessary to our industrial well-being at home, the principle of reciprocity must command our hearty support. The phenomenal growth of our export trade emphasizes the urgency of the need for wider markets and for a liberal policy in dealing with foreign nations. Whatever is merely petty and vexatious in the way of trade restrictions should be avoided. The customers to whom we dispose of our surplus products in the long run, directly or indirectly, purchase those surplus products by giving us something in return. Their ability to purchase our products should as far as possible be secured by so arranging our

tariff as to enable us to take from them those products which we can use without harm to our own industries and labor, or the use of which will be of marked benefit to us.

It is most important that we should maintain the high level of our present prosperity. We have now reached the point in the development of our interests where we are not only able to supply our own markets, but to produce a constantly growing surplus for which we must find markets abroad. To secure these markets we can utilize existing duties in any case where they are no longer needed for the purpose of protection, or in any case where the article is not produced here and the duty is no longer necessary for revenue, as giving us something to offer in exchange for what we ask. The cordial relations with other nations which are so desirable will naturally be promoted by the course thus required by our own interests.

The natural line of development for a policy of reciprocity will be in connection with those of our productions which no longer require all of the support once needed to establish them upon a sound basis, and with those others where either because of natural or of economic causes we are beyond the reach of successful competition.

I ask the attention of the Senate to the reciprocity treaties laid before it by my predecessor.

The condition of the American merchant marine is such as to call for immediate remedial action by the Congress. It is discreditable to us as a nation that our merchant marine should be utterly insignificant in comparison to that of other nations which we overtop in other forms of business. We should not longer submit to conditions under which only a trifling portion of our great commerce is carried in our own ships. To remedy this state of things would not merely serve to build up our shipping interests, but it would also result in benefit to all who are interested in the permanent establishment of a wider market for American products, and would provide an auxiliary force for the navy. Ships work for their own countries just as railroads work for their terminal points. Shipping lines, if established to the principal countries with which we have dealings, would be of political as well as commercial benefit. From every standpoint it is unwise for the United States to continue to rely upon the ships of competing nations for the distribution of our goods. It should be made advantageous to carry American goods in American-built ships.

At present American shipping is under certain great disadvantages when put in competition with the shipping of foreign countries. Many of the fast foreign steamships, at a speed of 14 knots or above, are subsidized; and all our ships, sailing-vessels and steamers alike, cargo carriers of slow speed and mail-carriers of high speed, have to meet the fact that the original cost of building American ships is greater than is the case abroad; that the wages paid American officers and seamen are very much higher than those paid the officers and seamen of foreign competing countries; and that the standard of living on our ships is far superior to the standard of living on the ships of our commercial rivals.

Our Government should take such action as will remedy these inequalities. The American merchant marine should be restored to the ocean.

The act of March 14, 1900, intended unequivocally to establish gold as the standard money and to maintain at a parity therewith all forms of money medium in use with us, has been

shown to be timely and judicious. The price of our Government bonds in the world's market, when compared with the price of similar obligations issued by other nations, is a flattering tribute to our public credit. This condition it is evidently desirable to maintain.

In many respects the national banking law furnishes sufficient liberty for the proper exercise of the banking function; but there seems to be need of better safeguards against the de-ranging influence of commercial crises and financial panics. Moreover, the currency of the country should be made responsive to the demands of our domestic trade and commerce.

The collections from duties on imports and internal taxes continue to exceed the ordinary expenditures of the Government, thanks mainly to the reduced army expenditures. The utmost care should be taken not to reduce the revenues so that there will be any possibility of a deficit; but, after providing against any such contingency, means should be adopted which will bring the revenues more nearly within the limit of our actual needs. In his report to the Congress the Secretary of the Treasury considers all these questions at length, and I ask your attention to the report and recommendations.

I call special attention to the need of strict economy in expenditures. The fact that our national needs forbid us to be niggardly in providing whatever is actually necessary to our well-being should make us doubly careful to husband our national resources, as each of us husbands his private resources, by scrupulous avoidance of anything like wasteful or reckless expenditure. Only by avoidance of spending money on what is needless or unjustifiable can we legitimately keep our income to the point required to meet our needs that are genuine.

In 1887 a measure was enacted for the regulation of interstate railways, commonly known as the interstate commerce act. The cardinal provisions of that act were that railway rates should be just and reasonable and that all shippers, localities, and commodities should be accorded equal treatment. A commission was created and endowed with what were supposed to be the necessary powers to execute the provisions of this act.

That law was largely an experiment. Experience has shown the wisdom of its purposes, but has also shown, possibly that some of its requirements are wrong, certainly that the means devised for the enforcement of its provisions are defective. Those who complain of the management of the railways allege that established rates are not maintained; that rebates and similar devices are habitually resorted to; that these preferences are usually in favor of the large shipper; that they drive out of business the smaller competitor; that while many rates are too low, many others are excessive; and that gross preferences are made, affecting both localities and commodities. Upon the other hand, the railways assert that the law by its very terms tends to produce many of these illegal practices by depriving carriers of that right of concerted action which they claim is necessary to establish and maintain non-discriminating rates.

The act should be amended. The railway is a public servant. Its rates should be just to and open to all shippers alike. The Government should see to it that within its jurisdiction this is so and should provide a speedy, inexpensive, and effective remedy to that end. At the same time it must not be forgotten that our railways are the arteries through which the commercial

life-blood of this nation flows. Nothing could be more foolish than the enactment of legislation which would unnecessarily interfere with the development and operation of these commercial agencies. The subject is one of great importance and calls for the earnest attention of the Congress.

The Department of Agriculture during the past fifteen years has steadily broadened its work on economic lines, and has accomplished results of real value in upbuilding domestic and foreign trade. It has gone into new fields until it is now in touch with all sections of our country and with two of the island groups that have lately come under our jurisdiction, whose people must look to agriculture as a livelihood. It is searching the world for grains, grasses, fruits, and vegetables specially fitted for introduction into localities in the several States and Territories where they may add materially to our resources. By scientific attention to soil survey and possible new crops, to breeding of new varieties of plants, to experimental shipments, to animal industry and applied chemistry, very practical aid has been given our farming and stock-growing interests. The products of the farm have taken an unprecedented place in our export trade during the year that has just closed.

Public opinion throughout the United States has moved steadily toward a just appreciation of the value of forests, whether planted or of natural growth. The great part played by them in the creation and maintenance of the national wealth is now more fully realized than ever before.

Wise forest protection does not mean the withdrawal of forest resources, whether of wood, water, or grass, from contributing their full share to the welfare of the people, but, on the contrary, gives the assurance of larger and more certain supplies. The fundamental idea of forestry is the perpetuation of forests by use. Forest protection is not an end of itself; it is a means to increase and sustain the resources of our country and the industries which depend upon them. The preservation of our forests is an imperative business necessity. We have come to see clearly that whatever destroys the forest, except to make way for agriculture, threatens our well-being.

The practical usefulness of the national forest reserves to the mining, grazing, irrigation, and other interests of the regions in which the reserves lie has led to a wide-spread demand by the people of the West for their protection and extension. The forest reserves will inevitably be of still greater use in the future than in the past. Additions should be made to them whenever practicable, and their usefulness should be increased by a thoroughly business-like management.

At present the protection of the forest reserves rests with the General Land Office, the mapping and description of their timber with the United States Geological Survey, and the preparation of plans for their conservative use with the Bureau of Forestry, which is also charged with the general advancement of practical forestry in the United States. These various functions should be united in the Bureau of Forestry, to which they properly belong. The present diffusion of responsibility is bad from every standpoint. It prevents that effective cooperation between the Government and the men who utilize the resources of the reserves, without which the interests of both must suffer. The scientific bureaus generally should be put under the Department of Agriculture. The President should have by law

the power of transferring lands for use as forest reserves to the Department of Agriculture. He already has such power in the case of lands needed by the Departments of War and the Navy.

The wise administration of the forest reserves will be not less helpful to the interests which depend on water than to those which depend on wood and grass. The water-supply itself depends upon the forest. In the arid region it is water, not land, which measures production. The western half of the United States would sustain a population greater than that of our whole country to-day if the waters that now run to waste were saved and used for irrigation. The forest and water problems are perhaps the most vital internal questions of the United States.

Certain of the forest reserves should also be made preserves for the wild forest creatures. All of the reserves should be better protected from fires. Many of them need special protection because of the great injury done by live stock, above all by sheep. The increase in deer, elk, and other animals in the Yellowstone Park shows what may be expected when other mountain forests are properly protected by law and properly guarded. Some of these areas have been so denuded of surface vegetation by overgrazing that the ground-breeding birds, including grouse and quail, and many mammals, including deer, have been exterminated or driven away. At the same time the water-storing capacity of the surface has been decreased or destroyed, thus promoting floods in times of rain and diminishing the flow of streams between rains.

In cases where natural conditions have been restored for a few years, vegetation has again carpeted the ground, birds and deer are coming back, and hundreds of persons, especially from the immediate neighborhood, come each summer to enjoy the privilege of camping. Some at least of the forest reserves should afford perpetual protection to the native fauna and flora, safe havens of refuge to our rapidly diminishing wild animals of the larger kinds, and free camping-grounds for the ever-increasing numbers of men and women who have learned to find rest, health, and recreation in the splendid forests and flower-clad meadows of our mountains. The forest reserves should be set apart forever for the use and benefit of our people as a whole and not sacrificed to the short-sighted greed of a few.

The forests are natural reservoirs. By restraining the streams in flood and replenishing them in drought they make possible the use of waters otherwise wasted. They prevent the soil from washing, and so protect the storage-reservoirs from filling up with silt. Forest conservation is therefore an essential condition of water conservation.

The forests alone can not, however, fully regulate and conserve the waters of the arid region. Great storage-works are necessary to equalize the flow of streams and to save the flood waters. Their construction has been conclusively shown to be an undertaking too vast for private effort. Nor can it be best accomplished by the individual States acting alone. Far-reaching interstate problems are involved; and the resources of single States would often be inadequate. It is properly a national function, at least in some of its features. It is as right for the National Government to make the streams and rivers of the arid region useful by engineering works for water storage as to make useful the rivers and harbors of the humid region by engineering

works of another kind. The storing of the floods in reservoirs at the head waters of our rivers is but an enlargement of our present policy of river control, under which levees are built on the lower reaches of the same streams.

The Government should construct and maintain these reservoirs as it does other public works. Where their purpose is to regulate the flow of streams, the water should be turned freely into the channels in the dry season to take the same course under the same laws as the natural flow.

The reclamation of the unsettled arid public lands presents a different problem. Here it is not enough to regulate the flow of streams. The object of the Government is to dispose of the land to settlers who will build homes upon it. To accomplish this object water must be brought within their reach.

The pioneer settlers on the arid public domain chose their homes along streams from which they could themselves divert the water to reclaim their holdings. Such opportunities are practically gone. There remain, however, vast areas of public land which can be made available for homestead settlement, but only by reservoirs and main-line canals impracticable for private enterprise. These irrigation works should be built by the National Government. The lands reclaimed by them should be reserved by the Government for actual settlers, and the cost of construction should so far as possible be repaid by the land reclaimed. The distribution of the water, the division of the streams among irrigators, should be left to the settlers themselves in conformity with State laws and without interference with those laws or with vested rights. The policy of the National Government should be to aid irrigation in the several States and Territories in such manner as will enable the people in the local communities to help themselves, and as will stimulate needed reforms in the State laws and regulations governing irrigation.

The reclamation and settlement of the arid lands will enrich every portion of our country, just as the settlement of the Ohio and Mississippi valleys brought prosperity to the Atlantic States. The increased demand for manufactured articles will stimulate industrial production, while wider home markets and the trade of Asia will consume the larger food supplies and effectually prevent Western competition with Eastern agriculture. Indeed, the products of irrigation will be consumed chiefly in upbuilding local centers of mining and other industries, which would otherwise not come into existence at all. Our people as a whole will profit, for successful home-making is but another name for the upbuilding of the nation.

The necessary foundation has already been laid for the inauguration of the policy just described. It would be unwise to begin by doing too much, for a great deal will doubtless be learned, both as to what can and what can not be safely attempted, by the early efforts, which must of necessity be partly experimental in character. At the very beginning the Government should make clear, beyond shadow of doubt, its intention to pursue this policy on lines of the broadest public interest. No reservoir or canal should ever be built to satisfy selfish personal or local interests, but only in accordance with the advice of trained experts, after long investigation has shown the locality where all the conditions combine to make the work most needed and fraught with the greatest usefulness to the community

as a whole. There should be no extravagance, and the believers in the need of irrigation will most benefit their cause by seeing to it that it is free from the least taint of excessive or reckless expenditure of the public moneys.

Whatever the nation does for the extension of irrigation should harmonize with, and tend to improve, the condition of those now living on irrigated land. We are not at the starting-point of this development. Over \$200,000,000 of private capital has already been expended in the construction of irrigation works, and many million acres of arid land reclaimed. A high degree of enterprise and ability has been shown in the work itself; but as much can not be said in reference to the laws relating thereto. The security and value of the homes created depend largely on the stability of titles to water; but the majority of these rest on the uncertain foundation of court decisions rendered in ordinary suits at law. With a few creditable exceptions, the arid States have failed to provide for the certain and just division of streams in times of scarcity. Lax and uncertain laws have made it possible to establish rights to water in excess of actual uses or necessities, and many streams have already passed into private ownership, or a control equivalent to ownership.

Whoever controls a stream practically controls the land it renders productive, and the doctrine of private ownership of water apart from land can not prevail without causing enduring wrong. The recognition of such ownership, which has been permitted to grow up in the arid regions, should give way to a more enlightened and larger recognition of the rights of the public in the control and disposal of the public water-supplies. Laws founded upon conditions obtaining in humid regions, where water is too abundant to justify hoarding it, have no proper application in a dry country.

In the arid States the only right to water which should be recognized is that of use. In irrigation this right should attach to the land reclaimed and be inseparable therefrom. Granting perpetual water rights to others than users, without compensation to the public, is open to all the objections which apply to giving away perpetual franchises to the public utilities of cities. A few of the Western States have already recognized this, and have incorporated in their constitutions the doctrine of perpetual State ownership of water.

The benefits which have followed the unaided development of the past justify the nation's aid and cooperation in the more difficult and important work yet to be accomplished. Laws so vitally affecting homes as those which control the water-supply will only be effective when they have the sanction of the irrigators; reforms can only be final and satisfactory when they come through the enlightenment of the people most concerned. The larger development which national aid insures should, however, awaken in every arid State the determination to make its irrigation system equal in justice and effectiveness that of any country in the civilized world. Nothing could be more unwise than for isolated communities to continue to learn everything experimentally, instead of profiting by what is known elsewhere. We are dealing with a new and momentous question, in the pregnant years while institutions are forming, and what we do will affect not only the present but future generations.

Our aim should be not simply to reclaim the largest area of land and provide homes for the

largest number of people, but to create for this new industry the best possible social and industrial conditions; and this requires that we not only understand the existing situation, but avail ourselves of the best experience of the time in the solution of its problems. A careful study should be made, both by the nation and the States, of the irrigation laws and conditions here and abroad. Ultimately it will probably be necessary for the nation to cooperate with the several arid States in proportion as these States by their legislation and administration show themselves fit to receive it.

In Hawaii our aim must be to develop the territory on the traditional American lines. We do not wish a region of large estates tilled by cheap labor; we wish a healthy American community of men who themselves till the farms they own. All our legislation for the islands should be shaped with this end in view; the well-being of the average home-maker must afford the true test of the healthy development of the islands. The land policy should as nearly as possible be modeled on our homestead system.

It is a pleasure to say that it is hardly more necessary to report as to Porto Rico than as to any State or Territory within our continental limits. The island is thriving as never before, and it is being administered efficiently and honestly. Its people are now enjoying liberty and order under the protection of the United States, and upon this fact we congratulate them and ourselves. Their material welfare must be as carefully and jealously considered as the welfare of any other portion of our country. We have given them the great gift of free access for their products to the markets of the United States. I ask the attention of the Congress to the need of legislation concerning the public lands of Porto Rico.

In Cuba such progress has been made toward putting the independent government of the island upon a firm footing that before the present session of the Congress closes this will be an accomplished fact. Cuba will then start as her own mistress; and to the beautiful Queen of the Antilles, as she unfolds this new page of her destiny, we extend our heartiest greetings and good wishes. Elsewhere I have discussed the question of reciprocity. In the case of Cuba, however, there are weighty reasons of morality and of national interest why the policy should be held to have a peculiar application, and I most earnestly ask your attention to the wisdom, indeed to the vital need, of providing for a substantial reduction in the tariff duties on Cuban imports into the United States. Cuba has in her Constitution affirmed what we desired, that she should stand, in international matters, in closer and more friendly relations with us than with any other power; and we are bound by every consideration of honor and expediency to pass commercial measures in the interest of her material well-being.

In the Philippines our problem is larger. They are very rich tropical islands, inhabited by many varying tribes, representing widely different stages of progress toward civilization. Our earnest effort is to help these people upward along the stony and difficult path that leads to self-government. We hope to make our administration of the islands honorable to our nation by making it of the highest benefit to the Filipinos themselves; and as an earnest of what we intend to do, we point to what we have done. Already a greater measure of material prosperity and of governmental honesty and efficiency has been at-

tained in the Philippines than ever before in their history.

It is no light task for a nation to achieve the temperamental qualities without which the institutions of free government are but an empty mockery. Our people are now successfully governing themselves, because for more than a thousand years they have been slowly fitting themselves, sometimes consciously, sometimes unconsciously, toward this end. What has taken us thirty generations to achieve, we can not expect to see another race accomplish out of hand, especially when large portions of that race start very far behind the point which our ancestors had reached even thirty generations ago. In dealing with the Philippine people we must show both patience and strength, forbearance and steadfast resolution. Our aim is high. We do not desire to do for the islanders merely what has elsewhere been done for tropic peoples by even the best foreign governments. We hope to do for them what has never before been done for any people of the tropics—to make them fit for self-government after the fashion of the really free nations.

History may safely be challenged to show a single instance in which a masterful race such as ours, having been forced by the exigencies of war to take possession of an alien land, has behaved to its inhabitants with the disinterested zeal for their progress that our people have shown in the Philippines. To leave the islands at this time would mean that they would fall into a welter of murderous anarchy. Such desertion of duty on our part would be a crime against humanity. The character of Gov. Taft and of his associates and subordinates is a proof, if such be needed, of the sincerity of our effort to give the islanders a constantly increasing measure of self-government exactly as fast as they show themselves fit to exercise it. Since the civil government was established not an appointment has been made in the islands with any reference to considerations of political influence, or aught else save the fitness of the man and the needs of the service.

In our anxiety for the welfare and progress of the Philippines, it may be that here and there we have gone too rapidly in giving them local self-government. It is on this side that our error, if any, has been committed. No competent observer, sincerely desirous of finding out the facts and influenced only by a desire for the welfare of the natives, can assert that we have not gone far enough. We have gone to the very verge of safety in hastening the process. To have taken a single step farther or faster in advance would have been folly and weakness, and might well have been crime. We are extremely anxious that the natives shall show the power of governing themselves. We are anxious first, for their sakes, and next, because it relieves us of a great burden. There need not be the slightest fear of our not continuing to give them all the liberty for which they are fit.

The only fear is lest in our overanxiety we give them a degree of independence for which they are unfit, thereby inviting reaction and disaster. As fast as there is any reasonable hope that in a given district the people can govern themselves, self-government has been given in that district. There is not a locality fitted for self-government which has not received it. But it may well be that in certain cases it will have to be withdrawn because the inhabitants show themselves unfit to exercise it; such instances have already occurred. In other words, there is not the slightest chance of our failing to show a

sufficiently humanitarian spirit. The danger comes in the opposite direction.

There are still troubles ahead in the islands. The insurrection has become an affair of local banditti and marauders, who deserve no higher regard than the brigands of portions of the Old World. Encouragement, direct or indirect, to these insurrectos stands on the same footing as encouragement to hostile Indians in the days when we still had Indian wars. Exactly as our aim is to give to the Indian who remains peaceful the fullest and amplest consideration, but to have it understood that we will show no weakness if he goes on the war-path, so we must make it evident, unless we are false to our own traditions and to the demands of civilization and humanity, that while we will do everything in our power for the Filipino who is peaceful, we will take the sternest measures with the Filipino who follows the path of the insurrecto and the ladrone.

The heartiest praise is due to large numbers of the natives of the islands for their steadfast loyalty. The Macabebes have been conspicuous for their courage and devotion to the flag. I recommend that the Secretary of War be empowered to take some systematic action in the way of aiding those of these men who are crippled in the service and the families of those who are killed.

The time has come when there should be additional legislation for the Philippines. Nothing better can be done for the islands than to introduce industrial enterprises. Nothing would benefit them so much as throwing them open to industrial development. The connection between idleness and mischief is proverbial, and the opportunity to do remunerative work is one of the surest preventives of war. Of course no business man will go into the Philippines unless it is to his interest to do so; and it is immensely to the interest of the islands that he should go in. It is therefore necessary that the Congress should pass laws by which the resources of the islands can be developed; so that franchises (for limited terms of years) can be granted to companies doing business in them, and every encouragement be given to the incoming of business men of every kind.

Not to permit this is to do a wrong to the Philippines. The franchises must be granted and the business permitted only under regulations which will guarantee the islands against any kind of improper exploitation. But the vast natural wealth of the islands must be developed, and the capital willing to develop it must be given the opportunity. The field must be thrown open to individual enterprise, which has been the real factor in the development of every region over which our flag has flown. It is urgently necessary to enact suitable laws dealing with general transportation, mining, banking, currency, homesteads, and the use and ownership of the lands and timber. These laws will give free play to industrial enterprise; and the commercial development which will surely follow will afford to the people of the islands the best proofs of the sincerity of our desire to aid them.

I call your attention most earnestly to the crying need of a cable to Hawaii and the Philippines, to be continued from the Philippines to points in Asia. We should not defer a day longer than necessary the construction of such a cable. It is demanded not merely for commercial but for political and military considerations.

Either the Congress should immediately provide for the construction of a Government cable,

or else an arrangement should be made by which like advantages to those accruing from a Government cable may be secured to the Government by contract with a private cable company.

No single great material work which remains to be undertaken on this continent is of such consequence to the American people as the building of a canal across the isthmus connecting North and South America. Its importance to the nation is by no means limited merely to its material effects upon our business prosperity; and yet with view to these effects alone it would be to the last degree important for us immediately to begin it. While its beneficial effects would perhaps be most marked upon the Pacific coast and the Gulf and South Atlantic States, it would also greatly benefit other sections. It is emphatically a work which it is for the interest of the entire country to begin and complete as soon as possible; it is one of those great works which only a great nation can undertake with prospects of success, and which when done are not only permanent assets in the nation's material interests, but standing monuments to its constructive ability.

I am glad to be able to announce to you that our negotiations on this subject with Great Britain, conducted on both sides in a spirit of friendliness and mutual good-will and respect, have resulted in my being able to lay before the Senate a treaty which if ratified will enable us to begin preparations for an isthmian canal at any time, and which guarantees to this nation every right that it has ever asked in connection with the canal. In this treaty, the old Clayton-Bulwer treaty, so long recognized as inadequate to supply the base for the construction and maintenance of a necessarily American ship-canal, is abrogated. It specifically provides that the United States alone shall do the work of building and assume the responsibility of safeguarding the canal and shall regulate its neutral use by all nations on terms of equality without the guaranty or interference of any outside nation from any quarter. The signed treaty will at once be laid before the Senate, and if approved the Congress can then proceed to give effect to the advantages it secures us by providing for the building of the canal.

The true end of every great and free people should be self-respecting peace; and this nation most earnestly desires sincere and cordial friendship with all others. Over the entire world, of recent years, wars between the great civilized powers have become less and less frequent. Wars with barbarous and semibarbarous peoples come in an entirely different category, being merely a most regrettable but necessary international police duty which must be performed for the sake of the welfare of mankind. Peace can only be kept with certainty where both sides wish to keep it; but more and more the civilized peoples are realizing the wicked folly of war and are attaining that condition of just and intelligent regard for the rights of others which will in the end, as we hope and believe, make world-wide peace possible. The peace conference at The Hague gave definite expression to this hope and belief and marked a stride toward their attainment.

The same peace conference acquiesced in our statement of the Monroe doctrine as compatible with the purposes and aims of the conference.

The Monroe doctrine should be the cardinal feature of the foreign policy of all the nations of the two Americas, as it is of the United States. Just seventy-eight years have passed since Presi-

dent Monroe in his annual message announced that "the American continents are henceforth not to be considered as subjects for future colonization by any European power." In other words, the Monroe doctrine is a declaration that there must be no territorial aggrandizement by any non-American power at the expense of any American power on American soil. It is no wise intended as hostile to any nation in the Old World. Still less is it intended to give cover to any aggression by one New World power at the expense of any other. It is simply a step, and a long step, toward assuring the universal peace of the world by securing the possibility of permanent peace on this hemisphere.

During the past century other influences have established the permanence and independence of the smaller states of Europe. Through the Monroe doctrine we hope to be able to safeguard like independence and secure like permanence for the lesser among the New World nations.

This doctrine has nothing to do with the commercial relations of any American power, save that it in truth allows each of them to form such as it desires. In other words, it is really a guaranty of the commercial independence of the Americas. We do not ask under this doctrine for any exclusive commercial dealings with any other American state. We do not guarantee any state against punishment if it misconducts itself, provided that punishment does not take the form of the acquisition of territory by any non-American power.

Our attitude in Cuba is a sufficient guaranty of our own good faith. We have not the slightest desire to secure any territory at the expense of any of our neighbors. We wish to work with them hand in hand, so that all of us may be uplifted together, and we rejoice over the good fortune of any of them, we gladly hail their material prosperity and political stability, and are concerned and alarmed if any of them fall into industrial or political chaos. We do not wish to see any Old World military power grow up on this continent, or to be compelled to become a military power ourselves. The peoples of the Americas can prosper best if left to work out their own salvation in their own way.

The work of upbuilding the navy must be steadily continued. No one point of our policy, foreign or domestic, is more important than this to the honor and material welfare, and above all to the peace, of our nation in the future. Whether we desire it or not, we must henceforth recognize that we have international duties no less than international rights. Even if our flag were hauled down in the Philippines and Porto Rico, even if we decided not to build the isthmian canal, we should need a thoroughly trained navy of adequate size, or else be prepared definitely and for all time to abandon the idea that our nation is among those whose sons go down to the sea in ships. Unless our commerce is always to be carried in foreign bottoms, we must have war craft to protect it.

Inasmuch, however, as the American people have no thought of abandoning the path upon which they have entered, and especially in view of the fact that the building of the isthmian canal is fast becoming one of the matters which the whole people are united in demanding, it is imperative that our navy should be put and kept in the highest state of efficiency, and should be made to answer to our growing needs. So far from being in any way a provocation to war, an adequate and highly trained navy is the best guaranty against war, the cheapest and most ef-

fective peace insurance. The cost of building and maintaining such a navy represents the very lightest premium for insuring peace which this nation can possibly pay.

Probably no other great nation in the world is so anxious for peace as we are. There is not a single civilized power which has anything whatever to fear from aggressiveness on our part. All we want is peace; and toward this end we wish to be able to secure the same respect for our rights from others which we are eager and anxious to extend to their rights in return, to insure fair treatment to us commercially, and to guarantee the safety of the American people.

Our people intend to abide by the Monroe doctrine and to insist upon it as the one sure means of securing the peace of the Western Hemisphere. The navy offers us the only means of making our insistence upon the Monroe doctrine anything but a subject of derision to whatever nation chooses to disregard it. We desire the peace which comes as of right to the just man armed; not the peace granted on terms of ignominy to the craven and the weakling.

It is not possible to improvise a navy after war breaks out. The ships must be built and the men trained long in advance. Some auxiliary vessels can be turned into makeshifts which will do in default of any better for the minor work, and a proportion of raw men can be mixed with the highly trained, their shortcomings being made good by the skill of their fellows; but the efficient fighting force of the navy when pitted against an equal opponent will be found almost exclusively in the war-ships that have been regularly built and in the officers and men who through years of faithful performance of sea duty have been trained to handle their formidable but complex and delicate weapons with the highest efficiency. In the late war with Spain the ships that dealt the decisive blows at Manila and Santiago had been launched from two to fourteen years, and they were able to do as they did because the men in the conning towers, the gun turrets, and the engine-rooms had through long years of practise at sea learned how to do their duty.

Our present navy was begun in 1882. At that period our navy consisted of a collection of antiquated wooden ships, already almost as out of place against modern war-vessels as the galleys of Alcibiades and Hamilcar—certainly as the ships of Tromp and Blake. Nor at that time did we have men fit to handle a modern man-of-war. Under the wise legislation of the Congress and the successful administration of a succession of patriotic Secretaries of the Navy, belonging to both political parties, the work of upbuilding the navy went on, and ships equal to any in the world of their kind were continually added; and what was even more important, these ships were exercised at sea singly and in squadrons until the men aboard them were able to get the best possible service out of them. The result was seen in the short war with Spain, which was decided with such rapidity because of the infinitely greater preparedness of our navy than of the Spanish navy.

While awarding the fullest honor to the men who actually commanded and manned the ships which destroyed the Spanish sea forces in the Philippines and in Cuba, we must not forget that an equal meed of praise belongs to those without whom neither blow could have been struck. The congressmen who voted years in advance the money to lay down the ships, to build the guns, to buy the armor-plate; the department officials

and the business men and wage-workers who furnished what the Congress had authorized; the Secretaries of the Navy who asked for and expended the appropriations; and finally the officers who, in fair weather and foul, on actual sea service, trained and disciplined the crews of the ships when there was no war in sight—all are entitled to a full share in the glory of Manila and Santiago, and the respect accorded by every true American to those who wrought such signal triumph for our country. It was forethought and preparation which secured us the overwhelming triumph of 1898. If we fail to show forethought and preparation now, there may come a time when disaster will befall us instead of triumph; and should this time come, the fault will rest primarily, not upon those whom the accident of events puts in supreme command at the moment, but upon those who have failed to prepare in advance.

There should be no cessation in the work of completing our navy. So far ingenuity has been wholly unable to devise a substitute for the great war craft whose hammering guns beat out the mastery of the high seas. It is unsafe and unwise not to provide this year for several additional battle-ships and heavy armored cruisers, with auxiliary and lighter craft in proportion; for the exact numbers and character I refer you to the report of the Secretary of the Navy. But there is something we need even more than additional ships, and this is additional officers and men. To provide battle-ships and cruisers and then lay them up, with the expectation of leaving them unmanned until they are needed in actual war, would be worse than folly; it would be a crime against the nation.

To send any war-ship against a competent enemy unless those aboard it have been trained by years of actual sea service, including incessant gunnery practise, would be to invite not merely disaster, but the bitterest shame and humiliation. Four thousand additional seamen and 1,000 additional marines should be provided; and an increase in the officers should be provided by making a large addition to the classes at Annapolis. There is one small matter which should be mentioned in connection with Annapolis. The pretentious and unmeaning title of "naval cadet" should be abolished; the title of "midshipman," full of historic association, should be restored.

Even in time of peace a war-ship should be used until it wears out, for only so can it be kept fit to respond to any emergency. The officers and men alike should be kept as much as possible on blue water, for it is there only they can learn their duties as they should be learned. The big vessels should be maneuvered in squadrons containing not merely battle-ships, but the necessary proportion of cruisers and scouts. The torpedo-boats should be handled by the younger officers in such manner as will best fit the latter to take responsibility and meet the emergencies of actual warfare.

Every detail ashore which can be performed by a civilian should be so performed, the officer being kept for his special duty in the sea service. Above all, gunnery practise should be unceasing. It is important to have our navy of adequate size, but it is even more important that ship for ship it should equal in efficiency any navy in the world. This is possible only with highly drilled crews and officers, and this in turn imperatively demands continuous and progressive instruction in target practise, ship handling, squadron tactics, and general disci-

pline. Our ships must be assembled in squadrons actively cruising away from harbors and never long at anchor. The resulting wear upon engines and hulls must be endured; a battle-ship worn out in long training of officers and men is well paid for by the results, while, on the other hand, no matter in how excellent condition, it is useless if the crew be not expert.

We now have 17 battle-ships appropriated for, of which 9 are completed and have been commissioned for actual service. The remaining 8 will be ready in from two to four years, but it will take at least that time to recruit and train the men to fight them. It is of vast concern that we have trained crews ready for the vessels by the time they are commissioned. Good ships and good guns are simply good weapons, and the best weapons are useless save in the hands of men who know how to fight with them. The men must be trained and drilled under a thorough and well-planned system of progressive instruction, while the recruiting must be carried on with still greater vigor. Every effort must be made to exalt the main function of the officer—the command of men. The leading graduates of the Naval Academy should be assigned to the combatant branches, the line and marines.

Many of the essentials of success are already recognized by the General Board, which, as the central office of a growing staff, is moving steadily toward a proper war efficiency and a proper efficiency of the whole navy, under the Secretary. This General Board, by fostering the creation of a general staff, is providing for the official and then the general recognition of our altered conditions as a nation and of the true meaning of a great war fleet, which meaning is, first, the best men, and, second, the best ships.

The naval militia forces are State organizations, and are trained for coast service, and in event of war they will constitute the inner line of defense. They should receive hearty encouragement from the General Government.

But in addition we should at once provide for a national navy reserve, organized and trained under the direction of the Navy Department, and subject to the call of the Chief Executive whenever war becomes imminent. It should be a real auxiliary of the naval seagoing peace establishment, and offer material to be drawn on at once for manning our ships in time of war. It should be composed of graduates of the Naval Academy, graduates of the naval militia, officers and crews of coast-line steamers, longshore schooners, fishing vessels, and steam-yachts, together with the coast population about such centers as life-saving stations and lighthouses.

The American people must either build and maintain an adequate navy or else make up their minds definitely to accept a secondary position in international affairs, not merely in political, but in commercial matters. It has been well said that there is no surer way of courting national disaster than to be "opulent, aggressive, and unarmed."

It is not necessary to increase our army beyond its present size at this time. But it is necessary to keep it at the highest point of efficiency. The individual units who as officers and enlisted men compose this army are, we have good reason to believe, at least as efficient as those of any other army in the entire world. It is our duty to see that their training is of a kind to insure the highest possible expression of power to these units when acting in combination.

The conditions of modern war are such as to

make an infinitely heavier demand than ever before upon the individual character and capacity of the officer and the enlisted men, and to make it far more difficult for men to act together with effect. At present the fighting must be done in extended order, which means that each man must act for himself and at the same time act in combination with others with whom he is no longer in the old-fashioned elbow-to-elbow touch. Under such conditions a few men of the highest excellence are worth more than many men without the special skill which is only found as the result of special training applied to men of exceptional physique and morale. But nowadays the most valuable fighting man and the most difficult to perfect is the rifleman who is also a skilful and daring rider.

The proportion of our cavalry regiments has wisely been increased. The American cavalryman, trained to maneuver and fight with equal facility on foot and on horseback, is the best type of soldier for general purposes now to be found in the world. The ideal cavalryman of the present day is a man who can fight on foot as effectively as the best infantryman, and who is in addition unsurpassed in the care and management of his horse and in his ability to fight on horseback.

A general staff should be created. As for the present staff and supply departments, they should be filled by details from the line, the men so detailed returning after a while to their line duties. It is very undesirable to have the senior grades of the army composed of men who have come to fill the positions by the mere fact of seniority. A system should be adopted by which there shall be an elimination grade by grade of those who seem unfit to render the best service in the next grade. Justice to the veterans of the civil war who are still in the army would seem to require that in the matter of retirements they be given by law the same privileges accorded to their comrades in the navy.

The process of elimination of the least fit should be conducted in a manner that would render it practically impossible to apply political or social pressure on behalf of any candidate, so that each man may be judged purely on his own merits. Pressure for the promotion of civil officials for political reasons is bad enough, but it is tenfold worse where applied on behalf of officers of the army or navy. Every promotion and every detail under the War Department must be made solely with regard to the good of the service and to the capacity and merit of the man himself. No pressure, political, social, or personal, of any kind, will be permitted to exercise the least effect in any question of promotion or detail; and if there is reason to believe that such pressure is exercised at the instigation of the officer concerned, it will be held to militate against him. In our army we can not afford to have rewards or duties distributed save on the simple ground that those who by their own merits are entitled to the rewards get them, and that those who are peculiarly fit to do the duties are chosen to perform them.

Every effort should be made to bring the army to a constantly increasing state of efficiency. When on actual service no work save that directly in the line of such service should be required. The paper work in the army, as in the navy, should be greatly reduced. What is needed is proved power of command and capacity to work well in the field. Constant care is necessary to prevent dry rot in the transportation and commissary departments.

Our army is so small and so much scattered that it is very difficult to give the higher officers (as well as the lower officers and the enlisted men) a chance to practise maneuvers in mass and on a comparatively large scale. In time of need no amount of individual excellence would avail against the paralysis which would follow inability to work as a coherent whole, under skilful and daring leadership. The Congress should provide means whereby it will be possible to have field exercises by at least a division of regulars, and if possible also a division of National Guardsmen once a year. These exercises might take the form of field maneuvers; or, if on the Gulf coast or the Pacific or Atlantic seaboard, or in the region of the Great Lakes, the army corps when assembled could be marched from some inland point to some point on the water, there embarked, disembarked after a couple of days' journey at some other point, and again marched inland. Only by actual handling and providing for men in masses while they are marching, camping, embarking, and disembarking, will it be possible to train the higher officers to perform their duties well and smoothly.

A great debt is owing from the public to the men of the army and navy. They should be so treated as to enable them to reach the highest point of efficiency, so that they may be able to respond instantly to any demand made upon them to sustain the interests of the nation and the honor of the flag. The individual American enlisted man is probably on the whole a more formidable fighting man than the regular of any other army. Every consideration should be shown him, and in return the highest standard of usefulness should be exacted from him. It is well worth while for the Congress to consider whether the pay of enlisted men upon second and subsequent enlistments should not be increased to correspond with the increased value of the veteran soldier.

Much good has already come from the act reorganizing the army, passed early in the present year. The three prime reforms, all of them of literally inestimable value, are, first, the substitution of four-year details from the line for permanent appoints in the so-called staff divisions; second, the establishment of a corps of artillery with a chief at the head; third, the establishment of a maximum and minimum limit for the army. It would be difficult to overestimate the improvement in the efficiency of our army which these three reforms are making, and have in part already effected.

The reorganization provided for by the act has been substantially accomplished. The improved conditions in the Philippines have enabled the War Department materially to reduce the military charge upon our revenue and to arrange the number of soldiers so as to bring this number much nearer to the minimum than to the maximum limit established by law. There is, however, need of supplementary legislation. Thorough military education must be provided, and in addition to the regulars the advantages of this education should be given to the officers of the National Guard and others in civil life who desire intelligently to fit themselves for possible military duty. The officers should be given the chance to perfect themselves by study in the higher branches of this art. At West Point the education should be of the kind most apt to turn out men who are good in actual field service; too much stress should not be laid on mathematics, nor should proficiency therein be held to establish the right of entry to a *corps*

d'élite. The typical American officer of the best kind need not be a good mathematician; but he must be able to master himself, to control others, and to show boldness and fertility of resource in every emergency.

Action should be taken in reference to the militia and to the raising of volunteer forces. Our militia law is obsolete and worthless. The organization and armament of the National Guard of the several States, which are treated as militia in the appropriations by the Congress, should be made identical with those provided for the regular forces. The obligations and duties of the guard in time of war should be carefully defined, and a system established by law under which the method of procedure of raising volunteer forces should be prescribed in advance. It is utterly impossible in the excitement and haste of impending war to do this satisfactorily if the arrangements have not been made long beforehand. Provision should be made for utilizing in the first volunteer organizations called out the training of those citizens who have already had experience under arms, and especially for the selection in advance of the officers of any force which may be raised; for careful selection of the kind necessary is impossible after the outbreak of war.

That the army is not at all a mere instrument of destruction has been shown during the last three years. In the Philippines, Cuba, and Porto Rico it has proved itself a great constructive force, a most potent implement for the upbuilding of a peaceful civilization.

No other citizens deserve so well of the republic as the veterans, the survivors of those who saved the Union. They did the one deed which if left undone would have meant that all else in our history went for nothing. But for their steadfast prowess in the greatest crisis of our history, all our annals would be meaningless, and our great experiment in popular freedom and self-government a gloomy failure. Moreover, they not only left us a united nation, but they left us also as a heritage the memory of the mighty deeds by which the nation was kept united. We are now indeed one nation, one in fact as well as in name; we are united in our devotion to the flag which is the symbol of national greatness and unity; and the very completeness of our union enables us all, in every part of the country, to glory in the valor shown alike by the sons of the North and the sons of the South in the times that tried men's souls.

The men who in the last three years have done so well in the East and the West Indies and on the mainland of Asia have shown that this remembrance is not lost. In any serious crisis the United States must rely for the great mass of its fighting men upon the volunteer soldiery who do not make a permanent profession of the military career; and whenever such a crisis arises the deathless memories of the civil war will give to Americans the lift of lofty purpose which comes to those whose fathers have stood valiantly in the forefront of the battle.

The merit system of making appointments is in its essence as democratic and American as the common-school system itself. It simply means that in clerical and other positions where the duties are entirely non-political, all applicants should have a fair field and no favor, each standing on his merits as he is able to show them by practical test. Written competitive examinations offer the only available means in many cases for applying this system. In other cases, as where laborers are employed, a system of

registration undoubtedly can be widely extended. There are, of course, places where the written competitive examination can not be applied, and others where it offers by no means an ideal solution, but where under existing political conditions it is, though an imperfect means, yet the best present means of getting satisfactory results.

Wherever the conditions have permitted the application of the merit system in its fullest and widest sense, the gain to the Government has been immense. The navy-yards and postal service illustrate, probably better than any other branches of the Government, the great gain in economy, efficiency, and honesty due to the enforcement of this principle.

I recommend the passage of a law which will extend the classified service to the District of Columbia, or will at least enable the President thus to extend it. In my judgment all laws providing for the temporary employment of clerks should hereafter contain a provision that they be selected under the civil-service law.

It is important to have this system obtain at home, but it is even more important to have it applied rigidly in our insular possessions. Not an office should be filled in the Philippines or Porto Rico with any regard to the man's partizan affiliations or services, with any regard to the political, social, or personal influence which he may have at his command; in short, heed should be paid to absolutely nothing save the man's own character and capacity and the needs of the service.

The administration of these islands should be as wholly free from the suspicion of partizan politics as the administration of the army and navy. All that we ask from the public servant in the Philippines or Porto Rico is that he reflect honor on his country by the way in which he makes that country's rule a benefit to the people who have come under it. This is all that we should ask, and we can not afford to be content with less.

The merit system is simply one method of securing honest and efficient administration of the Government; and in the long run the sole justification of any type of government lies in its proving itself both honest and efficient.

The consular service is now organized under the provisions of a law passed in 1856, which is entirely inadequate to existing conditions. The interest shown by so many commercial bodies throughout the country in the reorganization of the service is heartily commended to your attention. Several bills providing for a new consular service have in recent years been submitted to the Congress. They are based upon the just principle that appointments to the service should be made only after a practical test of the applicant's fitness, that promotions should be governed by trustworthiness, adaptability, and zeal in the performance of duty, and that the tenure of office should be unaffected by partizan considerations.

The guardianship and fostering of our rapidly expanding foreign commerce, the protection of American citizens resorting to foreign countries in lawful pursuit of their affairs, and the maintenance of the dignity of the nation abroad, combine to make it essential that our consuls should be men of character, knowledge, and enterprise. It is true that the service is now, in the main, efficient, but a standard of excellence can not be permanently maintained until the principles set forth in the bills heretofore submitted to the Congress on this subject are enacted into law.

In my judgment the time has arrived when

we should definitely make up our minds to recognize the Indian as an individual and not as a member of a tribe. The general allotment act is a mighty pulverizing engine to break up the tribal mass. It acts directly upon the family and the individual. Under its provisions some 60,000 Indians have already become citizens of the United States. We should now break up the tribal funds, doing for them what allotment does for the tribal lands; that is, they should be divided into individual holdings. There will be a transition period during which the funds will in many cases have to be held in trust. This is the case also with the lands. A stop should be put upon the indiscriminate permission to Indians to lease their allotments. The effort should be steadily to make the Indian work like any other man on his own ground. The marriage laws of the Indians should be made the same as those of the whites.

In the schools the education should be elementary and largely industrial. The need of higher education among the Indians is very, very limited. On the reservations care should be taken to try to suit the teaching to the needs of the particular Indian. There is no use in attempting to induce agriculture in a country suited only for cattle-raising, where the Indian should be made a stock-grower. The ration system, which is merely the corral and the reservation system, is highly detrimental to the Indians. It promotes beggary, perpetuates pauperism, and stifles industry. It is an effectual barrier to progress. It must continue to a greater or less degree as long as tribes are herded on reservations and have everything in common. The Indian should be treated as an individual—like the white man. During the change of treatment inevitable hardships will occur; every effort should be made to minimize these hardships; but we should not because of them hesitate to make the change. There should be a continuous reduction in the number of agencies.

In dealing with the aboriginal races few things are more important than to preserve them from the terrible physical and moral degradation resulting from the liquor traffic. We are doing all we can to save our own Indian tribes from this evil. Wherever by international agreement this same end can be attained as regards races where we do not possess exclusive control, every effort should be made to bring it about.

I bespeak the most cordial support from the Congress and the people for the St. Louis Exposition to Commemorate the One Hundredth Anniversary of the Louisiana Purchase. This purchase was the greatest instance of expansion in our history. It definitely decided that we were to become a great continental republic, by far the foremost power in the Western Hemisphere. It is one of three or four great landmarks in our history—the great turning points in our development. It is eminently fitting that all our people should join with heartiest good-will in commemorating it, and the citizens of St. Louis, of Missouri, of all the adjacent region, are entitled to every aid in making the celebration a noteworthy event in our annals. We earnestly hope that foreign nations will appreciate the deep interest our country takes in this exposition, and our view of its importance from every standpoint, and that they will participate in securing its success. The National Government should be represented by a full and complete set of exhibits.

The people of Charleston, with great energy and civic spirit, are carrying on an exposition which will continue throughout most of the

present session of the Congress. I heartily commend this exposition to the good-will of the people. It deserves all the encouragement that can be given it. The managers of the Charleston Exposition have requested the Cabinet officers to place thereat the Government exhibits which have been at Buffalo, promising to pay the necessary expenses. I have taken the responsibility of directing that this be done, for I feel that it is due to Charleston to help her in her praiseworthy effort. In my opinion the management should not be required to pay all these expenses. I earnestly recommend that the Congress appropriate at once the small sum necessary for this purpose.

The Pan-American Exposition at Buffalo has just closed. Both from the industrial and the artistic standpoint this exposition has been in a high degree creditable and useful, not merely to Buffalo but to the United States. The terrible tragedy of the President's assassination interfered materially with its being a financial success. The exposition was peculiarly in harmony with the trend of our public policy, because it represented an effort to bring into closer touch all the peoples of the Western Hemisphere, and give them an increasing sense of unity. Such an effort was a genuine service to the entire American public.

The advancement of the highest interests of national science and learning and the custody of objects of art and of the valuable results of scientific expeditions conducted by the United States have been committed to the Smithsonian Institution. In furtherance of its declared purpose—for the "increase and diffusion of knowledge among men"—the Congress has from time to time given it other important functions. Such trusts have been executed by the institution with notable fidelity. There should be no halt in the work of the institution, in accordance with the plans which its secretary has presented, for the preservation of the vanishing races of great North American animals in the National Zoological Park. The urgent needs of the National Museum are recommended to the favorable consideration of the Congress.

Perhaps the most characteristic educational movement of the past fifty years is that which has created the modern public library and developed it into broad and active service. There are now over 5,000 public libraries in the United States, the product of this period. In addition to accumulating material they are also striving by organization, by improvement in method, and by cooperation, to give greater efficiency to the material they hold, to make it more widely useful, and by avoidance of unnecessary duplication in process to reduce the cost of its administration.

In these efforts they naturally look for assistance to the Federal library, which, though still the Library of Congress, and so entitled, is the one national library of the United States. Already the largest single collection of books on the Western Hemisphere, and certain to increase more rapidly than any other through purchase, exchange, and the operation of the copyright law, this library has a unique opportunity to render to the libraries of this country—to American scholarship—service of the highest importance. It is housed in a building which is the largest and most magnificent yet erected for library uses. Resources are now being provided which will develop the collection properly, equip it with the apparatus and service necessary to its effective use, render its bibliographic work widely avail-

able, and enable it to become, not merely a center of research, but the chief factor in great cooperative efforts for the diffusion of knowledge and the advancement of learning.

For the sake of good administration, sound economy, and the advancement of science, the Census Office as now constituted should be made a permanent Government bureau. This would insure better, cheaper, and more satisfactory work, in the interest not only of our business but of statistic, economic, and social science.

The remarkable growth of the postal service is shown in the fact that its revenues have doubled and its expenditures have nearly doubled within twelve years. Its progressive development compels constantly increasing outlay, but in this period of business energy and prosperity its receipts grow so much faster than its expenses that the annual deficit has been steadily reduced from \$11,411,779 in 1897 to \$3,923,727 in 1901. Among recent postal advances the success of rural free delivery wherever established has been so marked, and actual experience has made its benefits so plain, that the demand for its extension is general and urgent.

It is just that the great agricultural population should share in the improvement of the service. The number of rural routes now in operation is 6,000, practically all established within three years, and there are 6,000 applications awaiting action. It is expected that the number in operation at the close of the current fiscal year will reach 8,000. The mail will then be daily carried to the doors of 5,700,000 of our people who have heretofore been dependent upon distant offices, and one-third of all that portion of the country which is adapted to it will be covered by this kind of service.

The full measure of postal progress which might be realized has long been hampered and obstructed by the heavy burden imposed on the Government through the entrenched and well-understood abuses which have grown up in connection with second-class mail-matter. The extent of this burden appears when it is stated that while the second-class matter makes nearly three-fifths of the weight of all the mail, it paid for the last fiscal year only \$4,294,445 of the aggregate postal revenue of \$111,631,193. If the pound-rate of postage, which produces the large loss thus entailed, and which was fixed by the Congress with the purpose of encouraging the dissemination of public information, were limited to the legitimate newspapers and periodicals actually contemplated by the law, no just exception could be taken. That expense would be the recognized and accepted cost of a liberal public policy deliberately adopted for a justifiable end. But much of the matter which enjoys the privileged rate is wholly outside of the intent of the law, and has secured admission only through an evasion of its requirements or through lax construction. The proportion of such wrongly included matter is estimated by postal experts to be one-half of the whole volume of second-class mail. If it be only one-third or one-quarter, the magnitude of the burden is apparent. The Post-Office Department has now undertaken to remove the abuses so far as is possible by a stricter application of the law; and it should be sustained in its effort.

Owing to the rapid growth of our power and our interests on the Pacific, whatever happens in China must be of the keenest national concern to us.

The general terms of the settlement of the questions growing out of the antiforeign uprisings in China of 1900, having been formulated in a joint

note addressed to China by the representatives of the injured powers in December last, were promptly accepted by the Chinese Government. After protracted conferences the plenipotentiaries of the several powers were able to sign a final protocol with the Chinese plenipotentiaries on the 7th of last September, setting forth the measures taken by China in compliance with the demands of the joint note, and expressing their satisfaction therewith. It will be laid before the Congress with a report of the plenipotentiary on behalf of the United States, Mr. William Woodville Rockhill, to whom high praise is due for the tact, good judgment, and energy he has displayed in performing an exceptionally difficult and delicate task.

The agreement reached disposes in a manner satisfactory to the powers of the various grounds of complaint, and will contribute materially to better future relations between China and the powers. Reparation has been made by China for the murder of foreigners during the uprising, and punishment has been inflicted on the officials, however high in rank, recognized as responsible for or having participated in the outbreak. Official examinations have been forbidden for a period of five years in all cities in which foreigners have been murdered or cruelly treated, and edicts have been issued making all officials directly responsible for the future safety of foreigners and for the suppression of violence against them.

Provisions have been made for insuring the future safety of the foreign representatives in Peking by setting aside for their exclusive use a quarter of the city which the powers can make defensible and in which they can if necessary maintain permanent military guards; by dismantling the military works between the capital and the sea; and by allowing the temporary maintenance of foreign military posts along this line. An edict has been issued by the Emperor of China prohibiting for two years the importation of arms and ammunition into China. China has agreed to pay adequate indemnities to the states, societies, and individuals for the losses sustained by them and for the expenses of the military expeditions sent by the various powers to protect life and restore order.

Under the provisions of the joint note of December, 1900, China has agreed to revise the treaties of commerce and navigation and to take such other steps for the purpose of facilitating foreign trade as the foreign powers may decide to be needed.

The Chinese Government has agreed to participate financially in the work of bettering the water approaches to Shanghai and to Tientsin, the centers of foreign trade in central and northern China, and an international conservancy board, in which the Chinese Government is largely represented, has been provided for the improvement of the Shanghai river and the control of its navigation. In the same line of commercial advantages a revision of the present tariff on imports has been assented to for the purpose of substituting specific for ad valorem duties, and an expert has been sent abroad on the part of the United States to assist in this work. A list of articles to remain free of duty, including flour, cereals, and rice, gold and silver coin and bullion, has also been agreed upon in the settlement.

During these troubles our Government has unswervingly advocated moderation, and has materially aided in bringing about an adjustment which tends to enhance the welfare of China

and to lead to a more beneficial intercourse between the empire and the modern world; while in the critical period of revolt and massacre we did our full share in safeguarding life and property, restoring order, and vindicating the national interest and honor. It behooves us to continue in these paths, doing what lies in our power to foster feelings of good-will, and leaving no effort untried to work out the great policy of full and fair intercourse between China and the nations, on a footing of equal rights and advantages to all. We advocate the "open door" with all that it implies; not merely the procurement of enlarged commercial opportunities on the coasts, but access to the interior by the waterways with which China has been so extraordinarily favored. Only by bringing the people of China into peaceful and friendly community of trade with all the peoples of the earth can the work now auspiciously begun be carried to fruition. In the attainment of this purpose we necessarily claim parity of treatment, under the conventions, throughout the empire for our trade and our citizens with those of all other powers.

We view with lively interest and keen hopes of beneficial results the proceedings of the Pan-American Congress, convoked at the invitation of Mexico, and now sitting at the Mexican capital. The delegates of the United States are under the most liberal instructions to cooperate with their colleagues in all matters promising advantage to the great family of American commonwealths, as well in their relations among themselves as in their domestic advancement and in their intercourse with the world at large.

My predecessor communicated to the Congress the fact that the Weil and La Abra awards against Mexico have been adjudged by the highest courts of our country to have been obtained through fraud and perjury on the part of the claimants, and that in accordance with the acts of the Congress the money remaining in the hands of the Secretary of State on these awards has been returned to Mexico. A considerable portion of the money received from Mexico on these awards has been paid by this Government to the claimants before the decision of the courts was rendered. My judgment is that the Congress should return to Mexico an amount equal to the sums thus already paid to the claimants.

The death of Queen Victoria caused the people of the United States deep and heartfelt sorrow, to which the Government gave full expression. When President McKinley died, our nation in turn received from every quarter of the British Empire expressions of grief and sympathy no less sincere. The death of the Empress-Dowager Frederick of Germany also aroused the genuine sympathy of the American people; and this sympathy was cordially reciprocated by Germany when the President was assassinated. Indeed, from every quarter of the civilized world we received, at the time of the President's death, assurances of such grief and regard as to touch the hearts of our people. In the midst of our affliction we reverently thank the Almighty that we are at peace with the nations of mankind; and we firmly intend that our policy shall be such as to continue unbroken these international relations of mutual respect and good-will.

THEODORE ROOSEVELT.

EXECUTIVE MANSION, Dec. 3, 1901.

The Philippine Islands.—Dec. 17 the House of Representatives took up the consideration of a measure, "temporarily to provide revenue for the Philippine Islands, and other purposes," and

two days were allowed, under special order, for debate. Mr. Payne, of New York, who was in charge of the measure, made the opening argument in its favor. Among other things, he said:

"It becomes necessary at this time because of the recent decision of the Supreme Court of the United States holding 'the Philippine Islands not being foreign territory, and the existing law for the collection of tariff duties including only those articles imported' from foreign countries, that it does not apply to imports from the Philippine Islands, and that no collection of duties upon such imports can be made.

"But the bill goes further than that. It gives the force of an act of Congress to the tariff act already enacted by the Philippine Commission. That act depends for its force upon the war power of the Government and also upon the legislation of Congress on what is known as the Spooner amendments, giving the Executive authority to legislate, to execute the laws, and to exercise judicial functions in the Philippine Islands. The war power arose from the fact that within ten days of the cession of these islands by Spain—on Feb. 15—a conspiracy was formed to overthrow the power of the United States—in the language of the conspirators, to massacre the army, and after they were out of the way to massacre the inhabitants of Manila who were not Filipinos. This made the Philippine Islands hostile territory. This, under the law of nations, and under the repeated decisions of the Supreme Court, gave the war power to the Executive of this country to govern those islands with a military government, or, at his discretion, to govern them by appointing persons from civil life to execute the offices.

"The organized opposition to the Government of the United States was overthrown in March, 1900, and since then the war on the part of the Filipinos has been a guerrilla warfare—sporadic, spasmodic, and at times carried on with great cruelty and without any regard on the part of some of these men to the rules of civilized warfare. As the insurgent forces were dispersed the President of the United States thought it best to send out to these islands the Philippine Commission, known as the Taft Commission, which was appointed March 16, 1900, and which reached the islands about Sept. 1 of that year. These commissioners were instructed generally by the President.

"Those instructions are varied in their character. They provided for separating the judicial, the executive, and the legislative power; for the establishment of government where it could be done in the different cities and towns and provinces of the island. They provided generally for giving to the Filipinos a good and, for the time being, a stable and honest and equitable government throughout all the islands, and for levying such taxes and imports as, in the judgment of the commission, should be right and necessary.

"Afterward, on March 2, 1901, the Spooner amendments were passed, amplifying the power of the President of the United States, enforcing the authority which the President already had under the military power of the Government by the legislative arm of the Government, and legislating to him the full authority, which he already perhaps possessed under the military power. Under this power the Taft Commission was authorized to impose taxes. We found when we went there a tariff law in force under the old Spanish régime.

"Some of the duties imposed by that law were

very high, especially the duties upon the necessities of life. The commission went to work almost immediately to gather information, to amend the old Spanish tariff code, and to make it more suitable to American ideas, American possession, and American government.

"A great deal of care was exercised by this commission in fixing these rates. In the first place, they made what they called a tentative bill, which was published and widely distributed in the Philippine Islands and criticisms invited. Then this bill was amended, due regard being given to the criticisms which were offered. Then the bill came here and was published by the War Department in several hundred trade journals throughout the United States, criticisms being invited and received. The War Department recommended some amendments, and sent all these criticisms and all the other information obtained to the commission. After the bill had been considered, back and forth, with such light as was thrown upon it in this public way, for more than a year, the commission finally enacted their tariff.

"Now, this tariff is not only a duty upon imports into the Philippine Islands, but embraces also a small duty upon some exports from the Philippine Islands, such as hemp, sugar, tobacco, and so forth—a continuation of the Spanish method of taxation. The entire sum realized from these export duties since the occupation of the islands by the United States is \$1,700,000, while the total tariff receipts for the whole period of occupation down to June 30 last amounts to \$15,525,000. So that the export tax was not comparatively large, and the export tax is nearly the only direct tax that is collected in the Philippine Islands.

"Mr. Chairman, in addition to this we found that by the decision of the court and the ruling of the Treasury the ports of Porto Rico as well as the ports of the Philippine Islands and the ports of the United States were in such relation that the coastwise laws applied, and that under the law no vessel carrying a foreign flag could bring goods from the Philippine Islands to any port in the United States. We take care of that in this bill; but we hope the time will soon come, and we are assured that it will soon come, when American citizens will furnish American vessels, to be sailed under the American flag, fully equal to the demand, to carry all the commerce coming from the Philippine Islands to ports of the United States. When that time comes, this side of the House will see to it that these coastwise laws are extended to the ports of the Philippine Islands, as well as to all other ports that are under the flag of the United States.

"Mr. Chairman, in addition to this, in the last section of the bill we have endeavored to apply the drawback laws, providing for drawbacks in duties and in internal-revenue collections, and also to apply the exemption laws for goods manufactured in bonded warehouses, to the shipment of goods from United States ports to the ports of the Philippine Islands.

"Then we have provided, as in the Porto Rican bill, that all these taxes collected in the Philippine Islands, and all duties collected in the United States upon goods brought from the Philippine Islands into the United States, shall not be covered into the general fund of the Treasury, but be paid into the treasury of the Philippine Islands for the use and benefit of the Philippine Islands."

Mr. Payne did not accept the commission tariff as an ideal one; but he defended it as a good

working measure, to meet an emergency, and he went on to describe in detail the work carried on and to be carried on under American rule in the Philippines, for which ample revenue is needed.

Mr. Swanson, of Virginia, led the discussion in opposition to the measure. He said:

"Mr. Chairman, the Republican party of this country has definitely determined to enter into a system of colonial conquest and government. When this question was last up for debate in this House we of the opposition contended that such a policy was not only unwise and dangerous to the continued liberty and prosperity of our people, but also not permissible under the plain provisions of our Federal Constitution. Recently the Supreme Court of the United States, by a decision reversing former decisions, has seen proper to amend the Federal Constitution and declare that Congress can govern acquired territory outside the prohibitions and requirements of the Constitution. It has specifically decided that that clause in the Constitution which declares that 'all duties, imposts, and excises shall be uniform throughout the United States' applies to the States only and not to the Territories and other possessions.

"By this decision it declares that Congress has power to impose duties upon goods coming from the Territories into the States and also from the States into the Territories. It confers upon Congress absolute power of taxation in the Territories, unrestrained by any provision in the Federal Constitution. By a more recent decision the court has declared that the Philippine Islands and other possessions are not foreign but domestic territory, and, as the Dingley bill, by its terms, limits its collection of duties to importations from foreign countries, it does not apply to the Philippines; hence no duty can be collected on importations from those islands until Congress shall so direct. Ever since we have had control of these islands, until this decision, the duties imposed by the Dingley bill have been collected on all goods brought into this country from them. This bill proposes to continue the rates of the Dingley bill upon all importations into this country from the Philippine Islands.

"In this respect it proposes to treat those islands and their inhabitants absolutely as foreigners. Their commerce, their trade, and their importations are to be subjected to the same heavy exactions, the same rigorous restrictions, that are applied to strangers. Another provision of this bill fixes absolutely all customs duties to be collected on importations into the Philippines, and, in addition, an export duty on certain goods when shipped from there. This feature of the bill treats the inhabitants of the Philippine Islands as subjects of this country, to be governed absolutely by the will of Congress. Thus, by this bill, when concessions and trade benefits are needed by the unfortunate inhabitants of the Philippine Islands, they are treated as strangers and foreigners, but when exactions and taxations are to be imposed, they are treated as subjects. This irreconcilable, dual position of subject and stranger is created by this bill and illustrates the policy of the Republican party in the formulation of its colonial system. The principles upon which such a bill is founded are repugnant to every principle of justice and right and antagonistic to all our traditions and institutions.

"By this bill Congress assumes the right and does exercise the power to fix the rates and the conditions upon which the goods of the Philippines can be sold in the markets of the United

States and also the rates and conditions upon which our goods can be sold in the markets of those islands. In other words, we practically fix the price at which they must sell their goods to us and also the price at which they must purchase ours. This is precisely the same power that was claimed by the British Parliament when we were colonies. The British Parliament then contended that the power of Parliament was absolute in the American colonies and that Parliament had the right to impose taxes here and to fix the duty on importations from the colonies into Great Britain and also the duty on importations from Great Britain into the colonies.

"Our fathers denounced this assumption of power as tyranny and despotism. When it was sought to be exercised they rebelled, separated themselves from Great Britain, and established this Union. Our fathers contended that the vast power to control absolutely the trade and commerce, all the buying and the selling of the commodities of one nation by another, is such a dangerous power, so liable to abuse, that no just nation would ever try to exercise it, and that it should never be conceded. Yet by this bill this Congress will exercise, in a more aggravated form, precisely the same power claimed and sought to be exercised against us by the British Parliament when we were colonies. Great Britain could not have succeeded in the Revolutionary War without destroying British institutions and ultimately the liberty and freedom of her people. We can not enact this bill without destroying our institutions, without abandoning all our glorious traditions and perverting our principles of justice and liberty, which have been the foundations of our governmental structure."

Mr. Swanson, after considering the provisions of the bill in detail, denounced its injustice and harshness as compared to the policy of reciprocity proposed for foreign countries.

"The President in his annual message says that we are under moral obligations to give Cuban imports into the United States a substantial reduction from present tariff duties. The Secretary of War is even more insistent upon this than the President. The two chief products of Cuba, like those of the Philippines, are sugar and tobacco. This administration favors a great reduction from the Dingley rates on sugar and tobacco when imported from Cuba, and yet sustains this bill, which collects the entire Dingley rates on sugar and tobacco imported from the Philippines, and in addition an export duty. The American people will not sanction this. Our obligations to Cuba have been fully and completely discharged when they have established a free and independent government and we have withdrawn from the island. This will soon happen. They owe us a boundless debt of gratitude. When they were oppressed by Spain and their cause was hopeless, at a great expense and sacrifice to ourselves we espoused their cause, drove their oppressors from the island, and gave to them freedom and independence.

"At much expense we have kept peace and order there and administered the government pending the formation by them of a safe and stable government. No other nation has ever bestowed upon another more generous, substantial, and disinterested favors than we have bestowed upon Cuba. With the Filipinos the case is reversed. The Filipinos had overthrown Spanish authority, except in Manila, before our troops arrived. They could have driven their oppressors from the islands without our aid. They were our valuable allies in a war that we had undertaken for

the liberation of Cuba. They desired to establish an independent government under our guidance, which would have made to us generous trade concessions. We denied this request, and by war and conquest extended our dominion over them. We now hold them as colonies and as a part and parcel of this country. We have granted to Cuba, and she has decided to become, a state free and independent of us.

"I can see no moral obligations on our part to make any concessions to Cuba except such as our own interest may demand. If reductions in tariff duties are to be made for the introduction of sugar and tobacco into our markets, the claims of the Philippine Islands are vastly superior to those of Cuba. The profits to be derived from the sale of these two products in the markets of this country should certainly go, if possible, to our own people instead of to foreigners. I can not understand the wisdom of a policy that urges such generous concessions to Cuba and imposes such heavy exactions and restrictions upon the Philippines. So long as the Philippine Islands are a part of this country, justice and wisdom both demand that their sugar and tobacco interests should be encouraged and developed rather than the sugar and tobacco interests of Cuba.

"But, Mr. Chairman, the hostility of the Republican party and of those in power to the Philippine Islands is further exemplified, and in a manner that can admit of no excuse, no defense. As I have previously said, this bill imposes on the sugar of the Philippines the high rates of the Dingley bill. Our Government has already signed treaties with Great Britain for the Barbados, for British Guiana, for Jamaica, and for Bermuda, which have been sent to the Senate and are being pressed by the present administration and the Republican party for ratification, and all provide for a reduction of 12½ per cent. from the duties imposed by the Dingley bill upon all sugar imported from them into the United States. A treaty has also been signed with Argentina, which has been sent to the Senate and is likewise urged for ratification, that provides for a reduction of 20 per cent. from the rates of the Dingley bill on sugar imported into the United States from Argentina.

"The Republican party places itself squarely before the people and the country as favoring that sugar shall be imported into this country from British possessions and from Argentina at more greatly reduced rates than it shall be imported from our own possessions in the Philippine Islands. No moral obligation can be urged for the extenuation of the extension of these rebates and privileges to foreigners while they are denied to our own people. If this policy is to prevail, in order to obtain trade advantages with the United States, it is better to be a British subject than to be a citizen of the United States. History will fail to furnish another such example where a government has so wantonly and openly ignored the rights and privileges of its own people in order to subserve foreigners and strangers. I believe the American people will repudiate a discrimination so suicidal, so unjust as this. They would greatly prefer consuming sugar raised by the unfortunate inhabitants of the Philippine Islands than sugar raised by British subjects.

"Mr. Chairman, I appeal to this Congress, to its sense of justice and right, to its prudence and its wisdom, not to inflict upon these defenseless and helpless people such hardships and such inequalities. Do not teach them that dependence

on America means spoliation. Let them feel that we are their friends, not their foes; that our purposes are to aid them, not to despoil them; to encourage, and not to retard them."

Mr. Littlefield, of Maine, opposed the measure, but he made his argument against the soundness of the recent Supreme Court decision in the island cases. The debate tended, among other speakers on both sides, toward the discussion of the policy of a colonial system.

Dec. 18 the bill was passed by the following vote:

YEAS—Adams, Alexander, Allen of Maine, Babcock, Ball of Delaware, Bartholdt, Bates, Beidler, Bishop, Blackburn, Blakeney, Boreing, Boutell, Bowersock, Brick, Bristow, Bromwell, Broussard, Brownlow, Burk of Pennsylvania, Burke of South Dakota, Burkett, Burleigh, Burton, Butler of Pennsylvania, Calderhead, Cannon, Capron, Cassel, Connell, Coombs, Corliss, Cousins, Currier, Curtis, Cushman, Dalzell, Darragh, Davey of Louisiana, Davidson, Dayton, Dick, Douglas, Dovener, Draper, Driscoll, Emerson, Esch, Evans, Fletcher, Foerderer, Fordney, Foss, Foster of Vermont, Fowler, Gaines of West Virginia, Gardner of Michigan, Gardner of New Jersey, Gibson, Gill, Gillet of New York, Gillett of Massachusetts, Graff, Graham, Greene of Massachusetts, Grosvenor, Grow, Hamilton, Haskins, Hemenway, Henry of Connecticut, Hepburn, Hildebrandt, Hill, Hitt, Holliday, Hopkins, Howell, Hughes, Irwin, Jackson of Maryland, Jenkins, Jones of Washington, Joy, Kahn, Ketcham, Knapp, Knox, Kyle, Landis, Lawrence, Lewis of Pennsylvania, Long, Loudenslager, Lovering, McCleary, McLachlan, Mahon, Mann, Marshall, Martin, Mercer, Metcalf, Miller, Minor, Mondell, Moody of Massachusetts, Moody of North Carolina, Moody of Oregon, Morgan, Morrell, Morris, Mudd, Needham, Nevin, Olmsted, Otjen, Overstreet, Palmer, Parker, Patterson of Pennsylvania, Payne, Pearre, Perkins, Powers of Maine, Powers of Massachusetts, Prince, Ray of New York, Reeder, Reeves, Roberts, Robertson of Louisiana, Rumble, Russell, Schirm, Scott, Shattuc, Shelden, Showalter, Sibley, Skiles, Smith of Illinois, S. W. Smith, William Alden Smith, Southard, Southwick, Sperry, Stewart of New Jersey, Stewart of New York, Storm, Sulloway, Sutherland, Tawney, Tayler of Ohio, Thomas of Iowa, Tompkins of New York, Tompkins of Ohio, Van Voorhis, Vreeland, Wadsworth, Wanger, Warner, Warnock, Watson, Woods, Wright, Young—167.

NAYS—Adamson, Allen of Kentucky, Ball of Texas, Bell, Bellamy, Belmont, Benton, Brundidge, Burgess, Burleson, Burnett, Butler of Missouri, Caldwell, Candler, Cassingham, Clayton, Cochran, Conry, Cooper of Texas, Cowherd, Creamer, Cummings, Davis of Florida, De Armond, De Graffenreid, Dinsmore, Dougherty, Eddy, Edwards, Elliott, Finley, Fitzgerald, Fleming, Flood, Fox, Gaines of Tennessee, Gilbert, Gooch, Gordon, Green of Pennsylvania, Hall, Hay, Heatwole, Henry of Mississippi, Henry of Texas, Hooker, Howard, Jackson of Kansas, Jett, Johnson, Jones of Virginia, Kehoe, Kern, Claude Kitchin, William W. Kitchin, Kleberg, Kluttz, Lamb, Lanham, Lester, Lever, Lindsay, Little, Littlefield, Livingston, Lloyd, McAndrews, McCall, McClellan, McCulloch, McDermott, McLain, Mahony, Maynard, Mickey, Miers of Indiana, Moon, Mutchler, Naphe, Neville, Newlands, Otey, Padgett, Patterson of Tennessee, Pierce, Pou, Randell of Texas, Ransdell of Louisiana, Rhea of Kentucky, Rhea of Virginia, Richardson of Alabama, Richardson of Tennessee, Rixey, Robb, Robinson of Indiana, Robinson of Nebraska, Rucker, Ryan, Salmon, Scarborough,

Selby, Shafroth, Shallenberger, Sheppard, Sims, Slayden, Small, Smith of Kentucky, Snodgrass, Snook, Spight, Stark, Stephens of Texas, Stevens of Minnesota, Sulzer, Swanson, Tate, Thayer, Thomas of North Carolina, Trimble, Underwood, Vandiver, Wheeler, Wiley, Williams of Illinois, Williams of Mississippi, Wooten, Zenor—128.

NOT VOTING—Acheson, Aplin, Bankhead, Barney, Bartlett, Bingham, Bowie, Brantley, Breazeale, Brown, Bull, Clark, Conner, Cooney, Cooper of Wisconsin, Cromer, Crowley, Crumpacker, Dahle, Deemer, Feeley, Foster of Illinois, Glenn, Goldfogle, Griggs, Hanbury, Haugen, Hull, Jack, Lacey, Lassiter, Latimer, Lewis of Georgia, Littauer, Loud, McRae, Maddox, Meyer of Louisiana, Norton, Polk, Pugsley, Reid, Shackelford, Sherman, Smith of Iowa, H. C. Smith, Sparkman, Steele, Talbert, Taylor of Alabama, Thompson, Tirrell, Tongue, Wachter, Weeks, White, Wilson—57.

ANSWERED "PRESENT"—Griffith, Hedge, Rupert—3.

The measure was reported to the Senate with amendments, Jan. 20, 1902, and debated at some length, amended and passed, Feb. 24, by the following vote:

YEAS—Aldrich, Allison, Bard, Burnham, Burrows, Burton, Clapp, Clark of Wyoming, Cullom, Deboe, Dietrich, Dolliver, Dryden, Fairbanks, Foraker, Foster of Washington, Frye, Gallinger, Gamble, Hanna, Hansbrough, Hawley, Hoar, Jones of Nevada, Kean, Kearns, Kittredge, Lodge, McComas, McCumber, Mason, Millard, Mitchell, Nelson, Perkins, Platt of Connecticut, Pritchard, Proctor, Quarles, Scott, Simon, Spooner, Stewart, Warren, Wetmore—45.

NAYS—Bacon, Bailey, Bate, Berry, Carmack, Clark of Montana, Clay, Cockrell, Culberson, Dubois, Foster of Louisiana, Gibson, Heitfeld, McLaurin of Mississippi, Mallory, Martin, Money, Patterson, Pettus, Rawlins, Simmons, Taliaferro, Teller, Turner, Vest, Wellington—26.

NOT VOTING—Beveridge, Blackburn, Daniel, Depew, Dillingham, Elkins, Hale, Harris, Jones of Arkansas, McEnery, McLaurin of South Carolina, McMillan, Morgan, Penrose, Platt of New York, Quay, Tillman—17.

The discussion in the Senate took a wide range, going so far afield that no little time was spent in reviewing the record of various colonies in the Revolutionary War. The main attack on the measure, however, was in regard to the transfer of the powers of Congress to the Executive, and through him to the Philippine Commission, made the previous year in an amendment to an appropriation bill. The Senate amendments to this tariff act reduced the duty on goods from the Philippine Islands imported into the United States 25 per cent. on the regular rates; allowed a rebate on goods paying export duty from the islands to the extent of that duty, regulated the coast-trade, and provided safeguards for individual rights. The House non-concurred on these amendments, a conference committee was appointed, and its report was adopted, March 1 and March 3. The measure was approved by the President March 8, 1902. The text of it is as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the provisions of an act entitled 'An Act to revise and amend the tariff laws of the Philippine Archipelago,' enacted by the United States Philippine Commission on the 17th day of September, 1901, shall be and remain in full force and effect, and there shall be levied, collected, and paid upon all articles

coming into the Philippine Archipelago from the United States the rates of duty which are required by the said act to be levied, collected, and paid upon like articles imported from foreign countries into said archipelago.

"SEC. 2. That on and after the passage of this act there shall be levied, collected, and paid upon all articles coming into the United States from the Philippine Archipelago the rates of duty which are required to be levied, collected, and paid upon like articles imported from foreign countries. *Provided*, That upon all articles the growth and product of the Philippine Archipelago coming into the United States from the Philippine Archipelago there shall be levied, collected, and paid only 75 per cent. of the rates of duty aforesaid: *And provided further*, That the rates of duty which are required hereby to be levied, collected, and paid upon products of the Philippine Archipelago coming into the United States shall be less any duty or taxes levied, collected, and paid thereon upon the shipment thereof from the Philippine Archipelago, as provided by the act of the United States Philippine Commission referred to in section 1 of this act, under such rules and regulations as the Secretary of the Treasury may prescribe, but all articles, the growth and product of the Philippine Islands, admitted into the ports of the United States free of duty under the provisions of this act and coming directly from said islands to the United States for use and consumption therein, shall be hereafter exempt from any export duties imposed in the Philippine Islands.

"SEC. 3. That on and after the passage of this act the same tonnage taxes shall be levied, collected, and paid upon all foreign vessels coming into the United States from the Philippine Archipelago which are required by law to be levied, collected, and paid upon vessels coming into the United States from foreign countries: *Provided, however*, That until July 1, 1904, the provisions of law restricting to vessels of the United States the transportation of passengers and merchandise directly or indirectly from one port of the United States to another port of the United States shall not be applicable to foreign vessels engaging in trade between the Philippine Archipelago and the United States, or between ports in the Philippine Archipelago: *And provided further*, That the Philippine Commission shall be authorized and empowered to issue licenses to engage in lighterage or other exclusively harbor business to vessels or other craft actually engaged in such business at the date of the passage of this act, and to vessels or other craft built in the Philippine Islands or in the United States and owned by citizens of the United States or by inhabitants of the Philippine Islands.

"SEC. 4. That the duties and taxes collected in the Philippine Archipelago in pursuance of this act, and all duties and taxes collected in the United States upon articles coming from the Philippine Archipelago and upon foreign vessels coming therefrom, shall not be covered into the general fund of the Treasury of the United States, but shall be held as a separate fund and paid into the treasury of the Philippine Islands, to be used and expended for the government and benefit of said islands.

"SEC. 5. That when duties prescribed by this act are based upon the weight of merchandise deposited in any public or private bonded warehouse, said duties shall be levied and collected upon the weight of such merchandise at the time of its entry.

"SEC. 6. That all articles manufactured in bonded manufacturing warehouses in whole or in part of imported materials, or of materials subject to internal-revenue tax and intended for shipment from the United States to the Philippine Islands, shall, when so shipped, under such regulations as the Secretary of the Treasury may prescribe, be exempt from internal-revenue tax, and shall not be charged with duty except the duty levied under this act upon imports into the Philippine Islands.

"That all articles subject under the laws of the United States to internal-revenue tax, or on which the internal-revenue tax has been paid, and which may under existing laws and regulations be exported to a foreign country without the payment of such tax, or with benefit of drawback, as the case may be, may also be shipped to the Philippine Islands with like privilege, under such regulations and the filing of such bonds, bills of lading, and other security as the Commissioner of Internal Revenue may, with the approval of the Secretary of the Treasury, prescribe. And all taxes paid upon such articles shipped to the Philippine Islands since Nov. 15, 1901, under the decision of the Secretary of the Treasury of that date, shall be refunded to the parties who have paid the same, under such rules and regulations as the Secretary of the Treasury may prescribe, and a sum sufficient to make such payment is hereby appropriated, out of any money in the Treasury not otherwise appropriated.

"That where materials on which duties have been paid are used in the manufacture of articles manufactured or produced in the United States, there shall be allowed on the shipment of said articles to the Philippine Archipelago a drawback equal in amount to the duties paid on the materials used, less 1 per cent. of such duties, under such rules and regulations as the Secretary of the Treasury may prescribe.

"SEC. 7. That merchandise in bonded warehouse or otherwise in the custody and control of the officers of the customs, upon which duties have been paid, shall be entitled, on shipment to the Philippine Islands within three years from the date of the original arrival, to a return of the duties paid less 1 per cent., and merchandise upon which duties have not been paid may be shipped without the payment of duties to the Philippine Islands within said period, under such rules and regulations as may be prescribed by the Secretary of the Treasury.

"SEC. 8. That the provisions of the act entitled 'An Act to simplify the laws in relation to the collection of revenues,' approved June 10, 1890, as amended by an act entitled 'An Act to provide for the government and to encourage the industries of the United States,' approved July 24, 1897, shall apply to all articles coming into the United States from the Philippine Archipelago.

"SEC. 9. That no person in the Philippine Islands shall, under the authority of the United States, be convicted of treason by any tribunal, civil or military, unless on the testimony of two witnesses to the same overt act, or on confession in open court."

March 31, 1902, there was reported from the Senate Committee on the Philippines, with amendments, "An Act temporarily to provide for the administration of the affairs of civil government in the Philippine Islands, and for other purposes." April 18 the discussion of the measure in the Senate began; and it continued at intervals until June 3, various Senators en-

tering into elaborate and interesting discussion of the provisions of the measure, the policy of holding the islands as a colony, the conduct of the war there, and kindred matters. Mr. Rawlins, of Utah, speaking in opposition to the bill, denounced it as the establishment of a despotism. He said:

"Across the water there are more than 10,000,000 suffering people silent and unheard, but whose souls doubtless cry out against wrongs, cruel, unspeakable, beyond the ken of mortal language to describe. There are more than 70,000,000 people on this side of the water wanting to know the truth hitherto stifled and suppressed.

"Mr. President, it seems to me that it is a time when it is a patriotic duty to give utterance to the truth, that the American people may be advised, and that we may intelligently deal with the important questions which confront us.

"Friends of justice, champions of liberty, have ever been jealous of the encroachment of executive or kingly power, and those who, irrespective of consequences to themselves, have resisted its aggression and refused to be seduced by its blandishments have gone into history with enduring and honorable fame, while those who have catered to it and sought to profit by the favors which it had to bestow have sunk into oblivion, or if remembered, are only remembered to be despised.

"What is this bill? The Senator who introduced it has not explained it; but upon its examination we find that it continues if it does not establish in perpetuity a presidential despotism—not a benevolent despotism, but a cruel, a remorseless, and a predatory despotism.

"For this they have no warrant in our history or our traditions. To do this they must trample under foot the precepts of our Constitution and the axioms of our liberty. This bill reaches backward as well as forward. It strikes its roots into and receives its support from that excrescence upon the army appropriation bill of 1901 known as the 'Spooner amendment.' The qualification of the absolute power therein conferred, adopted at the instance of the Senator from Massachusetts, by this bill is eliminated. After the bill shall have passed, this absolute power will stand forth stripped of every qualification and limitation. In order to comprehend this bill, therefore, it is necessary to read into it as a part of it that grant of absolute authority."

Discussing more in detail the scope of the measure, he said:

"You will see an outline here of wonderfully complicated machinery. These various departments and bureaus, covering every conceivable subject of administration, are to be supported by the taxes derived from the people of the Philippine Islands. The heads of these bureaus and all the subordinates and employees connected with them are dependent for the tenure of their office and the amount and payment of their salaries upon the United States Philippine Commission. They are subservient in all respects to the edicts and behests of that commission. The persons now in office, so far as we are enabled to determine from an inspection of the law and from anything in the bill which we now have under consideration, are to continue to hold those offices during life; and that is true of the membership of the United States Philippine Commission. They are selected by the President, and now constitute the sole depository of power in the islands. They are to hold their positions during life, nothing being said about good behavior. The concurrence of the Senate is only required as to future appointments, and the bill

is very careful to prevent the possibility of the Senate passing upon the fitness of the persons who are, during their lives it may be, to exercise these unusual and arbitrary powers to which I have already made reference.

"When we come to consider the judiciary, which is provided for in the next section, we shall find that that, too, is absolutely dependent upon the will of the United States Philippine Commission and will be subservient to its purposes. When we proceed further to ascertain if there be any limitations circumscribing the authority mentioned in the Spooner amendment which I have read, we look in vain. They have control of the courts. They have control of the salaries and the tenure of judges. The extent of the jurisdiction which any one of them may exercise, if any, is dependent wholly upon the action of the commission. All property and rights—rights in the generic sense, without qualification, as distinguished from property, embracing thereby, as it does, according to every reasonable implication, the sovereignty, if any, that we acquired from Spain by the peace treaty—are by one section of the bill turned over absolutely and unqualifiedly to this oligarch, the United States Philippine Commission. To what end? To be administered, distributed, disposed of.

"Mr. President, the feet of the archipelago rest near the equator. Twelve hundred miles to the north its head is bathed by the waters of the Chinese Sea. It is said there are more than 600 islands; more than 76,000,000 acres of land, embracing mountains, volcanoes, valleys, lakes, rivers, and swamps, timber resources, whatever they may be—and all these things are turned over absolutely to the control and the disposition of the United States Philippine Commission. Of the 76,000,000 acres of land to-day, according to the reports, there are but 5,000,000 acres subject to private ownership, and this bill is not content to leave that inviolable in the hands of the people who have acquired it, because there is a provision in the bill authorizing the same United States Philippine Commission to appropriate it in the exercise of the power of eminent domain and to dispose of it, to sell it, or give it away, as they may deem proper. In order to acquire it they are given authority to issue bonds in payment therefor, mortgaging the future of the islands and their people.

"All these lands, every acre and every foot of land within the archipelago, including all appurtenances, all rights of every description, under the provisions of this bill are to be disposed of absolutely without limitation, according to the rules and regulations which may be enacted or prescribed by the United States Philippine Commission. I said 'without limitation.' Practically so. This limitation is provided in one of the sections of the bill. When the rules of the United States Philippine Commission are passed, they are to be submitted to the President, and are not to take effect until approved by him. They are to be submitted to Congress, and if not disapproved by Congress before the expiration of the next session of Congress, then they become effective and go into operation.

"The despotic power conferred upon the President of the United States and the United States Philippine Commission is therefore in no degree limited with respect to the rules and regulations providing for the disposition of the public lands in the islands, except to the extent that Congress may be able, after the rules are submitted for its consideration, to disapprove of those rules within the time limited. Either House may prevent such

disapproval, and delay may prevent such disapproval, although a majority of each house may so desire.

"In this cursory review of the general powers of the commission it follows, it seems to me, without possibility of controversy, that the commission, under the direction of the President, may declare war and make peace. The President and such person or persons as he may designate and under his direction possess all civil, judicial, and military power necessary to govern the islands. That covers and includes every conceivable power. They may declare war and make peace, because the Constitution does not restrict them. That reservation to Congress is of no potency when we step beyond the shores of the continental republic. That is the theory of the friends and supporters of this bill.

"The same oligarchy can raise armies and provide navies. It can regulate commerce among the islands and with foreign countries, with any sort of discrimination as to islands and ports. It may lay taxes to the extent of the destruction of the subjects of taxation, without justice and without uniformity, because there is no such limit circumscribing its authority. It may coin money and regulate the value thereof, and it has already set up a bureau relating to coinage and currency as well as banking. It may pass ex-post facto laws and bills of attainder, working corruption of the blood to the remotest generation, with incidental confiscation and things evil to the victim of such legislation. It may take the property of one man and give it to another, and that express authority is given in the pending bill. It can destroy freedom of speech and of the press; make the thought as well as the word and the thought and word as well as the act punishable capitally.

"Mr. President, I might go on and enumerate the various things that may be done under the authority which we have conferred and which will be conferred under this bill, but these are sufficient to illustrate it.

"Now, I invite attention specifically to the judiciary, because, as against encroachments of power and acts of tyranny, an independent judiciary in every country has usually been the main, the best safeguard. The second section provides:

"SEC. 2. That the supreme court, courts of first instance, and municipal courts of said islands shall possess and exercise jurisdiction as heretofore provided by said commission, subject in all matters to such alteration and amendment as may be hereafter enacted by the commission or otherwise enacted by law; and the chief justice and associate justices of the supreme court shall hereafter be appointed by the President, by and with the advice and consent of the Senate. The judges of the court of first instance shall be appointed by the civil governor, by and with the advice and consent of the Philippine Commission. *Provided*, That the admiralty jurisdiction of the supreme court and courts of first instance shall not be changed except by act of Congress."

"The judges of the supreme court are to be appointed with the concurrence of the Senate. They are, however, to have only such jurisdiction as may have been conferred upon them by the Philippine Commission, and that may be regulated, altered, and amended in any way in which the commission may hereafter enact. While these judges are not dependent upon the commission for the tenure of their office, they are for the amount and payment of their sal-

aries, and they are wholly dependent upon the commission as to the extent of the jurisdiction which they may exercise.

"It will be noted that there is no appeal provided in any case in this statute from the decisions of the judges of first instance to the supreme court herein referred to. When we look to the judges of the courts of first instance, we find that they are to be appointed by the civil governor, by and with the advice and consent of the Philippine Commission. The same commission fixes the compensation of the judges and their terms of office. The extent of their jurisdiction is to be defined by laws which the commission is expressly authorized to enact. It is competent for the commission to make final every decision of these judges, dependent in every way upon the commission, allowing no appeal from their decision to the supreme court which is provided for in this act. Thus we see how absolutely dependent both these courts are upon the United States Philippine Commission.

"We turn to the provision relating to appeals. There is no provision regulating appeals from the courts of first instance to the supreme court, but section 67 relates to appeals to the Supreme Court of the United States, and is as follows:

"SEC. 67. That the Supreme Court of the United States shall have jurisdiction to review, revise, reverse, modify, or affirm the final judgments and decrees of the supreme court of the Philippine Islands in all actions, cases, causes, and proceedings now pending therein or hereafter determined thereby in which the Constitution or any statute, treaty, title, right, privilege, or obligation of the United States is involved, or in causes in which the value in controversy exceeds \$5,000, or in which the title or possession of real estate exceeding in value the sum of \$5,000, to be ascertained by the oath of either party or of other competent witnesses, is involved or brought in question; and such final judgments or decrees may and can be reviewed, revised, reversed, modified, or affirmed by said Supreme Court of the United States on appeal or writ of error by the party aggrieved, in the same manner, under the same regulations, and by the same procedure, as far as applicable, as the final judgments and decrees of the circuit courts of the United States.

"Mr. President, it will be noted that there is no jurisdiction given the Supreme Court of the United States except such as the Philippine Commission may see fit to allow to be exercised. Having absolute control of the jurisdiction of the supreme court of the islands, that commission can cut off any case from reaching the Supreme Court of the United States which they do not wish to have come before that tribunal for determination. So we have the courts constructed upon such a plan as to be subject absolutely to the control of the United States Philippine Commission; and those courts are, therefore, no safeguard against the exercise of any power which that commission may undertake to employ, and the victim of its oppression, if it shall practise oppression, can have no remedy except such remedy as the commission may see fit to provide.

"If it is desired by the commission to appropriate lands to subserve purposes which they may wish to subserve, and to employ the judiciary to that end, they have a subservient tool to carry out that wish. If they want to deprive of liberty any man who becomes obnoxious to them or dares to assert a policy which may be antagonistic to that which they desire, they have

the courts as subservient tools for his suppression. Section 10 reads as follows:

"SEC. 10. That all the property and rights which may have been acquired in the Philippine Islands by the United States under the treaty of peace with Spain, 1898, are hereby placed under the control of the government of the Philippine Islands to be administered for the benefit of the inhabitants of the islands, except as hereinafter provided."

"The purpose of that is self-evident. I have already made sufficient comment upon it. The next section is as follows:

"SEC. 11. That the government of the Philippines, subject to the provisions of this act and except as hereinafter provided, shall make rules and regulations for the lease, sale, or other disposition of the public lands other than timber or mineral lands, but such rules and regulations shall not go into effect or have the force of law until they have received the approval of the President, by and through the Secretary of War, and they shall also be submitted to Congress, and unless disapproved or amended by Congress at the next ensuing session after their submission they shall at the close of such session have the force and effect of law in the Philippine Islands, when they shall have received the approval of the President, as hereinbefore provided."

"Those two sections put together place lands of every description within the islands subject to these rules and regulations for lease, sale, or other disposition. The power which this section confers upon the President and the commission may be employed to any conceivable iniquitous end, depending wholly upon the honor, the disposition, or the integrity of the men who may happen to constitute the government."

"We already know the ends really to which these powers are to be employed. They have been pointed out to us by the civil governor of the islands. It is designed that leases may be made to cover a period in the neighborhood of a hundred years. The nature or terms of those leases of course may be prescribed by the commission. The tenure under which those lands may be held may be of a feudal nature. The right to hold the lands, the privilege of holding the lands, may be made dependent upon the rendition of service to the government, upon whom is conferred this authority to make leases."

"In other words, the Philippine Commission is made the lord paramount of all the lands and property in the islands, and they may be leased or they may be sold or they may be otherwise disposed of without any reference to the quantity and without any reference to the purposes for which they may be used. They may be turned over to syndicates or to corporations, or it is possible they may be confined to those who may be seeking homes. But we know that the main purpose of the commission, which seeks to have conferred upon it this power, is to dispose of those lands in large quantities, as large as 20,000 acres, if not more, to syndicates and corporations, with a view to their exploitation."

Mr. Rawlins subsequently took up the origin of the war in the Philippine Islands, which he described as without justification, and he attacked the method in which it had been carried on as barbarous and cruel, citing general orders and reported instances of military outrage to sustain the charge.

Mr. Lodge, of Massachusetts, who was in charge of the measure, said, in the way of general explanation and defense:

"Mr. President, I think there has been a

marked improvement in this debate over the last debate which was held upon the question of Philippine affairs, because in this debate, so far as it has proceeded, there has been more or less said about the pending measure. I am aware that we devoted one afternoon to a discussion of politics and election methods in North Carolina, but possibly it was not amiss to consider the quality of mercy exhibited in certain parts of our common country as well as in the Philippines. It is true also that we devoted one afternoon to trying to decide whether Aguinaldo caused the assassination of Gen. Luna, whether he had him assassinated in self-defense, or whether Luna was merely killed by the guard because the guard did not like his manners. But all these things, Mr. President, have more connection with the matter before us than the discussions about the revolutionary history and the character of a judge at Nome, in which we before indulged. I think, Mr. President, I am not too optimistic, therefore, if I express the hope and the belief that the time will come, and come before long, when we shall discuss measures in regard to the Philippines as we discussed the Chinese-exclusion bill, with a view to getting the best legislation possible in the interests of the people of the islands and the people of the United States, and when we shall cease to make the affairs of the Philippine Islands a field for the investment of political capital by a party whose ventures in other directions have not of late been very successful."

"The Senator from Tennessee, with the grace of phrase characteristic of his eloquence, asked if any one would have the effrontery to defend the pending bill. In all humility, Mr. President, I will say that I have the effrontery not only to defend the bill, but in my feeble way to advocate it. I believe it to be a well-considered measure, dealing with subjects of great difficulty, to which the committee have given careful attention, over which they have labored assiduously, and to parts of which the minority of the committee have made valuable contribution, for which I am happy to make acknowledgment."

"The minor provisions of this bill occupy 28 pages. The mining law on which the provisions of the bill are founded was prepared by the Philippine Commission with great labor and attention. It has been revised by a subcommittee of the Committee on the Philippines, and I believe, speaking as a layman in regard to mining laws, that we have embodied in this bill as excellent a mining law as stands on any statute-book. I think the obligation for it is due to the subcommittee of the Committee on the Philippines, and in a large measure to the Senator from Utah, who brought to the work an expert knowledge which was of great value. I shall not detain the Senate by discussing the details of those mining provisions. That is a task which I leave to the better instructed members who prepared it."

"The coinage sections of the bill occupy 6 pages and provide for coinage in the Philippine Islands. I will only say in regard to the coinage provisions that the committee were satisfied after a careful investigation of the subject, unanimously, with one possible exception, that no greater mistake could be made than to change the system of currency now in existence in those islands and to alter the standard to which the people have been accustomed for many years. It is always a dangerous thing to change the money standard of a people; and it seemed to the committee that at this time it would be exceedingly perilous. They are now, and have long been,

upon the single silver standard, with the free coinage of Mexican dollars as the unit of value and the current coin of the islands. We make no change in the standard. We simply substitute for the Mexican dollar an American Filipino dollar, to be coined at the mint of Manila and at the mints in the United States, following in that respect the example of Great Britain in Hong-Kong, Singapore, and the Straits Settlements, for which she has coined what is known as the Bombay dollar, which has been of very great advantage to her and to her trade in the commerce of the East. I shall not go further into this question. The sections were prepared by the Senator from Iowa, and I shall leave him, abler and more skilled than any other man in public life to deal with such a question as this, to explain these provisions fully and in detail to the Senate.

"The remainder of the bill occupies 19 pages. We begin by continuing the present Philippine Commission. The only change we make in the existing conditions is to require that the commissioners shall be appointed by the President and confirmed by the Senate, and we apply the confirmation of the Senate also to the judges of the supreme court. That, Mr. President, is necessarily a temporary and tentative arrangement. It is designed to leave the government of the islands in the hands of the present commission until the provisions of the succeeding sections may be carried into effect. Those sections provide for taking a census of the islands, which shall give not only the numbers of the people, but all the information that can possibly be desired, in order to enable us to establish there 'permanent, popular, representative government.'

"It will require, in the nature of things, some time to take such a census, and it is impossible, as it seemed to the committee, to enter suddenly upon the establishment of representative government until we know the numbers of the people, until we have differentiated the wild tribes, who are said to number nearly a million, from the Christianized Filipinos, and also to determine our relations with the Mohammedan tribes of the south. The object of the census sections is to enable Congress to legislate intelligently with a view to giving those people a 'popular representative government'; in the meantime, while we take the census to which I refer, the bill instructs the commission to continue, and to extend as far as possible the municipal and provincial governments, to be chosen by the people, with the suffrage to be enlarged as rapidly as they think it safe; and to continue to build up in that way the self-government of the people of the islands.

"We provide also for the public lands. That, again, is a temporary provision. There is a vast body of public land in the Philippine Islands. The total area of the islands is estimated at 72,000,000 acres, and it is believed that not more than 5,000,000 of those 72,000,000 acres are now in private ownership. That leaves in the hands of the United States, as the heir of Spain, some 67,000,000 acres of public land. The committee felt that it was necessary to have a proper land law—one adapted to the conditions of the islands. It has been left to the commission to prepare such a law, to be transmitted to Congress for its consideration and approval. Until that land law is enacted, we give to the commission power only to make leases of the public lands.

"We also provide that they shall give good titles to the occupiers of public lands, of whom there are a great many among the natives, who have never been able to secure from Spain any

title to the little homesteads or farms which they live on and cultivate, and which, in many cases, they have lived on and cultivated for generations. I think that that is one of the most necessary and beneficent provisions of the bill.

"There are also sections which provide and give authority for the issuance of municipal loans, intended for municipal improvements, which are greatly needed, especially in the city of Manila.

"We also have provisions in the bill in regard to timber lands, and we have followed the same careful policy in regard to those lands that we have pursued in regard to the public lands generally. We permit the commission only to issue licenses to cut timber, and not to sell any more land than is necessary for the establishment of a sawmill or the opening of a road to give access to the forests.

"We have also made provision for the purchase of the friars' lands, as they are called. That is a difficult and unusual question. We authorize the commission to buy the lands of the friars for the purpose of selling them immediately to the people who now occupy them. However witnesses or experts may differ in regard to the affairs in the Philippine Islands, there is but one opinion as to the necessity of taking these friars' lands and giving them over to the people who actually live upon them and cultivate them. The possession of the lands by the friars was one of the bitterest grievances of the Filipino people against Spain. The testimony is universal as to their desire to have those lands restored to them. The sections in regard to these lands, of course, in the nature of things, give a large power to the commission, but there is no other way that I have seen suggested to get those lands out of the hands of these religious corporations and back into the hands of the people who cultivate them.

"We have also clauses in the bill providing for franchises. They are guarded with the utmost care. I can not now undertake to read, and I shall not detain the Senate by reading, those franchise clauses, but I invite Senators to examine them with the utmost care. They are guarded in every possible way compatible with giving any reasonable opening to capital to enter into the islands with the hope of profitable investment.

"The main object of the bill, Mr. President, is, in a word, to replace military by civil government—to advance self-government; and yet it is delayed in this chamber and opposed by those who proclaim themselves the especial foes of military rule.

"The second object of the bill is to help the development of the islands, and yet, as the committee felt, to help that development only by taking the utmost pains that there should be no opportunity given for undue or selfish exploitation. The opponents of this legislation have dwelt almost continuously, when they have spoken on this bill, on the point that it is intended to open the islands to exploiters, to syndicates, and to carpetbaggers. Why, Mr. President, if we go on the proposition that it is a crime for an American to make money, undoubtedly there is opportunity in this bill for men or associations of men to enter into the islands and to make money in a legitimate way. I am aware, after many years of experience, of the hostility of the Democratic party to any man who has made money or to any man making money, and it was that one of their principles, the only one, I think, which was carried out

with complete success during their last tenure of power. Few, if any, Americans at that time made money. But these exploiters, these syndicates, these carpetbaggers, who march back and forth through the speeches of Democratic Senators like the scene-shifters' army, have as little reality as the air-drawn dagger of Macbeth. It is continually reiterated that they are to be brought into the Philippines by this bill; and while Senators in opposition are declaiming against this bill as throwing the islands open to improper exploitation and speculation I have had many gentlemen come to me who desire to invest money in the Philippine Islands who say that the bill is so drawn that it is impossible for capital to go in there to any large amount. When gentlemen who desire to invest take that view and the Democratic party takes the view that the bill is simply for purposes of exploitation my own conclusion is that we have got a pretty good bill.

"We are also told that the Chinese are to be poured in there. Mr. President, as we have excluded the Chinese from the Philippines by legislation already passed, how absurd that proposition is. Passing lightly from the proposition that the Chinese are to be poured into the Philippines, from which our laws expressly exclude them, the dismal picture is then drawn of what will happen to the islands if we do not let the Chinese in. The testimony is very clear to my mind that the Filipino people, if they have an opportunity to earn good wages and to have them regularly paid—something which has never happened to them under Spanish rule—will be found quite capable of doing all the work that is needed in the islands. They are skilful workers in the factories they have there, such as the cigarette factories; they are noted as good machinists; they are deft and ingenious with their hands; they work in the rice-fields under a sun which is too much even for Chinamen, and they carry on all the cultivation of the islands. If we once give them an opportunity to perform this new work and receive regular wages and be properly paid, I am sure we shall find that the labor is there, so that the Filipino people can develop their own territory. It may be a slower process than if we should throw the islands open now to sudden exploitation in large masses of territory, with great bodies of capital and with Chinese labor; but that it is simple justice to the people of those islands, and that it is infinitely better to give them the arrangement that we have given them is, to my mind, too clear for argument."

The great part of Mr. Lodge's speech, however, was devoted to an argument in vindication of the conduct of the army rather than a discussion of the policy of the bill. In conclusion he said, after the presentation of much evidence on the subject:

"Now, Mr. President, I do not seek to defend any cruelty, but I do want to have justice done to the American army. I want the people of the country to know when they read of cruelties to the hostile Filipino what the provocation has been; I want them to think of what our men have suffered and endured; I want, and we can afford to give, absolute justice to the American army. I do not wish to be put in a position of being the defender of cruelties; but if I must take my choice between men, then I am for the friendly native, the friend of America, against the men in arms against the United States. I am for the American army against the insurgents. I do not like to hear that army assailed

as it has been assailed. It is our army; its glory is our glory. We can not tarnish that glory without tarnishing the glory and the fame of the country abroad. When we heap obloquy upon them on account of these cruelties, I say again, remember the provocation, remember the faces of the dead boys under the sands of Luzon—not dead by battle, but dead by murder; remember the dead and the treatment of captured prisoners, and let us show some little understanding of the trials which those officers and those soldiers have had to undergo."

Preliminary to the final vote on the passage of the bill in the Senate several important amendments were proposed and rejected.

Mr. Patterson, of Colorado, proposed to amend the measure by inserting the provision: "The trial of all crimes except in cases of impeachment shall be by jury; and such trial shall be held in the province where the said crime shall have been committed." The amendment was defeated by a vote of 47 to 28.

Mr. Teller, of Colorado, proposed the following amendment:

"It is not the intention of the Government of the United States to harass or oppress the inhabitants of the Philippine Islands, or to deprive them of their liberty, but, on the contrary, to assist them to establish a government of their own that shall secure to them all privileges, advantages, and blessings enjoyed by a free people, and ultimate independence under the protection of the United States against foreign powers and domestic violence. And to secure these ends as speedily as possible, the Government of the United States invites and urges the people of said islands to aid the United States authorities now exercising power in the islands to secure peace and order."

This was defeated by a vote of 47 to 30.

Mr. Carmack, of Tennessee, proposed the following amendment:

"That the United States regard with extreme disfavor any movement having for its object the early or ultimate admission of the Philippine Islands as a State or States of the Union; and any action on the part of persons holding office under the authority of the United States that gives sanction or encouragement to such movement is hereby condemned.

"That to confer the rights and privileges of citizens upon the inhabitants of the Philippine Islands would tend to destroy the integrity of the citizenship and to degrade the character of the Government of the United States.

"That to maintain the relation of sovereign and subject between the Government of the United States and a people under its dominion would be repugnant to the principles of the Constitution."

The first clause alone was defeated by a vote of 46 to 28, and the second and third clauses by a vote of 49 to 23.

Mr. Culberson, of Texas, proposed as an amendment in the way of a substitute to strike out all after the enacting clause of the bill and insert the following:

"That subject to the provisions hereinafter set forth the United States of America hereby relinquish all claim of sovereignty over and title to the archipelago known as the Philippine Islands.

"SEC. 2. That the United States shall continue to occupy and govern said archipelago until the people thereof have established a government in accordance with the provisions of this act, with sufficient guaranties for the performance of our treaty obligations with Spain and for the safety

of those inhabitants who have adhered to the United States, and for the maintenance and protection of all rights which have accrued under the authority thereof, as hereinafter provided.

"SEC. 3. That upon the cessation of organized armed opposition to the temporary sovereignty of the United States Government the President of the United States shall proclaim the fact, and within ninety days after the issuance of such proclamation the United States Philippine Commission shall make and promulgate rules and regulations for the holding of an election in the various provinces of said Philippine Archipelago for members of a house of representatives and a senate, to constitute a temporary congress, which shall be vested with full legislative power and also with the power of appointing such judges as may to them seem proper and necessary. The said Philippine congress shall prescribe rules and regulations for the election or appointment of all other offices, provincial or municipal, as may to them seem proper or necessary. The members of the said senate and house shall hold their offices for the term of four years from and after their election and qualification, unless said terms of office are sooner terminated by the inauguration of the permanent government created by the constitutional convention hereinafter provided for, and all other officers shall hold office for such terms as may be prescribed by such congress. Senators and representatives in congress are to receive compensation at the rate of — dollars per annum and other officers shall receive such compensation as may be prescribed by the congress.

"The chief executive shall be appointed by the President of the United States, by and with the advice and consent of the Senate of the United States, and shall be vested with a veto power over all acts of the Philippine congress having relation to their foreign affairs, but shall have no veto power with respect to other legislation, nor shall he be empowered to appoint any officer unless authorized to do so by the Philippine congress. He shall exercise such other executive powers as shall be vested in him by the Philippine congress, and shall hold his office for a term of four years unless the temporary government shall within that time be superseded by the inauguration of the permanent government herein provided for, and said president shall receive a compensation of \$10,000 per annum, to be paid out of the Philippine treasury. There shall be such other executive officers receiving such compensation and performing such duties as may be prescribed by the Philippine congress, and they shall be appointed or elected in such manner as may be prescribed by law.

"During the period of the existence of the temporary government herein provided for, which shall in no event extend beyond four years from and after the date of its inauguration, the United States guarantee to the people of said Philippine Archipelago their independence and a republican form of government, and shall protect them against invasion and, upon application by the congress thereof, against domestic violence.

"That all male inhabitants of said archipelago twenty-one years of age and over who can speak and write either the English or Spanish language, or any of the native languages of the said archipelago, and who shall have resided therein for one year, shall be qualified to vote for members of congress and other elective officers, and any person so qualified as an elector shall be qualified to become a member of said congress or to hold any elective office.

"The house of representatives shall be composed of 100 members and the senate of 30 members, and shall be apportioned by the United States Philippine Commission among the several provinces of said archipelago, so that the distribution of membership in the house of representatives shall be in proportion to their population, as near as may be, and so that the membership of the senate shall be as nearly representative of separate provinces as may be; and when said apportionment has been determined upon, the said commission shall by proclamation order an election of the members of said congress to be held throughout the said archipelago, at such time as shall be fixed by the said commission, which election shall be held not more than one hundred and twenty days from the date of the proclamation by the President of the United States hereinbefore provided for, and ample time shall be given before said election to circulate said proclamation throughout the archipelago and arrange for the holding of said election.

"SEC. 4. That the members of the congress thus elected shall meet at the city of Manila on a day to be fixed by the United States Philippine Commission, not more than ninety days subsequent to the day of election, the time for which meeting shall be stated in the proclamation aforesaid, and after organization the said congress and president, constituting the temporary government herein provided for, shall proceed to the performance of their duties as the temporary government of the Philippine Archipelago: *Provided*, That said congress shall provide by legislation and treaty, irrevocable without the consent of the United States—

"First. That there shall belong to the United States, and continue to be the property thereof, such lands and waters as the President of the United States shall designate to the Philippine government, and shall be agreed to by it, for naval, military, and coaling stations, and terminal facilities for submarine cables, the same to continue under the control and sovereignty of the United States.

"Second. To carry into effect the treaty obligations of the United States with the Kingdom of Spain and for the maintenance and protection of all rights and property acquired under the authority of the United States.

"Third. That no inhabitant of said archipelago shall ever be molested in person or property on account of his or her adherence to the United States.

"SEC. 5. That when the election herein provided for shall have taken place and the congress thereby elected shall have convened, in compliance with the provisions of the act, the said United States Philippine Commission shall certify the fact to the President of the United States, whereupon it shall be the duty of the President to issue his proclamation declaring the independence of the people of said archipelago and that they constitute an independent state and nation; subject, however, to the control and regulation by the United States of their intercourse with foreign nations during the period of the existence of the temporary government herein provided for.

"SEC. 6. That immediately after the President shall have proclaimed that all organized armed resistance to the United States has ceased in said archipelago, he is requested to proclaim full amnesty to all inhabitants thereof for and on account of political offenses and the bearing of arms against the United States, and all Filipinos

or inhabitants of said archipelago who have been deported shall be returned to the place whence they were so deported; *Provided*, That such amnesty shall not apply to any who have violated the rules of civilized warfare or who have been guilty of murder or torture; that the latter, if any, shall be afforded a speedy trial for their offenses in the civil courts of said archipelago and be punished or acquitted, as the facts and law may warrant.

"SEC. 7. That within sixty days from the election of officers under the temporary government to be formed by the people of the Philippine Archipelago, in accordance with the provisions of this act, and the inauguration of said officers, the President shall cause the armed forces of the United States to be withdrawn from said archipelago as speedily as may be, except such forces as may be maintained in such parts thereof as have been retained by the United States for naval, military, and coaling stations and terminal facilities for cables, and the President of the United States and the Secretary of War shall make all needful regulations to carry into effect the provisions of this section.

"SEC. 8. That it shall be the duty of the Philippine congress herein provided for to prescribe rules and regulations and qualifications for electors for the election and holding of a constitutional convention which shall be charged with the duty of framing a permanent government for the people of the Philippine Archipelago. Said constitutional convention shall be called to meet at such place and at such time, not later than the first Monday of January, 1906, as may be prescribed by said Philippine congress. Upon the completion of the labors of said convention and the inauguration of the government consequent thereupon, it shall be the duty of the President of the United States to issue his proclamation declaring the absolute and unqualified independence of the people of the Philippine Archipelago and that they constitute an independent state and nation, and upon the issuance of said proclamation the United States Government and the Philippine government shall become and be as fully separate and independent as any other separate and independent nations are: *Provided, however*, That if the Philippine government request it, the United States Government hereby agrees to assume a protectorate over the Philippine Archipelago for a period additional to the period of the temporary government herein provided for, said additional period of protectorate not to exceed, however, the period of sixteen years: *Provided further*, That the said Philippine government agree during the said period of additional protectorate to surrender to the keeping of the United States Government the regulation and control of the foreign affairs of the Philippine Archipelago.

"SEC. 9. That all terms of office of legislative, executive, and judicial officers of the temporary government hereinbefore provided for, including the term of office of the president, and the terms of office of the senators and representatives in congress hereinbefore prescribed, shall terminate with the existence of the temporary government herein provided for, and said temporary government shall *ipso facto* cease to exist upon the inauguration of the permanent government to be called into existence by the constitutional convention herein provided for; and nothing herein contained shall be so construed as to prevent the congress of the Philippine Archipelago from calling the said constitutional convention at a date earlier than the date herein fixed."

The substitute was rejected by a vote of 48 to 28.

Mr. McLaurin, of Mississippi, proposed the following amendment:

"It is the policy of the Government to preserve the agricultural public lands in the archipelago for homes for the people of the archipelago, and no part of said agricultural lands shall be sold under this act except for such homes, nor to any except a natural person, a citizen of said archipelago."

It was beaten by a vote of 47 to 28.

The vote on the passage of the measure was as follows:

YEAS—Allison, Bard, Beveridge, Burnham, Burrows, Burton, Clapp, Clark of Wyoming, Cul-
lom, Deboe, Dietrich, Dillingham, Dolliver, Elkins, Fairbanks, Foraker, Foster of Washington, Frye, Gallinger, Gamble, Hanna, Hawley, Jones of Nevada, Kean, Kearns, Kittredge, Lodge, McComas, McCumber, McLaurin of South Carolina, McMillan, Millard, Mitchell, Nelson, Penrose, Perkins, Platt of Connecticut, Platt of New York, Pritchard, Proctor, Quarles, Quay, Scott, Simon, Spooner, Stewart, Warren, Wetmore—48.

NAYS—Bacon, Bailey, Bate, Berry, Blackburn, Carmack, Clark of Montana, Clay, Cockrell, Culberson, Dubois, Foster of Louisiana, Gibson, Harris, Heitfeld, Hoar, McEneery, McLaurin of Mississippi, Mallory, Martin, Mason, Money, Morgan, Patterson, Simmons, Taliaferro, Teller, Tillman, Vest, Wellington—30.

NOT VOTING—Aldrich, Daniel, Depew, Dryden, Hale, Hansbrough, Jones of Arkansas, Pettus, Rawlins, Turner—10.

In the House of Representatives the usual device of a special rule, under which that body has become, in recent years, executive rather than deliberative, was adopted, June 16, to bring the bill to a prompt vote. It was ordered that it should be considered in Committee of the Whole, Wednesday, June 25, reported to the House with amendments at four o'clock, Thursday, June 26, and then put to passage under the previous question. It was amended and passed that day by a vote of 140 to 97.

The amendment, in the way of a substitute, reported by the Republican majority of the Committee on Insular Affairs, and adopted by the majority of the House, was radical in its changes, and their character may be best understood by the report of the managers appointed to represent the House on a conference committee, after the Senate had non-concurred in the amendment. The differences are thus stated, in reporting the substitute measure of the Conference Committee:

"There were three important points of difference between the two Houses, namely, provisions in the House bill for a legislature; another in relation to lands; and another in relation to coinage. The Senate recedes from its disagreement to the provision for a legislature, and agrees to it with an amendment providing that within two years after the census, provided for in the House bill, has been completed, if, in the meanwhile, a condition of general peace and good order shall have prevailed, the President shall order the Philippine Commission to call, and the commission shall call, a general election for the choice of delegates to a popular assembly of the people of that portion of the islands not inhabited by Moros and pagan tribes, which shall be known as the Philippine assembly. As to the qualification of voters, the power of the assembly, and of the legislature, and the qualification of the members of the assembly, the Senate has agreed substantially to the House provisions.

This also provides for two commissioners, to be elected by the legislature.

"The Senate further recedes from its disagreement to the provisions of the House bill relating to public lands, and agrees to the same with an amendment reducing the amount of land to be held by corporations from 2,000 hectares to 1,024 hectares. The Senate has further agreed to the House provisions restricting the ownership and control by members of corporations, and corporations, of mining and agricultural lands, with additional stringent provisions limiting these holdings.

"In the coinage provision reported, the Senate recedes from its provision for the coinage of a Philippine silver dollar, and the House recedes from its provision for the establishment of a gold standard. The report agrees upon the provisions for subsidiary coins and minor coins, the names of which are to be those contained in the House bill, and substantially as provided for in the House bill.

"The provisions relating to banks are eliminated from the bill.

"The bill contains the legislative limitations and bill of rights, complete, as in the House bill.

"The mining provisions of the bill reported are a combination of the provisions of the mining features of the two bills."

The President approved the bill in its final form, July 1, 1902. Its text is as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the action of the President of the United States in creating the Philippine Commission and authorizing said commission to exercise the powers of government to the extent and in the manner and form and subject to the regulation and control set forth in the instructions of the President to the Philippine Commission, dated April 17, 1900, and in creating the offices of civil governor and vice-governor of the Philippine Islands, and authorizing said civil governor and vice-governor to exercise the powers of government to the extent and in the manner and form set forth in the Executive order dated June 21, 1901, and in establishing four executive departments of government in said islands as set forth in the act of the Philippine Commission, entitled, 'An Act providing an organization for the departments of the interior, of commerce and police, of finance and justice, and of public instruction,' enacted Sept. 6, 1901, is hereby approved, ratified, and confirmed, and, until otherwise provided by law, the said islands shall continue to be governed as thereby and herein provided, and all laws passed hereafter by the Philippine Commission shall have an enacting clause as follows: 'By authority of the United States be it enacted by the Philippine Commission.'

"The provisions of section 1891 of the Revised Statutes of 1878 shall not apply to the Philippine Islands.

"Future appointments of civil governor, vice-governor, members of said commission, and heads of executive departments shall be made by the President, by and with the advice and consent of the Senate.

"SEC. 2. That the action of the President of the United States heretofore taken by virtue of the authority vested in him as Commander-in-Chief of the Army and Navy, as set forth in his order of July 12, 1898, whereby a tariff of duties and taxes as set forth by said order was to be levied and collected at all ports and places in the Philippine Islands upon passing into the

occupation and possession of the forces of the United States, together with the subsequent amendments of said order, are hereby approved, ratified, and confirmed, and the actions of the authorities of the government of the Philippine Islands, taken in accordance with the provisions of said order and subsequent amendments, are hereby approved: *Provided*, That nothing contained in this section shall be held to amend or repeal an act entitled 'An Act temporarily to provide revenue for the Philippine Islands, and for other purposes,' approved March 8, 1902.

"SEC. 3. That the President of the United States, during such time as and whenever the sovereignty and authority of the United States encounter armed resistance in the Philippine Islands, until otherwise provided by Congress, shall continue to regulate and control commercial intercourse with and within said islands by such general rules and regulations as he, in his discretion, may deem most conducive to the public interest and the general welfare.

"SEC. 4. That all inhabitants of the Philippine Islands continuing to reside therein who were Spanish subjects on April 11, 1899, and then resided in said islands, and their children born subsequent thereto, shall be deemed and held to be citizens of the Philippine Islands and as such entitled to the protection of the United States, except such as shall have elected to preserve their allegiance to the Crown of Spain in accordance with the provisions of the treaty of peace between the United States and Spain signed at Paris, Dec. 10, 1898.

"SEC. 5. That no law shall be enacted in said islands which shall deprive any person of life, liberty, or property without due process of law, or deny to any person therein the equal protection of the laws.

"That in all criminal prosecutions the accused shall enjoy the right to be heard by himself and counsel, to demand the nature and cause of the accusation against him, to have a speedy and public trial, to meet the witnesses face to face, and to have compulsory process to compel the attendance of witnesses in his behalf.

"That no person shall be held to answer for a criminal offense without due process of law; and no person for the same offense shall be twice put in jeopardy of punishment, nor shall be compelled in any criminal case to be a witness against himself.

"That all persons shall before conviction be bailable by sufficient sureties, except for capital offenses.

"That no law impairing the obligation of contracts shall be enacted.

"That no person shall be imprisoned for debt.

"That the privilege of the writ of habeas corpus shall not be suspended, unless when in cases of rebellion, insurrection, or invasion the public safety may require it, in either of which events the same may be suspended by the President, or by the governor, with the approval of the Philippine Commission, wherever during such period the necessity for such suspension shall exist.

"That no *ex post facto* law or bill of attainder shall be enacted.

"That no law granting a title of nobility shall be enacted, and no person holding any office of profit or trust in said islands, shall, without the consent of the Congress of the United States, accept any present, emolument, office, or title of any kind whatever from any king, queen, prince, or foreign State.

"That excessive bail shall not be required, nor

excessive fines imposed, nor cruel and unusual punishment inflicted.

"That the right to be secure against unreasonable searches and seizures shall not be violated.

"That neither slavery, nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist in said islands.

"That no law shall be passed abridging the freedom of speech or of the press, or the right of the people peaceably to assemble and petition the Government for redress of grievances.

"That no law shall be made respecting an establishment of religion or prohibiting the free exercise thereof, and that the free exercise and enjoyment of religious profession and worship, without discrimination or preference, shall forever be allowed.

"That no money shall be paid out of the treasury except in pursuance of an appropriation by law.

"That the rule of taxation in said islands shall be uniform.

"That no private or local bill which may be enacted into law shall embrace more than one subject, and that subject shall be expressed in the title of the bill.

"That no warrant shall issue but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched and the person or things to be seized.

"That all money collected on any tax levied or assessed for a special purpose shall be treated as a special fund in the treasury and paid out for such purpose only.

"SEC. 6. That whenever the existing insurrection in the Philippine Islands shall have ceased and a condition of general and complete peace shall have been established therein and the fact shall be certified to the President by the Philippine Commission, the President, upon being satisfied thereof, shall order a census of the Philippine Islands to be taken by said Philippine Commission; such census in its inquiries relating to the population shall take and make so far as practicable full report for all the inhabitants, of name, age, sex, race, or tribe, whether native or foreign born, literacy in Spanish, native dialect or language, or in English, school attendance, ownership of homes, industrial and social statistics, and such other information separately for each island, each province, and municipality, or other civil division, as the President and said commission may deem necessary: *Provided*, That the President may, upon the request of said commission, in his discretion, employ the service of the Census Bureau in compiling and promulgating the statistical information above provided for, and may commit to such bureau any part or portion of such labor as to him may seem wise.

"SEC. 7. That two years after the completion and publication of the census, in case such condition of general and complete peace with recognition of the authority of the United States shall have continued in the territory of said islands not inhabited by Moros or other non-Christian tribes and such facts shall have been certified to the President by the Philippine Commission, the President upon being satisfied thereof shall direct said commission to call, and the commission shall call, a general election for the choice of delegates to a popular assembly of the people of said territory in the Philippine Islands, which shall be known as the Philippine Assembly. After said assembly shall have convened and organized, all the legislative

power heretofore conferred on the Philippine Commission in all that part of said islands not inhabited by Moros or other non-Christian tribes shall be vested in a legislature consisting of two houses—the Philippine Commission and the Philippine Assembly. Said assembly shall consist of not less than 50 nor more than 100 members to be apportioned by said commission among the provinces as nearly as practicable according to population: *Provided*, That no province shall have less than one member: *And provided further*, That provinces entitled by population to more than one member may be divided into such convenient districts as the said commission may deem best.

"Public notice of such division shall be given at least ninety days prior to such election, and the election shall be held under rules and regulations to be prescribed by law. The qualification of electors in such election shall be the same as is now provided by law in case of electors in municipal elections. The members of assembly shall hold office for two years from the 1st day of January next following their election, and their successors shall be chosen by the people every second year thereafter. No person shall be eligible to such election who is not a qualified elector of the election district in which he may be chosen, owing allegiance to the United States, and twenty-five years of age.

"The legislature shall hold annual sessions, commencing on the first Monday of February in each year and continuing not exceeding ninety days thereafter (Sundays and holidays not included): *Provided*, That the first meeting of the legislature shall be held upon the call of the governor within ninety days after the first election: *And provided further*, That if at the termination of any session the appropriations necessary for the support of government shall not have been made, an amount equal to the sums appropriated in the last appropriation bills for such purposes shall be deemed to be appropriated; and until the legislature shall act in such behalf the treasurer may, with the advice of the governor, make the payments necessary for the purposes aforesaid.

"The legislature may be called in special session at any time by the civil governor for general legislation, or for action on such specific subjects as he may designate. No special session shall continue longer than thirty days, exclusive of Sundays.

"The assembly shall be the judge of the elections, returns, and qualifications of its members. A majority shall constitute a quorum to do business, but a smaller number may adjourn from day to day and may be authorized to compel the attendance of absent members. It shall choose its speaker and other officers, and the salaries of its members and officers shall be fixed by law. It may determine the rule of its proceedings, punish its members for disorderly behavior, and with the concurrence of two-thirds expel a member. It shall keep a journal of its proceedings, which shall be published, and the yeas and nays of the members on any question shall, on the demand of one-fifth of those present, be entered on the journal.

"SEC. 8. That at the same time with the first meeting of the Philippine legislature, and biennially thereafter, there shall be chosen by said legislature, each house voting separately, two resident commissioners to the United States, who shall be entitled to an official recognition as such by all departments upon presentation to the President of a certificate of election by the

civil governor of said islands, and each of whom shall be entitled to a salary payable monthly by the United States at the rate of \$5,000 per annum, and \$2,000 additional to cover all expenses: *Provided*, That no person shall be eligible to such election who is not a qualified elector of said islands, owing allegiance to the United States, and who is not thirty years of age.

"SEC. 9. That the supreme court and the courts of first instance of the Philippine Islands shall possess and exercise jurisdiction as heretofore provided and such additional jurisdiction as shall hereafter be prescribed by the government of said islands, subject to the power of said government to change the practice and method of procedure. The municipal courts of said islands shall possess and exercise jurisdiction as heretofore provided by the Philippine Commission, subject in all matters to such alteration and amendment as may be hereafter enacted by law; and the chief justice and associate justices of the supreme court shall hereafter be appointed by the President, by and with the advice and consent of the Senate, and shall receive the compensation heretofore prescribed by the commission until otherwise provided by Congress. The judges of the court of first instance shall be appointed by the civil governor, by and with the advice and consent of the Philippine Commission: *Provided*, That the admiralty jurisdiction of the supreme court and courts of first instance shall not be changed except by act of Congress.

"SEC. 10. That the Supreme Court of the United States shall have jurisdiction to review, revise, reverse, modify, or affirm the final judgments and decrees of the supreme court of the Philippine Islands in all actions, cases, causes, and proceedings now pending therein or hereafter determined thereby in which the Constitution or any statute, treaty, title, right, or privilege of the United States is involved, or in causes in which the value in controversy exceeds \$25,000, or in which the title or possession of real estate exceeding in value the sum of \$25,000, to be ascertained by the oath of either party or of other competent witnesses, is involved or brought in question; and such final judgments or decrees may and can be reviewed, revised, reversed, modified, or affirmed by said Supreme Court of the United States, on appeal or writ of error by the party aggrieved, in the same manner, under the same regulations, and by the same procedure, as far as applicable, as the final judgments and decrees of the circuit courts of the United States.

"SEC. 11. That the government of the Philippine Islands is hereby authorized to provide for the needs of commerce by improving the harbors and navigable waters of said islands and to construct and maintain in said navigable waters and upon the shore adjacent thereto bonded warehouses, wharves, piers, lighthouses, signal and life-saving stations, buoys, and like instruments of commerce, and to adopt and enforce regulations in regard thereto, including bonded warehouses wherein articles not intended to be imported into said islands nor mingled with the property therein, but brought into a port of said islands for reshipment to another country, may be deposited in bond and reshipped to another country without the payment of customs duties or charges.

"SEC. 12. That all the property and rights which may have been acquired in the Philippine Islands by the United States under the treaty of peace with Spain, signed Dec. 10, 1898, except such land or other property as shall be desig-

nated by the President of the United States for military and other reservations of the Government of the United States, are hereby placed under the control of the government of said islands to be administered for the benefit of the inhabitants thereof, except as provided in this act.

"SEC. 13. That the government of the Philippine Islands, subject to the provisions of this act and except as herein provided, shall classify according to its agricultural character and productiveness, and shall immediately make rules and regulations for the lease, sale, or other disposition of the public lands other than timber or mineral lands, but such rules and regulations shall not go into effect or have the force of law until they have received the approval of the President, and when approved by the President they shall be submitted by him to Congress at the beginning of the next ensuing session thereof and unless disapproved or amended by Congress at said session they shall at the close of such period have the force and effect of law in the Philippine Islands: *Provided*, That a single homestead entry shall not exceed 16 hectares in extent.

"SEC. 14. That the government of the Philippine Islands is hereby authorized and empowered to enact rules and regulations and to prescribe terms and conditions to enable persons to perfect their title to public lands in said islands, who, prior to the transfer of sovereignty from Spain to the United States, had fulfilled all or some of the conditions required by the Spanish laws and royal decrees of the Kingdom of Spain for the acquisition of legal title thereto yet failed to secure conveyance of title; and the Philippine Commission is authorized to issue patents, without compensation, to any native of said islands, conveying title to any tract of land not more than 16 hectares in extent, which were public lands and had been actually occupied by such native or his ancestors prior to and on Aug. 13, 1898.

"SEC. 15. That the government of the Philippine Islands is hereby authorized and empowered, on such terms as it may prescribe, by general legislation, to provide for the granting or sale and conveyance to actual occupants and settlers and other citizens of said islands such parts and portions of the public domain, other than timber and mineral lands, of the United States in said islands as it may deem wise, not exceeding 16 hectares to any one person and for the sale and conveyance of not more 1,024 hectares to any corporation or association of persons: *Provided*, That the grant or sale of such lands, whether the purchase price be paid at once or in partial payments, shall be conditioned upon actual and continued occupancy, improvement, and cultivation of the premises sold for a period of not less than five years, during which time the purchaser or grantee can not alienate or encumber said land or the title thereto; but such restriction shall not apply to transfers of rights and title of inheritance under the laws for the distribution of the estates of decedents.

"SEC. 16. That in granting or selling any part of the public domain under the provisions of the last preceding section, preference in all cases shall be given to actual occupants and settlers; and such public lands of the United States in the actual possession or occupancy of any native of the Philippine Islands shall not be sold by said government to any other person without the consent thereto of said prior occupant or settler first had and obtained: *Provided*, That the prior right hereby secured to an occupant of land, who can

show no other proof of title than possession, shall not apply to more than 16 hectares in any one tract.

"SEC. 17. That timber, trees, forests, and forest products on lands leased or demised by the government of the Philippine Islands under the provisions of this act shall not be cut, destroyed, removed, or appropriated except by special permission of said government and under such regulations as it may prescribe.

"All moneys obtained from lease or sale of any portion of the public domain or from licenses to cut timber by the government of the Philippine Islands shall be covered into the insular treasury and be subject only to appropriation for insular purposes according to law.

"SEC. 18. That the forest laws and regulations now in force in the Philippine Islands, with such modifications and amendments as may be made by the government of said islands, are hereby continued in force, and no timber lands forming part of the public domain shall be sold, leased, or entered until the government of said islands, upon the certification of the forestry bureau that said lands are more valuable for agriculture than for forest uses, shall declare such lands so certified to be agricultural in character: *Provided*, That the said government shall have the right and is hereby empowered to issue licenses to cut, harvest, or collect timber or other forest products on reserved or unreserved public lands in said islands in accordance with the forest laws and regulations hereinbefore mentioned and under the provisions of this act, and the said government may lease land to any person or persons holding such licenses, sufficient for a mill-site, not to exceed 4 hectares in extent, and may grant rights of way to enable such person or persons to get access to the lands to which such licenses apply.

"SEC. 19. That the beneficial use shall be the basis, the measure, and the limit of all rights to water in said islands, and the government of said islands is hereby authorized to make such rules and regulations for the use of water, and to make such reservations of public lands for the protection of the water-supply, and for other public purposes not in conflict with the provisions of this act, as it may deem best for the public good.

"MINERAL LANDS.

"SEC. 20. That in all cases public lands in the Philippine Islands valuable for minerals shall be reserved from sale, except as otherwise expressly directed by law.

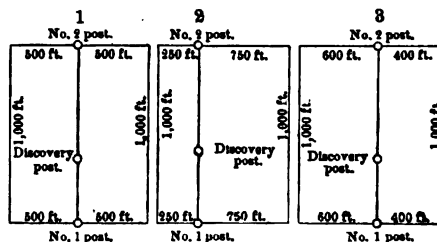
"SEC. 21. That all valuable mineral deposits in public lands in the Philippine Islands, both surveyed and unsurveyed, are hereby declared to be free and open to exploration, occupation, and purchase, and the land in which they are found to occupation and purchase, by citizens of the United States, or of said islands: *Provided*, That when on any lands in said islands entered and occupied as agricultural lands under the provisions of this act, but not patented, mineral deposits have been found, the working of such mineral deposits is hereby forbidden until the person, association, or corporation who or which has entered and is occupying such lands shall have paid to the government of said islands such additional sum or sums as will make the total amount paid for the mineral claim or claims in which said deposits are located equal to the amount charged by the government for the same as mineral claims.

"SEC. 22. That mining claims upon land containing veins or lodes of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper, or other valuable deposits, located after

the passage of this act, whether located by one or more persons qualified to locate the same under the preceding section, shall be located in the following manner and under the following conditions: Any person so qualified desiring to locate a mineral claim shall, subject to the provisions of this act with respect to land which may be used for mining, enter upon the same and locate a plot of ground measuring, where possible, but not exceeding, 1,000 feet in length by 1,000 feet in breadth, in as nearly as possible a rectangular form; that is to say: All angles shall be right angles, except in cases where a boundary-line of a previously surveyed claim is adopted as common to both claims, but the lines need not necessarily be meridional. In defining the size of a mineral claim, it shall be measured horizontally, irrespective of inequalities of the surface of the ground.

"SEC. 23. That a mineral claim shall be marked by two posts placed as nearly as possible on the line of the ledge or vein, and the posts shall be numbered one and two, and the distance between posts numbered one and two shall not exceed 1,000 feet, the line between posts numbered one and two to be known as the location line; and upon posts numbered one and two shall be written the name given to the mineral claim, the name of the locator, and the date of the location. Upon post numbered one there shall be written, in addition to the foregoing, 'Initial post,' the approximate compass bearing of post numbered two, and a statement of the number of feet lying to the right and to the left of the line from post numbered one to post numbered two, thus: 'Initial post. Direction of post numbered two. ——— feet of this claim lie on the right and ——— feet on the left of the line from number one to number two post.' All the particulars required to be put on number one and number two posts shall be furnished by the locator to the provincial secretary, or such other officer as by the Philippine government may be described as mining recorder, in writing, at the time the claim is recorded, and shall form a part of the record of such claim.

"SEC. 24. That when a claim has been located the holder shall immediately mark the line between posts numbered one and two so that it can be distinctly seen. The locator shall also place a post at the point where he has found minerals in place, on which shall be written 'Discovery post': *Provided*, That when the claim is surveyed the surveyor shall be guided by the records of the claim, the sketch plan on the back of the declaration made by the owner when the claim was recorded, posts numbered one and two, and the notice on number one, the initial post.



"SEC. 25. That it shall not be lawful to move number one post, but number two post may be moved by the deputy mineral surveyor when the distance between posts numbered one and two exceeds 1,000 feet, in order to place number two post 1,000 feet from number one post on the line of location. When the distance between posts

numbered one and two is less than 1,000 feet the deputy mineral surveyor shall have no authority to extend the claim beyond number two.

"SEC. 26. That the 'location line' shall govern the direction of one side of the claim, upon which the survey shall be extended according to this act.

"SEC. 27. That the holder of a mineral claim shall be entitled to all minerals which may lie within his claim, but he shall not be entitled to mine outside the boundary-lines of his claim continued vertically downward: *Provided*, That this act shall not prejudice the rights of claim owners nor claim holders whose claims have been located under existing laws prior to this act.

"SEC. 28. That no mineral claim of the full size shall be recorded without the application being accompanied by an affidavit made by the applicant or some person on his behalf cognizant of the facts—that the legal notices and posts have been put up; that mineral has been found in place on the claim proposed to be recorded; that the ground applied for is unoccupied by any other person. In the said declaration shall be set out the name of the applicant and the date of the location of the claim. The words written on the number one and number two posts shall be set out in full, and as accurate a description as possible of the position of the claim given with reference to some natural object or permanent monuments.

"SEC. 29. That no mineral claim which at the date of its record is known by the locator to be less than a full-sized mineral claim shall be recorded without the word 'fraction' being added to the name of the claim, and the application being accompanied by an affidavit or solemn declaration made by the applicant or some person on his behalf cognizant of the facts: That the legal posts and notices have been put up; that mineral has been found in place on the fractional claim proposed to be recorded; that the ground applied for is unoccupied by any other person. In the said declaration shall be set out the name of the applicant and the date of the location of the claim. The words written on the posts numbered one and two shall be set out in full, and as accurate a description as possible of the position of the claim given. A sketch plan shall be drawn by the applicant on the back of the declaration, showing as near as may be the position of the adjoining mineral claims and the shape and size, expressed in feet, of the claim or fraction desired to be recorded: *Provided*, That the failure on the part of the locator of a mineral claim to comply with any of the foregoing provisions of this section shall not be deemed to invalidate such location, if upon the facts it shall appear that such locator has actually discovered mineral in place on said location, and that there has been on his part a *bona fide* attempt to comply with the provisions of this act, and that the non-observance of the formalities hereinbefore referred to is not of a character calculated to mislead other persons desiring to locate claims in the vicinity.

"SEC. 30. That in cases where, from the nature or shape of the ground, it is impossible to mark the location line of the claim as provided by this act, then the claim may be marked by placing posts as nearly as possible to the location line, and noting the distance and direction such posts may be from such location line, which distance and direction shall be set out in the record of the claim.

"SEC. 31. That every person locating a mineral claim shall record the same with the provincial secretary or such other officer as by the government of the Philippine Islands may be described as mining recorder of the district within which

the same is situate, within thirty days after the location thereof. Such records shall be made in a book to be kept for the purpose in the office of the said provincial secretary or such other office as by said government described as mining recorder, in which shall be inserted the name of the claim, the name of each locator, the locality of the mine, the direction of the location line, the length in feet, the date of location, and the date of the record. A claim which shall not have been recorded within the prescribed period shall be deemed to have been abandoned.

"SEC. 32. That in case of any dispute as to the location of a mineral claim the title to the claim shall be recognized according to the priority of such location, subject to any question as to the validity of the record itself and subject to the holder having complied with all the terms and conditions of this act.

"SEC. 33. That no holder shall be entitled to hold in his, its, or their own name or in the name of any other person, corporation, or association more than one mineral claim on the same vein or lode.

"SEC. 34. That a holder may at any time abandon any mineral claim by giving notice, in writing, of such intention to abandon, to the provincial secretary or such other officer as by the government of the Philippine Islands may be described as mining recorder; and from the date of the record of such notice all his interest in such claim shall cease.

"SEC. 35. That proof of citizenship under the clauses of this act relating to mineral lands may consist, in the case of an individual, of his own affidavit thereof; in the case of an association of persons unincorporated, of the affidavit of their authorized agent, made on his own knowledge or upon information and belief; and in the case of a corporation organized under the laws of the United States, or of any State or Territory thereof, or of the Philippine Islands, by the filing of a certified copy of their charter or certificate of incorporation.

"SEC. 36. That the United States Philippine Commission or its successors may make regulations, not in conflict with the provisions of this act, governing the location, manner of recording, and amount of work necessary to hold possession of a mining claim, subject to the following requirements:

"On each claim located after the passage of this act, and until a patent has been issued therefor, not less than \$100 worth of labor shall be performed or improvements made during each year: *Provided*, That upon a failure to comply with these conditions the claim or mine upon which such failure occurred shall be open to relocation in the same manner as if no location of the same had ever been made, provided that the original locators, their heirs, assigns, or legal representatives have not resumed work upon the claim after failure and before such location. Upon the failure of any one of several coowners to contribute his proportion of the expenditures required thereby, the coowners who have performed the labor or made the improvements may, at the expiration of the year, give such delinquent co-owner personal notice in writing, or notice by publication in the newspaper published nearest the claim, and in two newspapers published at Manila, one in the English language and the other in the Spanish language, to be designated by the chief of the Philippine insular bureau of public lands, for at least once a week for ninety days, and if, at the expiration of ninety days after such notice in writing or by publication such de-

linquent shall fail or refuse to contribute his proportion of the expenditure required by this section his interest in the claim shall become the property of his coowners who have made the required expenditures. The period within which the work required to be done annually on all unpatented mineral claims shall commence on the 1st day of January succeeding the date of location of such claim.

"SEC. 37. That a patent for any land claimed and located for valuable mineral deposits may be obtained in the following manner: Any person, association, or corporation authorized to locate a claim under this act, having claimed and located a piece of land for such purposes, who has or have complied with the terms of this act, may file in the office of the provincial secretary, or such other officer as by the government of said islands may be described as mining recorder of the province wherein the land claimed is located, an application for a patent, under oath, showing such compliance, together with a plat and field-notes of the claim or claims in common, made by or under the direction of the chief of the Philippine insular bureau of public lands, showing accurately the boundaries of the claim, which shall be distinctly marked by monuments on the ground, and shall post a copy of such plat, together with a notice of such application for a patent, in a conspicuous place on the land embraced in such plat previous to the filing of the application for a patent, and shall file an affidavit of at least two persons that such notice has been duly posted, and shall file a copy of the notice in such office, and shall thereupon be entitled to a patent for the land, in the manner following: The provincial secretary, or such other officer as by the Philippine government may be described as mining recorder, upon the filing of such application, plat, field-notes, notices, and affidavits, shall publish a notice that such an application has been made, once a week for the period of sixty days, in a newspaper to be by him designated as nearest to such claim and in two newspapers published at Manila, one in the English language and one in the Spanish language, to be designated by the chief of the Philippine insular bureau of public lands; and he shall also post such notice in his office for the same period. The claimant at the time of filing this application, or at any time thereafter within the sixty days of publication, shall file with the provincial secretary or such other officer as by the Philippine government may be described as mining recorder a certificate of the chief of the Philippine insular bureau of public lands that \$500 worth of labor has been expended for improvements made upon the claim by himself or grantors; that the plat is correct, with such further description by such reference to natural objects or permanent monuments as shall identify the claim, and furnish an accurate description to be incorporated in the patent. At the expiration of the sixty days of publication the claimant shall file his affidavit, showing that the plat and notice have been posted in a conspicuous place on the claim during such period of publication. If no adverse claim shall have been filed with the provincial secretary or such other officer as by the government of said islands may be described as mining recorder at the expiration of the sixty days of publication, it shall be assumed that the applicant is entitled to a patent upon the payment to the provincial treasurer or the collector of internal revenue of \$5 per acre and that no adverse claim exists, and thereafter no objection from third parties to the issuance of a patent shall be heard, except it be shown that the ap-

plicant has failed to comply with the terms of this act: *Provided*, That where the claimant for a patent is not a resident of or within the province wherein the land containing the vein, ledge, or deposit sought to be patented is located, the application for patent and the affidavits required to be made in this section by the claimant for such patent may be made by his, her, or its authorized agent where said agent is conversant with the facts sought to be established by said affidavits.

"SEC. 38. That applicants for mineral patents, if residing beyond the limits of the province or military department wherein the claim is situated, may make the oath or affidavit required for proof of citizenship before the clerk of any court of record, or before any notary public of any province of the Philippine Islands, or any other official in said islands authorized by law to administer oaths.

"SEC. 39. That where an adverse claim is filed during the period of publication it shall be upon the oath of the person or persons making the same, and shall show the nature, boundaries, and extent of such adverse claim, and all proceedings, except the publication of notice and making and filing of the affidavits thereof, shall be stayed until the controversy shall have been settled or decided by a court of competent jurisdiction or the adverse claim waived. It shall be the duty of the adverse claimant, within thirty days after filing his claim, to commence proceedings in a court of competent jurisdiction to determine the question of the right of possession, and prosecute the same with reasonable diligence to final judgment, and a failure so to do shall be a waiver of his adverse claim. After such judgment shall have been rendered the party entitled to the possession of the claim, or any portion thereof, may, without giving further notice, file a certified copy of the judgment roll with the provincial secretary or such other officer as by the government of the Philippine Islands may be described as mining recorder, together with the certificate of the chief of the Philippine insular bureau of public lands that the requisite amount of labor has been expended or improvements made thereon, and the description required in other cases, and shall pay to the provincial treasurer or the collector of internal revenue of the province in which the claim is situated, as the case may be, \$5 per acre for his claim, together with the proper fees, whereupon the whole proceedings and the judgment roll shall be certified by the provincial secretary or such other officer as by said government may be described as mining recorder to the secretary of the interior of the Philippine Islands, and a patent shall issue thereon for the claim, or such portion thereof as the applicant shall appear, from the decision of the court, rightly to possess. The adverse claim may be verified by the oath of any duly authorized agent or attorney in fact of the adverse claimant cognizant of the facts stated; and the adverse claimant, if residing or at the time being beyond the limits of the province wherein the claim is situated, may make oath to the adverse claim before the clerk of any court of record, or any notary public of any province or military department of the Philippine Islands, or any other officer authorized to administer oaths where the adverse claimant may then be. If it appears from the decision of the court that several parties are entitled to separate and different portions of the claim, each party may pay for his portion of the claim, with the proper fees, and file the certificate and description by the chief of the Philippine insular bureau of public lands, whereupon the provincial secretary or such other officer as

by the government of said islands may be described as mining recorder shall certify the proceedings and judgment roll to the secretary of the interior for the Philippine Islands, as in the preceding case, and patents shall issue to the several parties according to their respective rights. If in any action brought pursuant to this section title to the ground in controversy shall not be established by either party, the court shall so find, and judgment shall be entered accordingly. In such case costs shall not be allowed to either party, and the claimant shall not proceed in the office of the provincial secretary or such other officer as by the government of said islands may be described as mining recorder or be entitled to a patent for the ground in controversy until he shall have perfected his title. Nothing herein contained shall be construed to prevent the alienation of a title conveyed by a patent for a mining claim to any person whatever.

"SEC. 40. That the description of mineral claims upon surveyed lands shall designate the location of the claim with reference to the lines of the public surveys, but need not conform therewith; but where a patent shall be issued for claims upon unsurveyed lands the chief of the Philippine insular bureau of public lands in extending the surveys shall adjust the same to the boundaries of such patented claim according to the plat or description thereof, but so as in no case to interfere with or change the location of any such patented claim.

"SEC. 41. That any person authorized to enter lands under this act may enter and obtain patent to lands that are chiefly valuable for building-stone under the provisions of this act relative to placer mineral claims.

"SEC. 42. That any person authorized to enter lands under this act may enter and obtain patent to lands containing petroleum or other mineral oils and chiefly valuable therefor under the provisions of this act relative to placer mineral claims.

"SEC. 43. That no location of a placer claim shall exceed 64 hectares for any association of persons, irrespective of the number of persons composing such association, and no such location shall include more than 8 hectares for an individual claimant. Such locations shall conform to the laws of the United States Philippine Commission, or its successors, with reference to public surveys, and nothing in this section contained shall defeat or impair any *bona fide* ownership of land for agricultural purposes or authorize the sale of the improvements of any *bona fide* settler to any purchaser.

"SEC. 44. That where placer claims are located upon surveyed lands and conform to legal subdivisions no further survey or plat shall be required, and all placer mining claims located after the date of passage of this act shall conform as nearly as practicable to the Philippine system of public-land surveys and the regular subdivisions of such surveys; but where placer claims can not be conformed to legal subdivisions, survey and plat shall be made as on unsurveyed lands; and where by the segregation of mineral lands in any legal subdivision a quantity of agricultural land less than 16 hectares shall remain, such fractional portion of agricultural land may be entered by any party qualified by law for homestead purposes.

"SEC. 45. That where such person or association, they and their grantors, have held and worked their claims for a period equal to the time prescribed by the statute of limitations of the Philippine Islands, evidence of such posses-

sion and working of the claims for such period shall be sufficient to establish a right to a patent thereto under this act, in the absence of any adverse claim; but nothing in this act shall be deemed to impair any lien which may have attached in any way whatever prior to the issuance of a patent.

"SEC. 46. That the chief of the Philippine insular bureau of public lands may appoint competent deputy mineral surveyors to survey mining claims. The expenses of the survey of vein or lode claims and of the survey of placer claims, together with the cost of publication of notices, shall be paid by the applicants, and they shall be at liberty to obtain the same at the most reasonable rates, and they shall also be at liberty to employ any such deputy mineral surveyor to make the survey. The chief of the Philippine insular bureau of public lands shall also have power to establish the maximum charges for surveys and publication of notices under this act; and in case of excessive charges for publication he may designate any newspaper published in a province where mines are situated, or in Manila, for the publication of mining notices and fix the rates to be charged by such paper; and to the end that the chief of the bureau of public lands may be fully informed on the subject such applicant shall file with the provincial secretary, or such other officer as by the government of the Philippine Islands may be described as mining recorder, a sworn statement of all charges and fees paid by such applicant for publication and surveys, and of all fees and money paid the provincial treasurer or the collector of internal revenue, as the case may be, which statement shall be transmitted, with the other papers in the case, to the secretary of the interior for the Philippine Islands.

"SEC. 47. That all affidavits required to be made under this act may be verified before any officer authorized to administer oaths within the province or military department where the claims may be situated, and all testimony and proofs may be taken before any such officer, and, when duly certified by the officer taking the same, shall have the same force and effect as if taken before the proper provincial secretary or such other officer as by the government of the Philippine Islands may be described as mining recorder. In cases of contest as to the mineral or agricultural character of land the testimony and proofs may be taken as herein provided on personal notice of at least ten days to the opposing party; or if such party can not be found, then by publication at least once a week for thirty days in a newspaper to be designated by the provincial secretary or such other officer as by said government may be described as mining recorder published nearest to the location of such land and in two newspapers published in Manila, one in the English language and one in the Spanish language, to be designated by the chief of the Philippine insular bureau of public lands; and the provincial secretary or such other officer as by said government may be described as mining recorder shall require proofs that such notice has been given.

"SEC. 48. That where non-mineral land not contiguous to the vein or lode is used or occupied by the proprietor of such vein or lode for mining or milling purposes, such non-adjacent surface ground may be embraced and included in an application for a patent for such vein or lode, and the same may be patented therewith, subject to the same preliminary requirements as to survey and notice as are applicable to veins or lodes;

but no location of such non-adjacent land shall exceed 2 hectares, and payment for the same must be made at the same rate as fixed by this act for the superficies of the lode. The owner of a quartz-mill or reduction-works not owning a mine in connection therewith may also receive a patent for his mill site as provided in this section.

"SEC. 49. That as a condition of sale the government of the Philippine Islands may provide rules for working, policing, and sanitation of mines, and rules concerning easements, drainage, water rights, right of way, right of government survey and inspection, and other necessary means to their complete development not inconsistent with the provisions of this act, and those conditions shall be fully expressed in the patent. The Philippine Commission or its successors are hereby further empowered to fix the bonds of deputy mineral surveyors.

"SEC. 50. That whenever by priority of possession rights to the use of water for mining, agricultural, manufacturing, or other purposes have vested and accrued and the same are recognized and acknowledged by the local customs, laws, and the decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same, and the right of way for the construction of ditches and canals for the purposes herein specified is acknowledged and confirmed, but whenever any person, in the construction of any ditch or canal, injures or damages the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

"SEC. 51. That all patents granted shall be subject to any vested and accrued water rights, or rights to ditches and reservoirs used in connection with such water rights as may have been acquired under or recognized by the preceding section.

"SEC. 52. That the government of the Philippine Islands is authorized to establish land districts and provide for the appointment of the necessary officers wherever they may deem the same necessary for the public convenience, and to further provide that in districts where land-offices are established proceedings required by this act to be had before provincial officers shall be had before the proper officers of such land-offices.

"SEC. 53. That every person above the age of twenty-one years who is a citizen of the United States, or of the Philippine Islands, or who has acquired the rights of a native of said islands under and by virtue of the treaty of Paris, or any association of persons severally qualified as above, shall, upon application to the proper provincial treasurer, have the right to enter any quality of vacant coal lands of said islands not otherwise appropriated or reserved by competent authority, not exceeding 64 hectares to such individual person, or 128 hectares to such association, upon payment to the provincial treasurer or the collector of internal revenue, as the case may be, of not less than \$25 per hectare for such lands, where the same shall be situated more than 15 miles from any completed railroad or available harbor or navigable stream, and not less than \$50 per hectare for such lands as shall be within 15 miles of such road, harbor, or stream: *Provided*, That such entries shall be taken in squares of 16 or 64 hectares, in conformity with the rules and regulations governing the public-land surveys of the said islands in plotting legal subdivisions.

"SEC. 54. That any person or association of

persons, severally qualified as above provided, who have opened and improved, or shall hereafter open and improve, any coal-mine or mines upon the public lands, and shall be in actual possession of the same, shall be entitled to a preference right of entry under the preceding section of the mines so opened and improved.

"SEC. 55. That all claims under the preceding section must be presented to the proper provincial secretary within sixty days after the date of actual possession and the commencement of improvements on the land by the filing of a declaratory statement therefor; and where the improvements shall have been made prior to the expiration of three months from the date of the passage of this act, sixty days from the expiration of such three months shall be allowed for the filing of a declaratory statement; and no sale under the provisions of this act shall be allowed until the expiration of six months from the date of the passage of this act.

"SEC. 56. That the three preceding sections shall be held to authorize only one entry by the same person or association of persons; and no association of persons, any member of which shall have taken the benefit of such sections either as an individual or as a member of any other association, shall enter or hold any other lands under the provisions thereof; and no member of any association which shall have taken the benefit of such section shall enter or hold any other lands under their provisions; and all persons claiming under section 58 shall be required to prove their respective rights and pay for the lands filed upon within one year from the time prescribed for filing their respective claims; and upon failure to file the proper notice or to pay for the land within the required period, the same shall be subject to entry by any other qualified applicant.

"SEC. 57. That in case of conflicting claims upon coal lands where the improvements shall be commenced after the date of the passage of this act, priority of possession and improvement, followed by proper filing and continued good faith, shall determine the preference right to purchase. And also where improvements have already been made prior to the passage of this act, division of the land claimed may be made by legal subdivisions, which shall conform as nearly as practicable with the subdivisions of land provided for in this act, to include as near as may be the valuable improvements of the respective parties. The government of the Philippine Islands is authorized to issue all needful rules and regulations for carrying into effect the provisions of this and preceding sections relating to mineral lands.

"SEC. 58. That whenever it shall be made to appear to the secretary of any province or the commander of any military department in the Philippine Islands that any lands within the province are saline in character, it shall be the duty of said provincial secretary or commander, under the regulations of the government of the Philippine Islands, to take testimony in reference to such lands, to ascertain their true character, and to report the same to the secretary of the interior for the Philippine Islands; and if, upon such testimony, the secretary of the interior shall find that such lands are saline and incapable of being purchased under any of the laws relative to the public domain, then and in such case said lands shall be offered for sale at the office of the provincial secretary or such other officers as by the said government may be described as mining recorder of the province or department in which the same shall be situ-

ated, as the case may be, under such regulations as may be prescribed by said government and sold to the highest bidder, for cash, at a price of not less than \$3 per hectare; and in case such lands fail to sell when so offered, then the same shall be subject to private sale at such office, for cash, at a price not less than \$3 per hectare, in the same manner as other lands in the said islands are sold. All executive proclamations relating to the sales of public saline lands shall be published in only two newspapers, one printed in the English language and one in the Spanish language, at Manila, which shall be designated by said secretary of the interior.

"SEC. 59. That no act granting lands to provinces, districts, or municipalities to aid in the construction of roads, or for other public purposes, shall be so construed as to embrace mineral lands, which, in all cases, are reserved exclusively, unless otherwise specially provided in the act or acts making the grant.

"SEC. 60. That nothing in this act shall be construed to affect the rights of any person, partnership, or corporation having a valid, perfected mining concession granted prior to April 11, 1899, but all such concessions shall be conducted under the provisions of the law in force at the time they were granted, subject at all times to cancellation by reason of illegality in the procedure by which they were obtained, or for failure to comply with the conditions prescribed as requisite to their retention in the laws under which they were granted: *Provided*, That the owner or owners of every such concession shall cause the corners made by its boundaries to be distinctly marked with permanent monuments within six months after this act has been promulgated in the Philippine Islands, and that any concessions the boundaries of which are not so marked within this period shall be free and open to explorations and purchase under the provisions of this act.

"SEC. 61. That mining rights on public lands in the Philippine Islands shall, after the passage of this act, be acquired only in accordance with its provisions.

"SEC. 62. That all proceedings for the cancellation of perfected Spanish concessions shall be conducted in the courts of the Philippine Islands having jurisdiction of the subject-matter and of the parties, unless the United States Philippine Commission, or its successors, shall create special tribunals for the determination of such controversies.

"AUTHORITY FOR THE PHILIPPINE ISLANDS GOVERNMENT TO PURCHASE LANDS OF RELIGIOUS ORDERS AND OTHERS AND ISSUE BONDS FOR PURCHASE PRICE.

"SEC. 63. That the government of the Philippine Islands is hereby authorized, subject to the limitations and conditions prescribed in this act, to acquire, receive, hold, maintain, and convey title to real and personal property, and may acquire real estate for public uses by the exercise of the right of eminent domain.

"SEC. 64. That the powers hereinbefore conferred in section 63 may also be exercised in respect of any lands, easements, appurtenances, and hereditaments which on the 13th of August, 1898, were owned or held by associations, corporations, communities, religious orders, or private individuals in such large tracts or parcels and in such manner as in the opinion of the commission injuriously to affect the peace and welfare of the people of the Philippine Islands. And for the purpose of providing funds to ac-

quire the lands mentioned in this section said government of the Philippine Islands is hereby empowered to incur indebtedness, to borrow money, and to issue, and to sell at not less than par value, in gold coin of the United States of the present standard value or the equivalent in value in money of said islands, upon such terms and conditions as it may deem best, registered or coupon bonds of said government for such amount as may be necessary, said bonds to be in denominations of \$50 or any multiple thereof, bearing interest at a rate not exceeding 4½ per centum per annum, payable quarterly, and to be payable at the pleasure of said government after dates named in said bonds not less than five nor more than thirty years from the date of their issue, together with interest thereon, in gold coin of the United States of the present standard value or the equivalent in value in money of said islands; and said bonds shall be exempt from the payment of all taxes or duties of said government, or any local authority therein, or of the Government of the United States, as well as from taxation in any form by or under state, municipal, or local authority in the United States or the Philippine Islands. The moneys which may be realized or received from the issue and sale of said bonds shall be applied by the government of the Philippine Islands to the acquisition of the property authorized by this section, and to no other purposes.

"SEC. 65. That all lands acquired by virtue of the preceding section shall constitute a part and portion of the public property of the government of the Philippine Islands, and may be held, sold, and conveyed, or leased temporarily for a period not exceeding three years after their acquisition by said government on such terms and conditions as it may prescribe, subject to the limitations and conditions provided for in this act: *Provided*, That all deferred payments and the interest thereon shall be payable in the money prescribed for the payment of principal and interest of the bonds authorized to be issued in payment of said lands by the preceding section and said deferred payments shall bear interest at the rate borne by the bonds. All moneys realized or received from sales or other disposition of said lands or by reason thereof shall constitute a trust fund for the payment of principal and interest of said bonds, and also constitute a sinking-fund for the payment of said bonds at their maturity. Actual settlers and occupants at the time said lands are acquired by the government shall have the preference over all others to lease, purchase, or acquire their holdings within such reasonable time as may be determined by said government.

"MUNICIPAL BONDS FOR PUBLIC IMPROVEMENTS.

"SEC. 66. That for the purpose of providing funds to construct sewers, to furnish adequate sewer and drainage facilities, to secure a sufficient supply of water, and to provide all kinds of municipal betterments and improvements in municipalities, the government of the Philippine Islands, under such limitations, terms, and conditions as it may prescribe, with the consent and approval of the President and the Congress of the United States, may permit any municipality of said islands to incur indebtedness, borrow money, and to issue and sell (at not less than par value in gold coin of the United States) registered or coupon bonds in such amount and payable at such time as may be determined by the government of said islands, with interest thereon not to exceed 5 per centum per annum: *Provided*, That the entire indebtedness of any municipality under

this section shall not exceed 5 per centum of the assessed valuation of the property in said municipality, and any obligation in excess of such limit shall be null and void.

"SEC. 67. That all municipal bonds shall be in denominations of \$50, or any multiple thereof, bearing interest at a rate not exceeding 5 per centum per annum, payable quarterly, such bonds to be payable at the pleasure of the government of the Philippine Islands, after dates named in said bonds not less than five nor more than thirty years from the date of their issue, together with the interest thereon, in gold coin of the United States of the present standard value; or its equivalent in value in money of the said islands; and said bonds shall be exempt from the payment of all taxes or duties of the government of the Philippine Islands, or any local authority therein, or the Government of the United States.

"SEC. 68. That all moneys which may be realized or received from the issue and sale of said bonds shall be utilized under authorization of the government of the Philippine Islands in providing the municipal improvements and betterment which induced the issue and sale of said bonds, and for no other purpose.

"SEC. 69. That the government of the Philippine Islands shall, by the levy and collection of taxes on the municipality, its inhabitants and their property, or by other means, make adequate provision to meet the obligation of the bonds of such municipality, and shall create a sinking-fund sufficient to retire them and pay the interest thereon in accordance with the terms of issue: *Provided*, That if said bonds or any portion thereof shall be paid out of the funds of the government of said islands, such municipality shall reimburse said government for the sum thus paid, and said government is hereby empowered to collect said sum by the levy and collection of taxes on such municipality.

"SEC. 70. That for the purpose of providing funds to construct sewers in the city of Manila and to furnish it with an adequate sewer and drainage system and supply of water the government of the Philippine Islands, with the approval of the President of the United States first had, is hereby authorized to permit the city of Manila to incur indebtedness, to borrow money, and to issue and sell (at not less than par value in gold coin of the United States), upon such terms and conditions as it may deem best, registered or coupon bonds of the city of Manila to an amount not exceeding \$4,000,000 lawful money of the United States, payable at such time or times as may be determined by said government, with interest thereon not to exceed 5 per centum per annum.

"SEC. 71. That said coupon or registered bonds shall be in denominations of \$50 or any multiple thereof, bearing interest at a rate not exceeding 5 per centum per annum, payable quarterly, such bonds to be payable at the pleasure of the government of the Philippine Islands, after dates named in said bonds not less than five nor more than thirty years from the date of their issue, together with the interest thereon in gold coin of the United States of the present standard value, or the equivalent in value in money of the said islands; and said bonds shall be exempt from the payment of all taxes or duties of the government of the said islands, or of any local authority therein, or of the Government of the United States.

"SEC. 72. That all moneys which may be realized or received from the issue and sale of said bonds shall be utilized under authorization of

said government of the Philippine Islands in providing a suitable sewer and drainage system and adequate supply of water for the city of Manila and for no other purpose.

"SEC. 73. That the government of the Philippine Islands shall, by the levy and collection of taxes on the city of Manila, its inhabitants and their property, or by other means, make adequate provision to meet the obligation of said bonds and shall create a sinking-fund sufficient to retire them and pay the interest thereon in accordance with the terms of issue: *Provided*, That if said bonds or any portion thereof shall be paid out of the funds of the government of said islands, said city shall reimburse said government for the sum thus paid, and said government is hereby empowered to collect said sum by the levy and collection of taxes on said city.

"FRANCHISES.

"SEC. 74. That the government of the Philippine Islands may grant franchises, privileges, and concessions, including the authority to exercise the right of eminent domain for the construction and operation of works of public utility and service, and may authorize said works to be constructed and maintained over and across the public property of the United States, including streets, highways, squares, and reservations, and over similar property of the government of said islands, and may adopt rules and regulations under which the provincial and municipal governments of the islands may grant the right to use and occupy such public property belonging to said provinces or municipalities: *Provided*, That no private property shall be taken for any purpose under this section without just compensation paid or tendered therefor, and that such authority to take and occupy land shall not authorize the taking, use, or occupation of any land except such as is required for the actual necessary purposes for which the franchise is granted, and that no franchise, privilege, or concession shall be granted to any corporation except under the conditions that it shall be subject to amendment, alteration, or repeal by the Congress of the United States, and that lands or rights of use and occupation of lands thus granted shall revert to the governments by which they were respectively granted upon the termination of the franchises and concessions under which they were granted or upon their revocation or repeal. That all franchises, privileges, or concessions granted under this act shall forbid the issue of stock or bonds except in exchange for actual cash, or for property at a fair valuation, equal to the par value of the stock or bonds so issued; shall forbid the declaring of stock or bond dividends, and, in the case of public-service corporation, shall provide for the effective regulation of the charges thereof, for the official inspection and regulation of the books and accounts of such corporations, and for the payment of a reasonable percentage of gross earnings into the treasury of the Philippine Islands or of the province or municipality within which such franchises are granted and exercised: *Provided further*, That it shall be unlawful for any corporation organized under this act, or for any person, company, or corporation receiving any grant, franchise, or concession from the government of said islands, to use, employ, or contract for the labor of persons claimed or alleged to be held in involuntary servitude; and any person, company, or corporation so violating the provisions of this act shall forfeit all charters, grants, franchises, and concessions for doing business in said islands, and in addition shall be

deemed guilty of an offense, and shall be punished by a fine of not less than \$10,000.

"SEC. 75. That no corporation shall be authorized to conduct the business of buying and selling real estate or be permitted to hold or own real estate except such as may be reasonably necessary to enable it to carry out the purposes for which it is created, and every corporation authorized to engage in agriculture shall by its charter be restricted to the ownership and control of not to exceed 1,024 hectares of land; and it shall be unlawful for any member of a corporation engaged in agriculture or mining and for any corporation organized for any purpose except irrigation to be in any wise interested in any other corporation engaged in agriculture or in mining. Corporations, however, may loan funds upon real-estate security and purchase real estate when necessary for the collection of loans, but they shall dispose of real estate so obtained within five years after receiving the title. Corporations not organized in the Philippine Islands, and doing business therein, shall be bound by the provisions of this section so far as they are applicable.

"COINAGE.

"SEC. 76. That the government of the Philippine Islands is hereby authorized to establish a mint at the city of Manila, in said islands, for coinage purposes, and the coins hereinafter authorized may be coined at said mint. And the said government is hereby authorized to enact laws necessary for such establishment: *Provided*, That the laws of the United States relating to mints and coinage, so far as applicable, are hereby extended to the coinage of said islands.

"SEC. 77. That the government of the Philippine Islands is authorized to coin, for use in said islands, a coin of the denomination of 50 centavos and of the weight of 192 $\frac{1}{2}$ grains, a coin of the denomination of 20 centavos and of the weight of 77 $\frac{1}{2}$ grains, and a coin of the denomination of 10 centavos and of the weight of 38 $\frac{1}{2}$ grains, and the standard of said silver coins shall be such that of 1,000 parts by weight 900 shall be of pure metal and 100 of alloy, and the alloy shall be of copper.

"SEC. 78. That the subsidiary silver coins authorized by the preceding section shall be coined under the authority of the government of the Philippine Islands in such amounts as it may determine, with the approval of the Secretary of War of the United States, from silver bullion purchased by said government, with the approval of the Secretary of War of the United States: *Provided*, That said government may in addition and in its discretion recoin the Spanish Filipino dollars and subsidiary silver coins issued under the authority of the Spanish Government for use in said islands into the subsidiary coins provided for in the preceding section at such rate and under such regulations as it may prescribe, and the subsidiary silver coins authorized by this section shall be legal tender in said islands to the amount of \$10.

"SEC. 79. That the government of the Philippine Islands is also authorized to issue minor coins of the denominations of $\frac{1}{2}$ centavo, 1 centavo, and 5 centavos, and such minor coins shall be legal tender in said islands for amounts not exceeding \$1. The alloy of the 5-centavo piece shall be of copper and nickel, to be composed of $\frac{3}{4}$ copper and $\frac{1}{4}$ nickel. The alloy of the 1-centavo and $\frac{1}{2}$ -centavo pieces shall be 95 per centum of copper and 5 per centum of tin and zinc, in such proportions as shall be determined by said government. The weight of the 5-centavo piece shall be 77 $\frac{1}{2}$

grains troy, and of the 1-centavo piece 80 grains troy, and of the $\frac{1}{2}$ -centavo piece 40 grains troy.

"SEC. 80. That for the purchase of metal for the subsidiary and minor coinage, authorized by the preceding sections, an appropriation may be made by the government of the Philippine Islands from its current funds, which shall be reimbursed from the coinage under said sections; and the gain or seigniorage arising therefrom shall be paid into the treasury of said islands.

"SEC. 81. That the subsidiary and minor coinage hereinbefore authorized may be coined at the mint of the government of the Philippine Islands at Manila, or arrangements may be made by the said government with the Secretary of the Treasury of the United States for their coinage at any of the mints of the United States, at a charge covering the reasonable cost of the work.

"SEC. 82. That the subsidiary and minor coinage hereinbefore authorized shall bear devices and inscriptions to be prescribed by the government of the Philippine Islands and such devices and inscriptions shall express the sovereignty of the United States, that it is a coin of the Philippine Islands, the denomination of the coin, and the year of the coinage.

"SEC. 83. That the government of the Philippine Islands shall have the power to make all necessary appropriations and all proper regulations for the redemption and reissue of worn or defective coins and for carrying out all other provisions of this act relating to coinage.

"SEC. 84. That the laws relating to entry, clearance, and manifests of steamships and other vessels arriving from or going to foreign ports shall apply to voyages each way between the Philippine Islands and the United States and the possessions thereof, and all laws relating to the collection and protection of customs duties not inconsistent with the act of Congress of March 8, 1902, 'temporarily to provide revenue for the Philippine Islands,' shall apply in the case of vessels and goods arriving from said islands in the United States and its aforesaid possessions.

"The laws relating to seamen on foreign voyages shall apply to seamen on vessels going from the United States and its possessions aforesaid to said islands, the customs officers there being for this purpose substituted for consular officers in foreign ports.

"The provisions of chapters vi and vii, title 48, Revised Statutes, so far as now in force, and any amendments thereof, shall apply to vessels making voyages either way between ports of the United States or its aforesaid possessions and ports in said islands; and the provisions of law relating to the public health and quarantine shall apply in the case of all vessels entering a port of the United States or its aforesaid possessions from said islands, where the customs officers at the port of departure shall perform the duties required by such law of consular officers in foreign ports.

"Section 3005, Revised Statutes, as amended, and other existing laws concerning the transit of merchandise through the United States, shall apply to merchandise arriving at any port of the United States destined for any of its insular and continental possessions, or destined from any of them to foreign countries.

"Nothing in this act shall be held to repeal or alter any part of the act of March 8, 1902, aforesaid, or to apply to Guam, Tutuila, or Manua, except that section 8 of an act entitled 'An Act to revise and amend the tariff laws of the Philippine Archipelago,' enacted by the Philippine Commission on the 17th of September, 1901,

and approved by an act entitled 'An Act temporarily to provide revenues for the Philippine Islands, and for other purposes,' approved March 8, 1902, is hereby amended so as to authorize the civil governor thereof in his discretion to establish the equivalent rates of the money in circulation in said islands with the money of the United States as often as once in ten days.

"SEC. 85. That the treasury of the Philippine Islands and such banking associations in said islands with a paid-up capital of not less than \$2,000,000 and chartered by the United States or any State thereof as may be designated by the Secretary of War and the Secretary of the Treasury of the United States shall be depositories of public money of the United States, subject to the provisions of existing law governing such depositories in the United States: *Provided*, That the treasury of the government of said islands shall not be required to deposit bonds in the Treasury of the United States, or to give other specific securities for the safe-keeping of public money except as prescribed, in his discretion, by the Secretary of War.

"SEC. 86. That all laws passed by the government of the Philippine Islands shall be reported to Congress, which hereby reserves the power and authority to annul the same, and the Philippine Commission is hereby directed to make annual report of all its receipts and expenditures to the Secretary of War.

"BUREAU OF INSULAR AFFAIRS.

"SEC. 87. That the Division of Insular Affairs of the War Department, organized by the Secretary of War, is hereby continued until otherwise provided, and shall hereafter be known as the Bureau of Insular Affairs of the War Department. The business assigned to said bureau shall embrace all matters pertaining to civil government in the island possessions of the United States subject to the jurisdiction of the War Department; and the Secretary of War is hereby authorized to detail an officer of the army whom he may consider especially well qualified, to act under the authority of the Secretary of War as the chief of said bureau; and said officer while acting under said detail shall have the rank, pay, and allowances of a colonel.

"SEC. 88. That all acts and parts of acts inconsistent with this act are hereby repealed."

Repeal of War-Revenue Taxation.—Feb. 17, 1902, the bill for the repeal of the taxes levied to meet war expenditure was taken up in the House of Representatives and passed by a vote of 288 yeas, there being no nays. The only discussion of the subject-matter of the measure was with reference to the special rule, brought in to hasten its passage. This rule was designed to force the House to act on the reduction of taxation, a policy as to which there was no difference of opinion, and yet avoid any discussion of the method of reduction, as to which the Republican majority was not unanimous. The rule ordered the immediate consideration of the measure in committee of the whole, that the committee rise the next day at four o'clock, after general debate, report the bill with amendments recommended by the Committee of Ways and Means; and that the House act immediately on these amendments without intervening motions or debate, and then vote on the final passage of the bill. Under the rule, therefore, no amendment could come before the House, save those reported from the Committee on Ways and Means. During the hour's debate allowed on the

adoption of the rule, Mr. Dalzell, of Pennsylvania, who was in charge of it, said:

"The effect of this resolution, if it pass, will be to bring before the House for consideration the bill which repeals all of the war-revenue taxation. The rule provides for the discussion of that measure until four o'clock to-morrow afternoon. It excludes all amendments, except those that have been recommended by the Committee on Ways and Means, and these are merely formal.

"This measure is the redemption of a pledge made by the Republican majority at the time that the war-revenue measure was passed. It was then said that when the necessity that called for the passage of that act ceased to exist the taxes would be repealed. In pursuance of that pledge, in the last Congress a portion of those taxes were repealed, and now, in entire fulfillment of the pledge, all the war-taxes are to be repealed.

"It is a measure about which, I take it, there is a unanimity of opinion in this House, and there is therefore little necessity for any protracted debate. It is a simple repeal measure, and therefore it has been thought wise that it should be submitted to the House in the shape in which it comes from the committee, and so that its success may not be hazarded by any extraneous matter."

Mr. Ball, of Texas, said in opposition to the rule:

"Mr. Speaker, the effect of this drastic rule, if adopted, will be not only to cut off all amendments to this bill, but to prevent even a motion to recommit with instructions in order that the will of this House may be ascertained. This is but another step in the parliamentary evolution which has effaced individualism in this House and enthroned with autocratic power a few men who dominate not only the legislation which is passed, but that which is suppressed. It is but another step in the backward path which has caused the popular branch of the national Legislature to abdicate its functions as a deliberative body. It is but another step in seeking yet a lower depth in public opinion, if it is possible to find a depth which the House of Representatives has not already reached.

"It is but another step in bringing us into contempt with the body at the other end of the Capitol, which has no respect for the membership of this House as a whole, not individually, because in patriotism, legislative ability, and fidelity to duty we are the equal of the members there, but disdain for a legislative body whose individual members are without power to obtain recognition except by the grace of one man and without the power to offer an amendment to pending legislation except by the grace of three men.

"Now, Mr. Speaker, if this rule is adopted, \$75,000,000 of taxes will be removed at one swoop. Nobody believes that the Senate of the United States is going to permit this to become a law without proper consideration. Everybody who is informed knows that the reason why this rule has been adopted is to gag two Republican members of the Ways and Means Committee, to gag a number of Republicans on that side of the Chamber and all of the Democratic members of this House. Every one who is informed knows that the object of this rule is to prevent the hand of taxation from being laid upon the sugar trust, the steel trust, and other bloated corporations."

Mr. Babcock, of Wisconsin, representing the Republican minority in favor of tariff reduction, said:

"Mr. Speaker, I want to say in reference to the

rule that is presented here this morning that I shall not offer any opposition to it. I believe there are other matters that should have been considered at this time, and especially those relating to the maintenance of tariff duties on sugar and the reduction of duties on iron and steel. But after consultation with the members who were in sympathy with me on this proposition I find the sentiment is that nothing should be done that would in any way hazard the passage of the war-revenue repeal bill; that they believe it to be their duty to their constituents to vote for this repeal and not jeopardize its passage by presenting other legislation in the shape of amendments; and further, that Congress is under moral obligation to pass this bill at the earliest date possible and relieve the country from this burdensome tax. For these reasons, Mr. Speaker, I shall vote for the rule; but I wish to say at this time that I shall take the first opportunity that presents itself after the passage of this bill to press for consideration House bill 9056, amending the iron and steel schedule."

Mr. Richardson, of Tennessee, challenged Republicans in favor of a modification of tariff rates to make their opinion effective by voting against the special rule:

"Now, if you want to afford your constituents some relief, if you want an opportunity to give your people a chance to have relief from high taxation on any one of the 4,000 articles now upon the tariff schedules, many of which are paying a tax of from 50 to 100 and even 150 per cent., this is the opportunity. You gentlemen will go back to your people and some of you will tell them that under the rule you could not offer a relief measure. I wish to tell them you could have done so by voting down this rule. You are willing to vote to take all the tax off of inheritances under this bill. You are willing to take all of the tax off of 'bucket-shops.' You are willing to take the tax off of corporations which are now taxed, which you do in this bill, and all the other war-taxes, including tax on beer, tea, tobacco, etc., but you leave the tariff, averaging more than 50 per cent., on over 4,000 articles, many of them of prime necessity to the people of this country. You have an opportunity now to give them some relief; but instead of voting against the rule, instead of speaking against the rule, which you refuse to do, you come up voluntarily and vote for it, and so tie your hands that you can not offer amendments reducing taxes, etc., and have them considered. Then you purpose to go home to your people, who are crying for relief, with the statement that 'the House of Representatives tied our hands and would not permit us to offer an amendment.'"

"Now, gentlemen on the other side, there is no escape from the result of your vote here. If you desire to offer any amendments to any one of the tariff schedules, reducing taxes on any one of the 4,000 articles now taxed, you have the opportunity by voting down this rule. You bring 21 of your 200 members on that side of the House against this rule, and we will vote it down. We will give you 150 or 160 votes from this side of the House. We will vote down the rule; and then what would be the situation? We would go into the committee of the whole under the five-minute rule, and you, my friend from Wisconsin, could tender your relief measure."

"Other gentlemen, on both sides of the House, who have relief measures in which their people are vitally concerned, could tender them, and after reasonable debate we would have a vote

upon them. But, instead of that, you come up voluntarily and surrender your prerogatives to represent the 180,000 or 200,000 free people whom you each represent, and tie your own hands so that you can offer no measure of relief and no amendment of any kind."

Mr. Cannon, of Illinois, put the case for the Republican majority as follows:

"Mr. Speaker, I recollect well when the legislation was enacted which the House of Representatives will I trust, so far as it can, in the next two days repeal. War had been declared with Spain. It was necessary to have additional revenues collected from the people. The Republican party, then in power as now in this House, under the leadership of the late distinguished representative from Maine, Mr. Dingley, passed the law which we now propose to repeal, with certain statements and pledges. One was that it was apparent that the enactment was necessary, and the other, in which we all on the Republican side participated by vote, and many by voice, was that when the war closed and these revenues were no longer necessary the Republican party, if in power, would see to it that they were repealed."

"I recollect quite well the debates that occurred. On the other side of the House there were various propositions. The most statesman-like of all was that we should pay the expenses of that war by coining all the silver bullion in the Treasury, etc. When the vote came, in the face of denunciations on the other side of the House that we were enacting that legislation with a high hand and that the House was lowering its dignity, the Republican party passed a bill, and, with a few honorable exceptions, the gentlemen on the other side of the Chamber voted 'no.'"

"Now, those revenues are no longer necessary; and a party or administration that collects from its citizens more than enough to carry on the Government is derelict, and if they should continue to do so they ought to and would lose power."

"Again, unnecessary revenues in the Treasury and coming into the Treasury are but a prize, which, I started to say, adventurers, but perhaps that is too strong a term, all over the country organize themselves to get out from the Treasury as industriously as the busy bees organize themselves to get the sweets in the pursuit of their legitimate calling. What do we hear from the other side 'Arbitrary use of power!' It is for the majority to declare by voice and vote whether this rule shall be adopted and whether these revenues shall be reduced. If the rule is adopted and the revenues are reduced, it will be because of Republican votes and because of Republican policy."

The resolution embodying the special rule was carried by a vote of 158 to 121; and Mr. Richardson proposed that the vote be taken, by unanimous consent, on the amendment and passage of the bill as recommended by the Committee on Ways and Means, since it would be folly to spend a day in committee of the whole, considering a measure to which no amendment could be offered. And so the bill was passed.

March 21, it was amended and passed by the Senate. The main point in the amendments was the exclusion of the tax on bucket-shop transactions from the act of repeal. The House non-concurred in the Senate amendments, and after conference a report was made in which the Senate receded from the most important amendment.

The measure was approved by the President April 12, 1902, in the following form:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 1 of the act entitled 'An Act to provide ways and means to meet war expenditures, and for other purposes,' approved June 13, 1898, as amended by the act of March 2, 1901, entitled 'An Act to amend an act entitled 'An Act to provide ways and means to meet war expenditures, and for other purposes,' approved June 13, 1898, and to reduce taxation thereunder,' be, and is hereby, further amended so as to read as follows:

"SECTION 1. That there shall be paid on all beer, lager-beer, ale, porter, and other similar fermented liquor, brewed or manufactured and sold, or stored in warehouse, or removed for consumption or sale, within the United States, by whatever name such liquors may be called, in lieu of the tax now imposed by law, a tax of \$1 for every barrel containing not more than 31 gallons; and at a like rate for any other quantity or for any fractional part of a barrel, as authorized and defined by section 3339 of the Revised Statutes of the United States: *Provided*, That in lieu of or in addition to the present requirements of law in that respect all stamps used for denoting the tax upon fermented liquors or other taxes may, in the discretion of the Commissioner of Internal Revenue, be canceled by perforations to be made in such manner and form as the commissioner may, by regulations, prescribe.

"SEC. 2. That section 2 of said act of June 13, 1898, and all amendments thereof, are hereby repealed.

"SEC. 3. That section 3 of said act and amendments thereof be amended to read as follows:

"SEC. 3. That upon tobacco and snuff manufactured and sold, or removed for consumption or use, there shall be levied and collected, in lieu of the tax now imposed by law, the following taxes:

"On snuff, manufactured of tobacco or any substitute for tobacco, ground, dry, damp, pickled, scented, or otherwise, of all descriptions, when prepared for use, a tax of 6 cents per pound. And snuff-flour, when sold, or removed for use or consumption, shall be taxed as snuff, and shall be put up in packages and stamped in the same manner as snuff.

"On all chewing and smoking tobacco, fine cut, cavendish, plug, or twist, cut or granulated, of every description; on tobacco twisted by hand or reduced into a condition to be consumed, or in any manner other than the ordinary mode of drying and curing, prepared for sale or consumption, even if prepared without the use of any machine or instrument, and without being pressed or sweetened; and on all fine-cut shorts and refuse scraps, clippings, cuttings, and sweepings of tobacco, a tax of 6 cents per pound.

"That the internal-revenue tax on cigars or cigarettes weighing more than 3 pounds per 1,000 shall be \$3 per 1,000; and the tax on cigars weighing not more than 3 pounds per 1,000 shall be 18 cents per pound, and on cigarettes weighing not more than 3 pounds per 1,000 and of a wholesale value or price of not more than \$2 per 1,000 shall be 18 cents per pound; and the tax on cigarettes weighing not more than 3 pounds per 1,000 and of a wholesale value or price of more than \$2 per 1,000 shall be 36 cents per pound; and all such cigars and cigarettes weighing not more than 3 pounds per 1,000 shall, for purposes of taxation, be held and considered as weighing 3 pounds.

"That in addition to the packages of smoking tobacco and snuff now authorized by law there

shall be packages of 1½ ounce, 2 ounces, 2½ ounces, 3 ounces, 3½ ounces, and 4 ounces; and there may be a package containing 1 ounce of smoking tobacco.

"SEC. 4. That on all original and unbroken factory packages of smoking and manufactured tobacco and snuff held by manufacturers or dealers on July 1, 1902, upon which there has been paid a higher tax than that provided for in the preceding section of this act, there shall be allowed a drawback or rebate equal to the full amount of the difference between such higher tax and the tax imposed by this act, after making the proper allowance for discounts and rebates heretofore authorized, but the same shall not apply in any case where the claim has not been presented within sixty days after July 1, 1902; and no claim shall be allowed or drawback paid for a less amount than \$10. It shall be the duty of the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, to adopt such rules and regulations and to prescribe and furnish such blanks and forms as may be necessary to carry this section into effect.

"SEC. 5. That section 4 of the act of June 13, 1898, is hereby repealed.

"SEC. 6. That section 5 of the act of June 13, 1898, be amended to read as follows:

"SEC. 5. That until appropriate stamps are prepared and furnished, the stamps heretofore used to denote the payment of the internal-revenue tax on fermented liquors, tobacco, and snuff may be stamped or imprinted with a suitable device to denote the new rate of tax, and shall be affixed to all packages containing such articles on which the tax imposed by this act is paid. And any person having possession of unaffixed stamps heretofore issued for the payment of the tax upon fermented liquors, tobacco, and snuff shall present the same to the collector of the district, who shall receive them at the price paid for such stamps by the purchasers and issue in lieu thereof new or imprinted stamps at the rate provided by this act."

"SEC. 7. That section 4 of said act of March 2, 1901, and sections 6, 12, 18, 20, 21, 22, 23, 24, 25, Schedule A, Schedule B, sections 27, 28, and 29 of the act of June 13, 1898, and all amendments of said sections and schedules be, and the same are hereby repealed.

"SEC. 8. That all taxes or duties imposed by section 29 of the act of June 13, 1898, and amendments thereof, prior to the taking effect of this act, shall be subject, as to lien, charge, collection, and otherwise, to the provisions of section 30 of said act of June 13, 1898, and amendments thereof, which are hereby continued in force, as follows:

"SEC. 30. That the tax or duty aforesaid shall be due and payable in one year after the death of the testator and shall be a lien and charge upon the property of every person who may die as aforesaid for twenty years, or until the same shall, within that period, be fully paid to and discharged by the United States; and every executor, administrator, or trustee having in charge or trust any legacy or distributive share, as aforesaid, shall give notice thereof, in writing, to the collector or deputy collector of the district where the deceased grantor or bargainer last resided within thirty days after he shall have taken charge of such trust, and every executor, administrator, or trustee, before payment and distribution to the legatees, or any parties entitled to beneficial interest therein, shall pay to the collector or deputy collector of the district of which

the deceased person was a resident, or in which the property was located in case of non-residents, the amount of the duty or tax assessed upon such legacy or distributive share, and shall also make and render to the said collector or deputy collector a schedule, list, or statement, in duplicate, of the amount of such legacy or distributive share, together with the amount of duty which has accrued, or shall accrue, thereon, verified by his oath or affirmation, to be administered and certified thereon by some magistrate or officer having lawful power to administer such oaths, in such form and manner as may be prescribed by the Commissioner of Internal Revenue, which schedule, list, or statement shall contain the names of each and every person entitled to any beneficial interest therein, together with the clear value of such interest, the duplicate of which schedule, list, or statement shall be by him immediately delivered, and the tax thereon paid to such collector; and upon such payment and delivery of such schedule, list, or statement said collector or deputy collector shall grant to such person paying such duty or tax a receipt or receipts for the same in duplicate, which shall be prepared as hereinafter provided. Such receipt or receipts, duly signed and delivered by such collector or deputy collector, shall be sufficient evidence to entitle such executor, administrator, or trustee to be credited and allowed such payment by every tribunal which, by the laws of any State or Territory, is, or may be, empowered to decide upon and settle the accounts of executors and administrators. And in case such executor, administrator, or trustee shall refuse or neglect to pay the aforesaid duty or tax to the collector or deputy collector, as aforesaid, within the time hereinbefore provided, or shall neglect or refuse to deliver to said collector or deputy collector the duplicate of the schedule, list, or statement of such legacies, property, or personal estate, under oath, as aforesaid, or shall neglect or refuse to deliver the schedule, list, or statement of such legacies, property, or personal estate, under oath, as aforesaid, or shall deliver to said collector or deputy collector a false schedule or statement of such legacies, property, or personal estate, or give the names and relationship of the persons entitled to beneficial interests therein untruly, or shall not truly and correctly set forth and state therein the clear value of such beneficial interest, or where no administration upon such property or personal estate shall have been granted or allowed under existing laws, the collector or deputy collector shall make out such lists and valuation as in other cases of neglect or refusal, and shall assess the duty thereon; and the collector shall commence appropriate proceedings before any court of the United States, in the name of the United States, against such person or persons as may have the actual or constructive custody or possession of such property or personal estate, or any part thereof, and shall subject such property or personal estate, or any portion of the same, to be sold upon the judgment or decree of such court, and from the proceeds of such sale the amount of such tax or duty, together with all costs and expenses of every description to be allowed by such court, shall be first paid, and the balance, if any, deposited according to the order of such court, to be paid under its direction to such person or persons as shall establish title to the same. The deed or deeds, or any proper conveyance of such property or personal estate, or any portion thereof, so sold under such judgment or decree, executed by the officer lawfully charged with carrying the

same into effect, shall vest in the purchaser thereof all the title of the delinquent to the property or personal estate sold under and by virtue of such judgment or decree, and shall release every other portion of such property or personal estate from the lien or charge thereon created by this act. And every person or persons who shall have in his possession, charge, or custody any record, file, or paper containing, or supposed to contain, any information concerning such property or personal estate, as aforesaid, passing from any person who may die, as aforesaid, shall exhibit the same at the request of the collector or deputy collector of the district, and to any law officer of the United States, in the performance of his duty under this act, his deputy or agent, who may desire to examine the same. And if any such person, having in his possession, charge, or custody any such records, files, or papers, shall refuse or neglect to exhibit the same on request, as aforesaid, he shall forfeit and pay the sum of \$500: *Provided*, That in all legal controversies where such deed or title shall be the subject of judicial investigation, the recital in said deed shall be *prima facie* evidence of its truth, and that the requirements of the law had been complied with by the officers of the Government: *And provided further*, That in case of wilful neglect, refusal, or false statement by such executor, administrator, or trustee, as aforesaid, he shall be liable to a penalty of not exceeding \$1,000, to be recovered with costs of suit. Any tax paid under the provisions of sections 29 and 30 shall be deducted from the particular legacy or distributive share on account of which the same is charged.

"SEC. 9. That section 35 of said act of June 13, 1898, and the amendments thereof, be amended so as to read as follows:

"SEC. 35. That for the purposes of this act, the words "mixed flour" shall be taken and construed to mean the food product resulting from the grinding or mixing together of wheat, or wheat-flour, as the principal constituent in quantity, with any other grain, or the product of any other grain, or other material, except such material, and not the product of any grain, as is commonly used for baking purposes: *Provided*, That when the product resulting from the grinding or mixing together of wheat or wheat-flour with any other grain, or the product of any other grain, of which wheat or wheat-flour is not the principal constituent as specified in the foregoing definition, is intended for sale, or is sold, or offered for sale as wheat-flour, such product shall be held to be mixed flour within the meaning of this act."

"SEC. 10. That section 50 of the act of June 13, 1898, be repealed, to take effect Jan. 1, 1903.

"SEC. 11. That this act, except as otherwise specially provided for in the preceding section, shall take effect July 1, 1902."

Irrigation.—March 1, 1902, the Senate passed without division an act "appropriating the receipts from the sale and disposal of public lands in certain States and Territories to the construction of irrigation works for the reclamation of arid lands.

Mr. Hansborough, of North Dakota, in arguing for the passage of the measure dwelt on the material good which would result from it:

"It should be understood at the outset that the plan proposed by this bill does not require a great outlay of money; that it does not contemplate a 'raid upon the Treasury,' as is apprehended by some gentlemen who have given the question only a superficial examination. Neither

is there the slightest probability of an overproduction of small grains as a result of the successful operation of the project.

"First, the cost is limited to the proceeds from the sale and disposal of public lands in the 13 States and 3 Territories named in the bill. This would involve a sum aggregating, perhaps, \$2,500,000 per annum, according to official reports on the present income from this source. It is provided in the bill that the cost of construction of each irrigation project shall be paid by the persons directly benefited. Thus the money expended would constantly be recouped or repaid to the reclamation fund, making the system automatic and self-sustaining.

"Second, as to the fear of overproduction of farm-products, there is no ground whatever for alarm. While it is true that there are in the great West about 600,000,000 acres of lands which might be irrigated, the essential fact is that there is not sufficient water available, and never will be, to reclaim more than 10 per cent. of the whole area, or about 60,000,000 acres. It should not be taken for granted, however, that the whole of this area would be irrigated from Government works. The irrigation experts of the Geological Survey, basing their calculations upon the most thorough investigations in the field, give it as their opinion that 20,000,000 acres would be the limit of land irrigated from waters conserved by Government enterprises, but that this would serve as a nucleus about which private effort would reclaim an equal amount, or 40,000,000 acres in all. On this point I will quote from the very interesting and instructive letter from the director of the Geological Survey to be found in the report accompanying this bill:

"The surveys and examinations made in different parts of the arid region show that the cost of water conservation ranges from \$5 per acre in the most favorable cases up to \$20 or \$25 per acre where the conditions are less favorable. Moreover, whereas \$25 per acre may be prohibitory in Montana for raising alfalfa, it is reasonable in Arizona, where high-class products are produced. An arbitrary statement, therefore, of the cost per acre reclaimed bears little relation to the feasibility of the enterprise.

"The cost of reclamation also depends upon the completeness with which the work is done. For example, the irrigation of 10,000 acres may cost only \$10 per acre, but the irrigation of 15,000 additional acres may cost \$15 per acre. Viewed as an investment only, it might be found more profitable in such a case to irrigate the smaller acreage; but as a matter of larger benefits to the people by the creation of more homes, it might be wiser to advocate the more complete system, under the general principle that in developing the resources of the country the larger benefits consistent with economy should be sought, and not merely the cheapest or the immediately profitable.

"The reclamation of 20,000,000 acres of arid land by means of irrigation would, on an average, cost probably from \$10 to \$15 per acre, and the ultimate average value would be three times as much.

"It has been variously estimated that there is available water for from 60,000,000 to 100,000,000 acres. It is not necessary for the Government to conserve all of this water. If the Government should build the great dams and divert the large rivers, individual enterprise would be able to put the water upon the greater part of the land. It is estimated that if the Government should conserve water for 20,000,000 acres individuals would

be able to obtain water for the remaining reclaimable land.

"The limit of 20,000,000 acres has been set for Government work as being a liberal allowance when consideration is had of the projects which are of sufficient size or importance to justify construction by the Government. It is assumed that it will not be the intention of Congress to irrigate the land, but merely to build some of the larger works. The possibilities of construction of these are limited by the character of the country. Taking the vast extent of the arid region as a whole, and the number of projects called to public attention, there are comparatively few of these which would justify more than survey and careful examination. The facts developed by impartial work conclusively prove that for some of these projects there is no reasonable demand for Government work.

"If the Government provides the larger storage works and regulates the rivers, it will then be possible for private enterprise to again take up the work of bringing water to the land.

"From the experience already acquired in the development of the arid regions, it may be assumed that where water is conserved for the direct reclamation of 1 acre there are ultimately brought in use 2 or 3 acres through the possibility of taking advantage of floods, through the use of seepage, through pumping-plants, and by various other devices. In short, if the Government, by means of large storage-works, or by taking water from great rivers, should provide water directly for 20,000,000 acres which otherwise would not be irrigated, this act would render possible the gradual utilization of the greater part of the remainder through construction of smaller individual systems.

"In the present state of engineering science, and at existing values of land, it will not be possible to now utilize all the waste waters within practical limits of expense. The influence of new inventions, cheaper appliances, and the increased demand for land make it impossible to place any definite limits upon the development.

"At an estimated average cost of \$15 per acre for construction of works, the reclamation and settlement of this 20,000,000 acres would bring to the fund the total sum of \$300,000,000, not from the Treasury of the United States, but from the lands themselves. Now, it is unreasonable to suppose that the whole of this 20,000,000 acres would be reclaimed in one or ten, or even in twenty years. The director of the survey estimates that with the income provided for in the pending measure a period of thirty-eight years would be required in which to reclaim 20,000,000 acres; so that reclamation would proceed at an average rate of about 528,000 acres a year for thirty-eight years. Assuming that 20,000,000 acres would be reclaimed by private enterprise, what shall be done toward subduing the remaining 560,000,000 acres must be left to future generations. The problem is not likely to be solved in advance of the necessities which will arise out of the mutations of time and the vicissitudes of struggling humanity.

"No one will therefore seriously contend that, under the proposed irrigation policy laid down in the President's message and provided for in this bill, the settlement of the public domain would proceed by leaps and bounds, to the detriment of the farmers of the East or of any other section."

The measure was taken up in the House of Representatives June 12 and a special rule was adopted providing for an immediate discussion and a vote next day on the passage of the bill.

In opposing the adoption of the rule Mr. Robinson, of Indiana, argued against the policy of the measure.

"Mr. Speaker, to a casual observer of legislation and to those who have only casually looked into the important questions involved it may seem that two or three days' time would be ample for the discussion of the features presented by this bill. But, involving, as it does in one form or another, nearly all the principles of government for which we have stood, involving all the questions of change in the administration of the public lands, involving the abdication by the House of Representatives of its powers over appropriations, involving the constitutional questions of State and national powers, and involving home rule, for State rule is home rule, for which this side of the House for a century has stood, two days' time for the discussion of these questions is not ample to present them to the House of Representatives. It involves the whole field of appropriation, economy in expenditure, wasteful extravagance, special and political influence, jobs and deals, political and legislative.

"It involves in government a change of an old and the ingrafting of a new system of laws for the regulation and control of 600,000,000 acres of public domain along untried and experimental paths.

"I do not mean that irrigation is an experiment, for it has been successfully and profitably employed by State and private enterprise for ages. But to the Government it is new, experimental, and dangerous.

"This change involves the abdication by Congress of its rights and its duties to appropriate money derived from taxation, money derived from the sale of land owned by all the people, and it is a surrender of these rights of the people and this prerogative of Congress to a Federal officer in the expenditure of a mountain of money, the cost of which irrigation projects is variously estimated by experts at from the lowest, \$300,000,000, to the highest, \$600,000,000, being the reclamation of 60,000,000 acres of irrigable land at from \$5 to \$10 an acre on the average.

"While this estimate of 60,000,000 acres of irrigable land is made, there are yet 540,000,000 in the arid regions, and we may confidently assume, in the light of all past experiences, that the efforts of experts and officers in charge will not be relaxed till the bounty of heaven is exhausted and the flood and snow waters are no more. *Cum grano salis* is a good rule in passing on preliminary estimates of experts when their hearts are set on a project.

"I congratulate the gentlemen of the arid regions, who have a special interest not common to the whole country, on securing consideration for this measure of interest in their districts and States, but troublesome and dangerous to every other section of the country.

"That it will affect them advantageously and ruinously affect all the rest of us I firmly believe, and think this will be made plain by a reading of the bill and the majority and minority reports. I can not speak in unkindness, but in praise, of Representatives of the States whose stars are fast floating away in the firmament, losing their luster, and preparing to join the Milky Way, but my constituency can not contribute to its own downfall to rescue them from the gloom that surrounds them, and I claim only the same rights that Representatives always exercise on this floor, to protect my people as I have the understanding to perceive and the power to execute. An attempt has been made, unjustly and

inordinately, to control the Democratic congressional committee and to divert it into an unwarranted and dangerous path, and culminated a brief time ago in a minority acting on some sort of an irrigation resolution.

"This new scheme involves the complicated, complex, litigious, and dangerous questions of condemnation of private property in a State jurisdiction by a Federal officer, and which power and property so condemned is to be used in and for another State to irrigate public land not only, but private land as well. To illustrate: Nevada must go to California and invoke all the complicated machinery of law—must wade through the perplexing problems of condemnation and interstate rights—or get no water, and this is rendered still more difficult by the invoking of the law within a State jurisdiction by a Federal officer for uses not wholly within the State and not exclusively concerning United States land.

"Such a conflict and litigation would arise like unto that which might come were the dead to arise and attempt to trace their ancient possessions. This scheme involves the purchase without condemnation by a United States officer from the public-land fund belonging to all the people, at exorbitant figures, as it must be when the United States is the purchaser in a State jurisdiction, of private property for the uses and purposes I have just named.

"It involves the United States Government in the execution of an enterprise around which will cluster, like banqueters at a feast, those patriotic American citizens, with too many of which we unfortunately are cursed, who are always ready to encourage an enterprise by the Government, however stupendous, because there is something in it for themselves.

"It involves the robbery of peoples of self-government in States, and while some speak for them, saying that American citizens will abjectly submit to a surrender of their sovereignty to receive these gifts of the people's lands, and submit to be governed 2,000 and 3,000 miles away, I believe that Representatives of other States should save this misguided people from their friends and at once protect the interest of their own States, their own constituents.

"It is charged that the land-grant railroads are the principal promoters of this legislation. This is not met with a disclaimer, but by the question, 'Suppose they are?' This is a question difficult to answer satisfactorily to all, but for myself, I am unwilling to stand for a proposition embodied in this bill which my party has always stood against; unwilling to promote a system of land grants, either in the land itself or by the Government's increase of value to it, when I remember my party's opposition to the original grants and its vigorous insistence on the forfeitures of lands by the railroad corporations by reason of their refusal to comply with the terms of the grants. Others may see their way clear to go into this conflict with party doctrine, but I can not.

"Even if the great railroad interests of these sections do say that the only reasons for this dangerous legislation is to give us the Asiatic trade, for my part I can not see enough of merit in this irrigation proposition from any standpoint to fly me in the face of my party's uniform attitude when it made history on both the subsidizing of railroads by land grants or on expansion, the one the real and the other the claimed reason why the railroad corporations are in favor of the bill.

"This bill involves the United States Govern-

ment in the employment of its machinery of government to force values and utility in land by a stupendous outlay to control the elements by conquering nature's course, thereby exerting government powers in fields that should be exploited and will be exploited by State and private enterprises as fast and as far and as prudently as the needs of the people and localities may require.

"It is aimed to deter the slow but steady tide of immigration now setting in from the North to the rich mining-fields of Tennessee, Alabama, and the South; to check those who, from my State and others, go South to find your sweet Southern hospitality and reach your blooming fields, and, mingling with you, give a force for the future that no arid region irrigated in the world can compare with the results of this combination, and no States can rank your Southern States in the industrial development thereby produced."

Several able speeches were made for and against the bill, its advocates dwelling on the necessity of controlling and guiding our rivers and streams, and the advantage of developing vast tracts of land now worthless, and its opponents insisting on the unfairness of the measure, the dangerous powers granted, the difficulty of the task undertaken and those indirectly involved, and the lack of constitutional authority.

The vote on the passage of the measure was 146 yeas to 55 nays, not present 18, not voting 132.

The bill was approved by the President June 17, 1902; and the text of it is as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all moneys received from the sale and disposal of public lands in Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming, beginning with the fiscal year ending June 30, 1901, including the surplus of fees and commissions in excess of allowances to registers and receivers, and excepting the 5 per centum of the proceeds of the sales of public lands in the above States set aside by law for educational and other purposes, shall be, and the same are hereby, reserved, set aside, and appropriated as a special fund in the Treasury to be known as the 'reclamation fund,' to be used in the examination and survey for and the construction and maintenance of irrigation works for the storage, diversion, and development of waters for the reclamation of arid and semiarid lands in the said States and Territories, and for the payment of all other expenditures provided for in this act: *Provided,* That in case the receipts from the sale and disposal of public lands other than those realized from the sale and disposal of lands referred to in this section are insufficient to meet the requirements for the support of agricultural colleges in the several States and Territories, under the act of Aug. 30, 1890, entitled 'An Act to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts, established under the provisions of an act of Congress approved July 2, 1862,' the deficiency, if any, in the sum necessary for the support of the said colleges shall be provided for from any moneys in the Treasury not otherwise appropriated.

"SEC. 2. That the Secretary of the Interior is hereby authorized and directed to make examinations and surveys for, and to locate and construct, as herein provided, irrigation works for

the storage, diversion, and development of waters, including artesian wells, and to report to Congress at the beginning of each regular session as to the results of such examinations and surveys, giving estimates of cost of all contemplated works, the quantity and location of the lands which can be irrigated therefrom, and all facts relative to the practicability of each irrigation project; also the cost of works in process of construction as well as of those which have been completed.

"SEC. 3. That the Secretary of the Interior shall, before giving the public notice provided for in section 4 of this act, withdraw from public entry the lands required for any irrigation works contemplated under the provisions of this act, and shall restore to public entry any of the lands so withdrawn when, in his judgment, such lands are not required for the purposes of this act; and the Secretary of the Interior is hereby authorized, at or immediately prior to the time of beginning the surveys for any contemplated irrigation works, to withdraw from entry, except under the homestead laws, any public lands believed to be susceptible of irrigation from said works: *Provided,* That all lands entered and entries made under the homestead laws within areas so withdrawn during such withdrawal shall be subject to all the provisions, limitations, charges, and conditions of this act; that said surveys shall be prosecuted diligently to completion, and upon the completion thereof, and of the necessary maps, plans, and estimates of cost, the Secretary of the Interior shall determine whether or not said project is practicable and advisable. and if determined to be impracticable or unadvisable he shall thereupon restore said lands to entry; that public lands which it is proposed to irrigate by means of any contemplated works shall be subject to entry only under the provisions of the homestead laws in tracts of not less than 40 nor more than 160 acres, and shall be subject to the limitations, charges, terms, and conditions herein provided: *Provided,* That the commutation provisions of the homestead laws shall not apply to entries made under this act.

"SEC. 4. That upon the determination by the Secretary of the Interior that any irrigation project is practicable, he may cause to be let contracts for the construction of the same, in such portions or sections as it may be practicable to construct and complete as parts of the whole project, providing the necessary funds for such portions or sections are available in the reclamation fund, and thereupon he shall give public notice of the lands irrigable under such project, and limit of area per entry, which limit shall represent the acreage which, in the opinion of the Secretary, may be reasonably required for the support of a family upon the lands in question; also of the charges which shall be made per acre upon the said entries, and upon lands in private ownership which may be irrigated by the waters of the said irrigation project, and the number of annual instalments, not exceeding 10, in which such charges shall be paid and the time when such payments shall commence. The said charges shall be determined with a view of returning to the reclamation fund the estimated cost of construction of the project, and shall be apportioned equitably: *Provided,* That in all construction work eight hours shall constitute a day's work, and no Mongolian labor shall be employed thereon.

"SEC. 5. That the entryman upon lands to be irrigated by such works shall, in addition to compliance with the homestead laws, reclaim at

least one-half of the total irrigable area of his entry for agricultural purposes, and before receiving patent for the lands covered by his entry shall pay to the Government the charges apportioned against such tract, as provided in section 4. No right to the use of water for land in private ownership shall be sold for a tract exceeding 160 acres to any one landowner, and no such sale shall be made to any landowner unless he be an actual *bona fide* resident on such land, or occupant thereof residing in the neighborhood of said land, and no such right shall permanently attach until all payments therefor are made. The annual instalments shall be paid to the receiver of the local land-office of the district in which the land is situated, and a failure to make any two payments when due shall render the entry subject to cancellation, with the forfeiture of all rights under this act, as well as of any moneys already paid thereon. All moneys received from the above sources shall be paid into the reclamation fund. Registers and receivers shall be allowed the usual commissions on all moneys paid for lands entered under this act.

"SEC. 6. That the Secretary of the Interior is hereby authorized and directed to use the reclamation fund for the operation and maintenance of all reservoirs and irrigation works constructed under the provisions of this act: *Provided*, That when the payments required by this act are made for the major portion of the lands irrigated from the waters of any of the works herein provided for, then the management and operation of such irrigation works shall pass to the owners of the lands irrigated thereby, to be maintained at their expense under such form of organization and under such rules and regulations as may be acceptable to the Secretary of the Interior: *Provided*, That the title to and the management and operation of the reservoirs and the works necessary for their protection and operation shall remain in the Government until otherwise provided by Congress.

"SEC. 7. That where in carrying out the provisions of this act it becomes necessary to acquire any rights or property, the Secretary of the Interior is hereby authorized to acquire the same for the United States by purchase or by condemnation under judicial process, and to pay from the reclamation fund the sums which may be needed for that purpose, and it shall be the duty of the Attorney-General of the United States upon every application of the Secretary of the Interior, under this act, to cause proceedings to be commenced for condemnation within thirty days from the receipt of the application at the Department of Justice.

"SEC. 8. That nothing in this act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provisions of this act, shall proceed in conformity with such laws, and nothing herein shall in any way affect any right of any State or of the Federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof: *Provided*, That the right to the use of water acquired under the provisions of this act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right.

"SEC. 9. That it is hereby declared to be the duty of the Secretary of the Interior in carry-

ing out the provisions of this act, so far as the same may be practicable and subject to the existence of feasible irrigation projects, to expend the major portion of the funds arising from the sale of public lands within each State and Territory hereinbefore named for the benefit of arid and semiarid lands within the limits of such State or Territory: *Provided*, That the Secretary may temporarily use such portion of said funds for the benefit of arid or semiarid lands in any particular State or Territory hereinbefore named as he may deem advisable, but when so used the excess shall be restored to the fund as soon as practicable, to the end that ultimately, and in any event, within each ten-year period after the passage of this act, the expenditures for the benefit of the said States and Territories shall be equalized according to the proportions and subject to the conditions as to practicability and feasibility aforesaid.

"SEC. 10. That the Secretary of the Interior is hereby authorized to perform any and all acts and to make such rules and regulations as may be necessary and proper for the purpose of carrying the provisions of this act into full force and effect."

Chinese Exclusion.—A bill "to prohibit the coming into and regulate the residence within the United States, its Territories, and all territory under its jurisdiction, and the District of Columbia, of Chinese and persons of Chinese descent" was reported in the House of Representatives from the Committee on Foreign Affairs, with amendments, and made a special order by unanimous consent March 27, 1902. The basis of this measure was an elaborate bill with provisions shaped to carry out an extreme policy against the Chinese, and submitted by the California representatives. Mr. Perkins, of New York, set forth the points on which the committee had to determine upon that were new and the points wherein the majority had modified the measure as originally drafted:

"I shall not, Mr. Chairman, take the time of this committee in discussing the general question of Chinese exclusion, because I imagine that every member of this House is agreed that the admission of Chinese laborers on any large scale would be injurious to the laboring interests of this country; but, Mr. Chairman, as was said by the chairman of the committee, the problem is in what way should that exclusion best be carried out; and it is, perhaps, due to the committee in presenting to it a bill 30 pages in length that we should state briefly what has been covered by this bill.

"Now, Mr. Chairman, in the first place we were met by this new question, and that was, what should be done in reference to the Chinese who are now living in the colonial possessions of the United States. It was testified before the committee that there were in the Philippine Islands at least 250,000 Chinese, and perhaps very many more, and Gov. Taft testified before our committee that, in his judgment, the great majority of the Chinese in the Philippine Islands would gladly come to the United States if they could have the opportunity. What should be done with them? It was the unanimous opinion of the committee that the exclusion of the Chinese as against those living in China should be extended to the Chinese who live in the colonial possessions of the United States, and the act provides that Chinese laborers, Chinese coolies, can not come from the colonial possessions to the mainland any more than they can come from China to the United States. That provision, Mr. Chairman, I think

will meet the approval of the members of the House.

"Then came the next question, Mr. Chairman, Should the exclusion of the Chinese be extended to the colonial possessions? Now, the committee can see in one moment that the conditions existing in, for instance, the Philippine Islands, are totally different from the conditions existing in the United States. Here we have a large body of intelligent, educated, industrious laborers, and we owe it to them that they are not subjected to any unfair competition from men brought here who live on a different scale, who are willing to work for less price, who are content to live on a lower degree of comfort and civilization; but the members of the committee can see that those conditions do not exist in our colonial possessions.

"There is in the Philippine Islands, for instance, no body of educated, industrious, intelligent laborers, and the question was, What is the best thing for the interests of the Philippine Islands? And, Mr. Chairman, that question is by no means as free from doubt as is the question of the introduction of Chinese laborers into this country. But we felt bound, Mr. Chairman, and it is the doctrine, it is the principle, of the Republican party—of, I think, all members of Congress, regardless of party—to do for the Filipinos what within reasonable limits they themselves ask should be done. The committee was convinced that the desire of the Filipinos themselves was that they should not be subjected to the further competition of Chinese labor; that they were not ready to compete with them, and certainly they are not, and for that reason the committee has reported, by the bill before this committee of the whole, that Chinese laborers be excluded from the colonial possessions of the United States upon the same terms and in the same manner that they are excluded from the mainland of the United States.

"Now, Mr. Chairman, a word or two more about some provisions of detail in this bill that I wish to explain very briefly to the committee. The chairman of the Committee on Foreign Affairs said that we have taken in its general outline the Kahn bill, which was introduced in behalf of the members from California. The question of Chinese exclusion is more important in California than in any other part of the country, and it was our endeavor in every way to carry out the desire of the California delegation to make this law a law which should not only say that Chinese laborers should be excluded, but should furnish the means and the appliances and the requirements for making that exclusion effectual, which should check the fraudulent introduction of Chinese into this country.

"There were, however, two or three questions of detail in which the committee differed from some provisions of the Kahn bill, which I desire to submit to the judgment of the committee of the whole. By your judgment we will be guided. The Committee on Foreign Affairs had but one desire, namely, to have a bill which would be most effective, most judicious, most wise, to carry out the principle of Chinese exclusion, but on questions of detail we all have our judgment. Now, there are substantially three questions which I shall state very briefly to the members of the committee. The first was this: The bill provides that the Chinese shall be excluded from the Philippine Islands.

"Then the bill as it was introduced—not the committee bill—provided that the Treasury Department should appoint officials who should go

to the Philippine Islands, who should there make a registration of all Chinese in the Philippine Islands or any other foreign possession, who should carry out the enforcement of this law in reference to Chinese landing and the preventing of their landing. In reference to the removal of Chinese from one possession to another, Mr. Chairman, we did not regard that provision as judicious, and I feel confident that the committee will agree with us. What would be the necessary result? Why, Mr. Chairman, it would take 10,000 employees of the Treasury Department. Ten thousand employees would have to be shipped from San Francisco to the colonial possessions, to the foreign possessions of this country, to take charge of making that registration, to take charge of that detail.

"Now, what has the Committee on Foreign Affairs done? The Government has appointed a Philippine Commission, thoroughly familiar with all local questions. Gov. Taft, the head of that commission, appeared before the Committee on Foreign Affairs and gave his evidence. He is in thorough sympathy with the exclusion of the Chinese. What he said before the committee had, I think, more effect than what was said by any one else in leading the committee to the conclusion that the exclusion of the Chinese from the Philippine Islands was judicious. We have reported in our bill a brief provision, embracing half a dozen lines, in which we propose to authorize and direct the Philippine Commission to take such measures as may be necessary to carry out the provisions of this bill as to the exclusion of the Chinese from the islands and to attend to registration or whatever else may be requisite with reference to the regulation of this subject."

Another point of difference was on the proposition of the original bill, that the Treasury Department keep a record of Chinese children born in the United States or its dominions. The committee, in view of the fact that a permanent Census Bureau has been created, regarded this provision as needless. A third point of difference was in regard to the employment of Chinese seamen. A minority report recommended the provision of the original bill, forbidding their employment on American ships, but the majority report favored a provision forbidding their landing at an American port, no matter on what ship they sailed. Mr. Perkins said:

"First, I should say, gentlemen, that among the restrictions against the unlawful landing of Chinese we have in this bill a provision that when a ship comes alongside any wharf or dock of the United States on which are Chinese coolies who are not to be landed, the steamer must give bond in the penal sum of \$2,000 for every Chinaman on board, to see to it that the Chinamen whom they have on board do not get on land—that the ship that brings them carries them away. So, certainly the provision is stringent enough to keep these ships having Chinamen on board—men employed on the ships—from allowing them to land. If a ship has Chinamen on board who are to be landed, then there must be the certificates and the necessary papers to show that they are Chinamen who are entitled to land; but this proposition refers to ships having Chinamen on board who are not to land. There must be a bond signed by the steamship company, with the penalty of \$2,000 for every Chinaman on board who is not to land, that he shall not be permitted to land.

"All ships, when they come to our harbors, must submit to this law. So as you see, gentlemen, these Chinamen employed on the ships that

sail on the great seas are not going to get into this country. We have made stringent provisions that they shall not come in. But the bill as drawn, as submitted to the committee, contains this provision, that no ship carrying the American flag, no ship admitted to American registry, shall employ on it any Chinese. We struck out this provision, because, as the committee can see, it was no more needed for the protection of American laboring men living in America, and it has no more to do with them than it has with British laboring men living in England, not one bit."

Mr. Clark, of Missouri, advocated the more stringent policy. He said:

"When we annexed the Sandwich Islands we took twenty-odd thousand Chinese. When we acquired the Philippines we took in a number of Chinese variously stated at from 200,000 to 1,750,000. Consequently, for the first time, the Congress is confronted with the exceedingly difficult proposition of holding our newly acquired provinces, colonies, or insular possessions—whichever or whatever you please to call them—and at the same time excluding from our mainland the denizens of those same provinces, colonies, or insular possessions.

"Verily, verily, we have troubles of our own—lots of them. Not having enough on hand prior to the Spanish War to suit our taste, like the Knight of La Mancha, we went forth in quest of ventures to the uttermost ends of the earth, even to far Cathay, and we accumulated troubles enough, not only to last us during our natural lives, but to harass our posterity to the remotest generation, unless we possess the courage, the resolution, the wisdom, and the patriotism to unload them and thereby end them. Without being a prophet, or the son of a prophet, I make bold to predict that should the Supreme Court of the United States decide—as many think it will decide—that the citizens or subjects of Spain, resident in the islands we annexed, became when annexed *ipso facto* citizens of the United States, the people of this country will speedily find a way to rid themselves of that huge incubus; because it can not be that in their sober senses Americans will deliberately determine to subject American laborers to death-dealing competition with the cheap labor of the Orient.

"The truth is that it is high time the laborers of this country were waking up to the fact that their one escape, not only from competition with European cheap labor, but from unrestricted competition with the cheaper labor of Asia, is for us to at once and forever cut loose from the Philippine Islands. It is their only salvation. Suppose the Supreme Court of the United States decides that the subjects of Spain residing in the islands we annexed became American citizens by the act of annexation, then what? The probabilities in the case are that the Supreme Court will decide that Congress has no power to restrict the free locomotion of an American citizen into any part of the territory over which the Stars and Stripes float, and the laborers of the country, for whose benefit this bill is made, might just as well wake up now as later on to the realization of the fact that the whole tendency of this latter-day annexation is to bring them into ruinous competition with the cheap labor of Europe and the cheaper labor of Asia. There is no sense in locking the barn after the horse is gone. The quicker we get rid of the Philippines the better off the laborers will be; the better off we will all be.

"If we do not speedily unload these accursed islands, the day is not far distant when all of us,

especially the laborers of the land, will in agony of soul exclaim: 'Who will deliver us from the body of this death?' Should it be decided that the free locomotion of the inhabitants of the Philippines can not be restrained, the yellow flood will pour in and utterly submerge the laborers of America. Our retention of the Philippines means a reduction of wages to the Asiatic level. That is one of the main reasons why I was opposed to acquiring them and why I am dead against keeping them.

"That the longer we keep them the harder it will be to get rid of them is a proposition too plain to be argued.

"Let no man hug to his breast the delusion that Asiatics can work only as unskilled laborers, for the evidence in the case flatly contradicts that theory. They have the imitative faculty largely developed and soon learn to do anything they see done. Consequently they will not only compete with unskilled laborers but also with those of all degrees of skill, even unto the highest.

"The cry once rang along the Pacific coast, 'The Chinese must go!' Some day the laborers of America in self-defense will raise the cry, 'The Philippines must go!'

"The Committee on Foreign Affairs has been wrestling with these brain-racking problems for two months.

"We have listened patiently to a vast array of witnesses—ex-Cabinet ministers, ex-ambassadors, ex-governors, ex-Senators, great lawyers, great editors, congressmen, the head of the Federation of Labor and the heads of other labor organizations, representatives of our sailors, the commissioners of the State of California, representatives of great commercial bodies and of great lines of transportation, ministers of the Gospel, the Commissioner-General of Immigration and other Treasury officials—male and female, great and small—until their evidence constitutes a large, instructive, and decidedly interesting volume.

"To no question was there ever given a more patient, a more thorough, or a more conscientious investigation. I say this gladly as to the entire committee.

"We agree that Chinese laborers on land should be excluded; we differ somewhat as to how best to accomplish that end.

"The majority refuse to apply the exclusion principle to Chinese seamen, while the Democratic minority desire to make the exclusion apply both by land and sea.

"Upon these differences we ask the judgment of the House.

"The report of the minority, among other things, says:

"The question of Chinese exclusion is largely a racial question and largely a labor question.

"Because our Pacific coast is the chief place of entrance of Chinese into our country, because a vast majority of Chinese immigrants settle on the Pacific coast, and because American citizens resident on the Pacific coast having had more experience with Chinese than the rest of our people, they understand the Chinese character better and are better fitted to know what legislation is necessary to solve the numerous and difficult problems connected with Chinese immigration."

"Individually, I go further and say that the Chinese question is the race question of the Pacific coast. There is no use dodging it. The Chinese problem is to the Pacific coast what the negro problem is to the Southern States, except

that the race question of the South is entirely a domestic question, while the race question on the Pacific is complicated with international questions. I believe, moreover, that the white people of the South are the most capable of dealing with their race question, just as the white people of the Pacific coast are most competent to deal with their Chinese race question.

"Upon these race questions I unhesitatingly take my position with the white people of the South and the white people of the Pacific coast.

"The substitute reported by the Democratic minority is substantially the bill desired by our Pacific coast citizens and by the laborers of the whole country, which is a very persuasive reason why it should be adopted by the House."

The House passed the bill without a division April 7, after adopting certain amendments, which, it was claimed by Mr. Clark, embodied everything for which the minority contended, and which, according to Mr. Hitt, of Illinois, made the measure identical with that reported by a Senate committee as a modification of the original or Kahn bill.

In the course of the debate in both houses it was commonly conceded that the policy of exclusion was to be continued; and that the only matter open to discussion was the method of exclusion. A more generous course was advocated at times. Mr. Gallinger, of New Hampshire, said in the Senate:

"Mr. President, to my mind this bill is uncalled for, unnecessary, unwise, and un-American. It is harsh in its provisions, unjust in its definitions, and clearly violative of solemn treaty stipulations. It is the kind of legislation that prejudice engenders and unthinking agitation produces. It is a measure aimed at a weak people, and which would never be dreamed of in connection with any nation able to defend itself. It is narrow, bigoted, intolerant, and indefensible legislation. It assumes conditions that do not exist, and aims to correct evils that are purely imaginary. It suggests the want of laws to prevent undesirable Chinese immigration into this country, when the fact is that existing laws are entirely adequate to accomplish that purpose."

He quoted at length the letter of protest addressed by the Chinese minister to the Secretary of State, which set forth various objections to the measure as follows:

"I do not wish to go into the different provisions of the bill in detail, but I should like to call your attention in a general way to its effects. It restricts the privileged Chinese persons, other than laborers, to come to the United States to only five classes, viz., officials, teachers, students, merchants, and travelers, in direct contravention to the treaty of 1880, in Article I, where it states that the limitation or suspension of immigration shall apply only to laborers, 'other classes not being included in the limitation.' So also the history of the negotiation shows that it was the intention of the two governments that laborers alone were to be excluded. Under the bill there would be excluded bankers, capitalists, commercial agents or brokers, and even merchants who come only to make purchases; also scholars and professors, of which there are many in China of high attainments; also physicians, clergymen, and many other classes which do not fall under the five classes exempt by the bill. The provisions of the bill as to the five exempt classes are so restrictive as to practically nullify the treaty in regard to them. The definitions as to teachers, students, and merchants are so con-

trary to the spirit of the treaty as to make them almost impossible of observance.

"A woman married according to the Chinese custom to a person of the exempt classes would be prohibited from entering the country, because according to the provision of the bill it is necessary that the marriage shall be legal and binding by the laws of the United States.

"The bill requires that all Chinese laborers now in the United States shall undergo a new registration. It will be remembered that my Government remonstrated against the first registration that was proposed under the Geary law, and only consented to it at the earnest request of the Secretary of State at the time. All the Chinese laborers submitted to that requirement and were registered, and now it is proposed to nullify all that and subject them to the annoyance and trouble of a new registration. It is an unnecessary hardship and should not be required.

"The bill also contemplates the registration of all merchants and of others of the exempt class. This can not be required under the treaty, but the bill attempts to obviate that obstacle by making the failure to register a serious prejudice of their rights.

"I have heretofore complained to you of the great hardships to which laborers, merchants, and others are subjected after they have been admitted to the United States and are lawfully domiciled in this country. Past experience shows that Chinese have been arrested by the wholesale, placed in jeopardy, and subjected to molestation and insult. When found innocent, no redress is obtained for such illegal arrest. Persons charged with being unlawfully in the country and taken before a court are denied the privilege of bail, but must remain in jail until their case is decided. The bill, in place of providing some relief for these hardships, rather adds restrictions thereto.

"The provisions with regard to transit across the United States imposed by this bill are almost impossible to be complied with, because people who are passing through the United States *en route* to other countries do not know the laws of the country, and they can not understand the intricate rules and regulations made by the Commissioner-General of Immigration.

"The report of the committee says that 'the greatest degree of fairness and justice to the exempt classes will be insured by the provisions of the bill, which provides better means for the investigation and disposition of their claims.' And again it says: 'The features of the bill . . . will tend to protect the worthy immigrant in his treaty rights and privileges.'

"I have referred to the fact that the provisions as to the admission of the exempt classes are in direct violation of the treaty; and in addition to this the bill provides that the exempt classes must submit their right to admission to the adjudication of the Immigration Bureau, which, as I showed in my note to you of Dec. 10, last, was a purely *ex parte* investigation, where the claimant was not permitted to confront the witnesses, was deprived of the privilege of counsel, and was excluded from an appeal to the courts. I can not understand how the committee can style this 'the greatest degree of fairness and justice,' or how the 'worthy immigrant is protected in his treaty rights and privileges.' It seems to me, on the contrary, that his treaty rights are taken away from him.

"The provisions of the bill above referred to, and others which might be cited, place so many

restrictions upon Chinese persons and require them to comply with such strict provisions that no Chinese having the least respect for himself would submit to such indignities and come to this country. I fear the effect of the bill, if it becomes a law, will be that Chinese merchants will not come here to buy goods nor students come for educational purposes.

"Another feature of the bill must be alluded to. The new possessions of the United States, such as Porto Rico, the Hawaiian Islands, the Philippines, and others which may hereafter be acquired, are subjected to its provisions. It can not be claimed that they were considered when the treaty was negotiated, and it is hardly just or in accordance with international comity that the treaty should be extended to them without the consent of China.

"I have received repeated instructions from the Imperial Government, in view of the reenactment of the exclusion laws, to exert myself to see that treaty rights are observed and that no unnecessary hardships are placed upon Chinese subjects, and I feel that on account of the pendency of the legislation referred to I could not refrain from asking you to lay before the honorable Congress the views above set forth. You know that in regard to the exclusion of laborers my Government and myself have stood ready to cooperate with your Government in making the treaty prohibition effective. But with regard to the exempt classes who seek to come here for trading, educational, and other legitimate purposes, I must earnestly protest against the unwarranted and unjust provisions of the bill. In place of 'insuring the greatest degree of fairness and justice,' as stated by the Immigration Committee, it would impose such indignities and hardships upon these classes that few, if any, would come here. And notwithstanding the sincere wish of my Government and myself to maintain and cement closer the friendly relations between the two countries, I greatly fear that those friendly relations would be endangered by the enforcement of the act."

April 16, the Senate adopted, instead of the committee measure, a brief substitute offered by Mr. Platt, of Connecticut, and passed the measure by a vote of 76 to 1. April 17 this substitute was passed as an amendment to the House bill.

After the usual non-concurrence and two conferences, it was modified slightly and accepted by both houses of Congress.

It was approved by the President, April 29, 1902, in the following form:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all laws now in force prohibiting and regulating the coming of Chinese persons, and persons of Chinese descent, into the United States, and the residents of such persons therein, including sections 5, 6, 7, 8, 9, 10, 11, 13, and 14 of the act entitled 'An Act to prohibit the coming of Chinese laborers into the United States,' approved Sept. 13, 1888, be, and the same are hereby, reenacted, extended, and continued so far as the same are not inconsistent with treaty obligations, until otherwise provided by law, and said laws shall also apply to the island territory under the jurisdiction of the United States, and prohibit the immigration of Chinese laborers, not citizens of the United States, from such island territory to the mainland territory of the United States, whether in such island territory at the time of cession or not, and from one portion of the island territory

of the United States to another portion of said island territory: *Provided, however,* That said laws shall not apply to the transit of Chinese laborers from one island to another island of the same group; and any islands within the jurisdiction of any State or the District of Alaska shall be considered a part of the mainland under this section.

"SEC. 2. That the Secretary of the Treasury is hereby authorized and empowered to make and prescribe, and from time to time to change, such rules and regulations not inconsistent with the laws of the land as he may deem necessary and proper to execute the provisions of this act and the acts hereby extended and continued and of the treaty of Dec. 8, 1894, between the United States and China, and with the approval of the President to appoint such agents as he may deem necessary for the efficient execution of said treaty and said acts.

"SEC. 3. That nothing in the provisions of this act or any other act shall be construed to prevent, hinder, or restrict any foreign exhibitor, representative, or citizen of any foreign nation, or the holder, who is a citizen of any foreign nation, of any concession or privilege from any fair or exposition authorized by act of Congress from bringing into the United States, under contract, such mechanics, artisans, agents, or other employees, natives of their respective foreign countries, as they or any of them may deem necessary for the purpose of making preparation for installing or conducting their exhibits or are preparing for installing or conducting any business authorized or permitted under or by virtue of or pertaining to any concession or privilege which may have been or may be granted by any said fair or exposition in connection with such exposition, under such rules and regulations as the Secretary of the Treasury may prescribe, both as to the admission and return of such person or persons.

"SEC. 4. That it shall be the duty of every Chinese laborer, other than a citizen, rightfully in, and entitled to remain in any of the insular territory of the United States (Hawaii excepted) at the time of the passage of this act, to obtain within one year thereafter a certificate of residence in the insular territory wherein he resides, which certificate shall entitle him to residence therein, and upon failure to obtain such certificate as herein provided he shall be deported from such insular territory; and the Philippine Commission is authorized and required to make all regulations and provisions necessary for the enforcement of this section in the Philippine Islands, including the form and substance of the certificate of residence so that the same shall clearly and sufficiently identify the holder thereof and enable officials to prevent fraud in the transfer of the same: *Provided, however,* That, if said Philippine Commission shall find that it is impossible to complete the registration herein provided for within one year from the passage of this act, said commission is hereby authorized and empowered to extend the time for such registration for a further period not exceeding one year."

The Isthmian Canal.—Jan. 9, 1902, the House of Representatives passed by a vote of 308 yeas to 2 nays a bill "to provide for the construction of a canal connecting the waters of the Atlantic and Pacific Oceans." It authorized the President to act on the matter; but it determined upon the Nicaragua route, disregarding any other. It was on this point that the only difference of opinion arose. After many years of discussion there has come substantial agreement as to the

good policy of constructing such a canal, as to the necessity for Government ownership, and as to the propriety of immediate action; but the Panama route had some advocates in the House, and amendments to the measure were proposed favoring this route or leaving the choice of a route to the judgment of the President. These amendments were defeated. In the Senate, however, the sentiment in favor of the Panama route was much stronger, and Mr. Spooner, of Wisconsin, offered a substitute for the House bill, recommending the purchase of the Panama Canal and its completion as the best course, if feasible, and suggesting the Nicaragua route as an alternative. He said:

"No one can overstate the importance of the subject. The construction of a canal connecting the two oceans has been for many, many years the dream of statesmen and the prayer of mariners. It is a colossal enterprise; and one which I believe the people of the United States, with less division of sentiment than I have ever known upon any other subject, desire shall be inaugurated and carried forward as speedily as consists with the public interest; a great public work to stand forever—as long as the Government stands. And, Mr. President, as the years go on, it obviously is to become more and more important to the country and its commerce, to the world, if the world shall use it, and to the commerce of the world.

"He would be a very reckless and bold man who should attempt to set a limit upon what a hundred years from now will be our population, our wealth, and the extent of our commerce; and, Mr. President, no higher or more solemn duty, in my judgment, ever rested upon men in public position—as this work is to subserve not simply the purposes of commerce, but to promote the defense of the nation—than rests upon the Congress to reach the wisest possible conclusion upon this subject. It is too broad to be affected by sectionalism; it is a project of the whole country and of the whole people for all time, and it is not to be belittled, Mr. President, or it should not be, by action governed by mere sentiment, by prejudice, or by assumed local interest.

"If there ever was a question to the solution of which ought to be brought the broadest views from a national standpoint, to my mind this is that problem. I have not supposed it could be debated, that what the people of the United States expect of us and demand of us and have a right to receive from us, is the wisest solution of this question, to the best of our ability, unfettered by any extraneous considerations. The people are to build this canal, they are to maintain it, and it is not debatable that they wish, and they are entitled to have the best canal route.

"It has seemed to be considered by some Senators evidence of disloyalty to the project of an isthmian canal that an amendment has been offered to this bill, or proposed to be offered to it, projecting into the discussion consideration of the Panama route. In other words, it seems to have been thought novel, rather unjustified, and necessarily, therefore, with ulterior purpose, that the Senate did not find itself ready unanimously to adopt without debate the bill known as the Hepburn bill, which lies upon our table, providing for the construction of the Nicaragua Canal. I am quite unable to find any foundation or justification for that suggestion.

"For years the Panama Canal was so enveloped with the thick fog of scandal as not to be perceptible to the people of the United States and as to be considered entirely out of the question. How

does it come to us to-day? In 1899 Congress passed a law making it the duty of the President to 'make a full and complete investigation of the Isthmus of Panama with a view to the construction of a canal by the United States across the same to connect the Atlantic and Pacific Oceans; that the President is authorized to make investigation of any and all practicable routes for a canal across said Isthmus of Panama, and particularly to investigate the two routes known respectively as the Nicaraguan route and the Panama route.' What for? 'With a view to determining the most practicable and feasible route for such canal.' I have never heard that law criticized. I believe it commended itself to the American people as a sensible proposition made in their obvious interest, the inspiration of it being to secure, through adequate investigation by fit men, an examination of the various routes and a report to the President and to the Congress of that route which possessed the greatest relative merit and advantage.

"Does any one say that after the enactment of that law we were only to look at the Nicaragua route; that thereafter the people did not expect us to act upon the report of the investigation inaugurated under our command by the President at an expense of \$1,000,000? That law was passed in order that there might be presented to Congress a comparison of routes, and in order that Congress might choose for this great work, which is to be perpetual, that one which all in all seems to be the best.

"The President did not appoint on this commission lawyers or laymen. He did not fill it with members of Congress or ex-members of Congress. He did what, of course, it was expected he would do, and what it was his duty to do. He chose experts in the science and practise of engineering—men of skill in that great profession, a profession which, with the lapse of years, has made as great strides in progress as any other.

"Everybody knew that this problem is one of infinite complication from the engineering standpoint; everybody knew, who thought about it, that the object of this commission and of its creation was to lay before Congress data and opinions of experts in order that the Congress might proceed conservatively and wisely. The mind of the people then was not focused simply on Nicaragua; they were taking a larger view of this subject; and from the time the commission was appointed it has not been a question of a canal—we all want that—but a question of which route should be chosen. I take it that the people of the United States are determined to have a canal.

"If the majority of the Senate believe that the Nicaragua route is the route, they will so vote; if they believe that the Panama route, if it can be obtained, is the better route, they will so vote, each Senator discharging, of course, his own duty and acting, of course, upon his own responsibility.

"Mr. President, this commission went about its work and proceeded with it methodically, with great labor. They went abroad; they studied the general subject of ship-canal; they investigated the maps, the profiles, the history, and everything connected with the New Panama Canal Company and its property. They went over the ground on the isthmus. They studied the situation there in every detail as they studied the Nicaragua route in detail.

"They were disinterested gentlemen. All of them are distinguished in their profession. Admiral Walker is a man who has won by a great career enduring fame. They are not subject to impeachment, and it is not imputed to them that

they have acted upon any other motive than a desire to discharge their duty honestly and intelligently and in the public interest; and nobody can impeach them. They point out the advantages of one route over the other; this reduction in price of the Panama Canal property; and *they unanimously recommend the Panama route as the route which should be secured.*

"Congress is asked to set aside incontinently that report of distinguished experts and to act in opposition to it in a way; to substitute the judgment of lawyers and laymen; and those of us who are sent here, most of us without experience or skill in engineering, are asked to adopt the plan, not which the commission recommends, but which we think is better.

"I have not been able—although I want a canal, and I want it under this bill, and if we can not secure the Panama Canal I want the Nicaragua route—to cast aside the solemn report and judgment of these experts chosen by President McKinley, carrying on their work under an appropriation of \$1,000,000, taking abundance of time to do it, and making a report in such detail, and to substitute my own judgment for it. Other Senators may be willing to do that.

"My judgment as a layman, although I would not act upon that alone, commends the conclusion of the commission to me. One thing of infinite consequence, and you see it on that map, is the difference in the length of the canals. A canal 49 miles long as against one 183 miles long. The shorter the canal, every one can see, the better. A canal *through which a steamship can go in the daytime*, through which a sailing ship *with a tug* can go in the daytime, between sunrise and sunset, as against one that will require *thirty-two hours!* That is an incalculable advantage. It is an advantage in the matter of *safety*, and because it is an advantage in the matter of safety it is an advantage for all time, too, in the matter of *insurance*.

"Panama is farther from some of our ports, measured by miles, but measured by time, so far as the steamship is considered, there is not an appreciable difference. Taking it as an original proposition, I think a man—lawyer or layman—being interrogated as to which canal would be preferable, one through which ships could pass between sunrise and sunset, or one through which it would take three days to pass in daylight, would not hesitate long to say that the former possessed a tremendous advantage.

"There is another thing, speaking only as a layman, which has commended to me the Panama route, since the report of the commission as against the Nicaragua route, although I want the canal built on that if we can not build it on the other. That point is this: The Panama Canal, however it is built now, the testimony shows, *can be made in the future a sea-level canal. The Nicaragua Canal can not.* It is a mere matter of money. It is so stated in the report of the commission. It is so stated in the testimony of the experts before the committee.

"It may become of infinite importance to the people of the United States 'in the long reach of time' to make a sea-level canal of it. Is it worth nothing to adopt the *shorter* canal? Is it worth nothing to have the certainty that *in the future, if the public interest and safety demand it, with the expenditure of the requisite money, this can be made a sea-level canal?* I think it is worth a great deal. Senators may think it is worth nothing.

"But given the practicability of it, Mr. President, in the long years to come, when our popula-

tion has grown to 300,000,000, and our wealth in proportion, and the commerce of the world, immeasurably increased, is using this canal, as it will do, who shall say that the people of the United States would care whether it cost \$200,000,000 or \$500,000,000 to turn this canal into a sea-level canal? All I mean to say is this, and to me it is entitled to great significance and influence in favor of the Panama Canal, with its other advantages, that as to it in the time to come, if our people *want to make of it a sea-level canal, they can do so*, when as to the other, *no matter how much they want it, they can not do so.*

"There is another thing, Mr. President, which has influenced me somewhat since I first began to read about the Panama Canal within the last two or three years. I think Gen. Abbot's article was the first that led me to study the subject at all. I refer to the fact that it is two-fifths completed, that it is a short canal, and that there is a good harbor at either end of it.

"I do not know that it is wise to say what I intend to in the open Senate, and I would not be governed by it if the Nicaragua route were clearly preferable; but if we build the Nicaragua Canal, making of it, as we have by our treaty with England made it, in a sense, a provincial canal (in other words, we are the sole guarantor of its neutrality, with a right to close it against an enemy), with this short, feasible, partly constructed canal, with the work of excavation easily available at any time, in the ever-increasing struggle between the commercial nations of the earth for trade, in the jealousies which have always existed and which always will exist between nations, I have feared that the time would come when, not with private money, but through governmental money placed perhaps in corporate hands, this canal would be finished. It is lying there two-fifths done, feasible, short.

"It is a continuous invitation, Mr. President, to any hostile influence or power which should desire its construction. It lies there a constant menace to the interests and to the safety in the future of the United States. I have thought it might be completed, and that the day might come when our Oregon would go around the Horn again, and an enemy's Oregon might go through this short canal. It will be said that if we build the Panama Canal some other government will probably build the Nicaragua Canal. I hope we will get title to the Panama property and the necessary concession from Colombia and will build the Panama Canal, because, Mr. President, for reasons which I have given, I think that is the safer and better canal for the United States to build. I am 'banking,' if I may use that word, on the experts and on the recommendation of the commission.

"I could not persuade myself, Mr. President, in the face of that report, to vote for the Nicaragua Canal and against the Panama, and get \$150,000,000 or \$200,000,000 or \$300,000,000 invested in the Nicaragua and have it prove to have been disadvantageous some day. I would hate to have my people turn to me and say, 'Well, you put *your judgment* as to the safer and better canal for the United States against a great body of experts chosen by President McKinley and sent over the ground with abundance of money to investigate with care and skill and report the better route.' I am not willing to take that responsibility.

"One thing the Senator can be certain of. Every doubt as to that title would be resolved by the President of the United States or any other public officer against the vendor."

Mr. Morgan, of Alabama, argued that the Lib-

eral party of Colombia had declared its hostility to the contract with the Panama Canal Company, and that the corporation in reality had nothing to sell for the \$40,000,000 which it now asks for the canal. He said:

"Now I have established it in a formal way, in protests that have been issued and notified to the Panama Canal Company, notified to the Colombian Government, the opposing government, notified to the United States, that the Liberal party in Colombia, now professing to have, and having, the support of the great majority of that people, will never ratify these agreements that we are bidding \$40,000,000 for.

"Mr. President, we might as well throw the money into the sea as to appropriate it to this broken-down company that is now speeding to its last moments of existence when it knows that this bribe to Sanclemente of \$1,000,000, which he paid in gold, is not going to hold good, that they can not realize anything from it, and that the Colombian people after 1904, two years from now, will repudiate the whole thing and claim the property, as they have a perfect right to do.

"They commit an act of bankruptcy in falling from \$109,000,000 to \$40,000,000 in a proposition to sell that property. There is not a bankrupt court in the United States, nor in France, nor in the world that would sustain a sale made by an acknowledged bankrupt or by one who becomes a bankrupt and files his petition for a discharge when he claimed to hold a property worth \$109,000,000 and had sold it for \$40,000,000.

"And yet upon technicalities our learned friends in the minority of this committee insist that that is a valid transaction and binding, not only upon Colombia but upon the clean conscience of this great and noble republic. I repudiate it. I deny the impeachment against my country that it is capable of entering into as questionable a contract as that.

"Now, Mr. President, I have presented the points I desired to present to show that this contract is not of the value of a last year's bird's-nest. It is void, and not only void, but it is fraudulent, and the Colombian people represented by the Liberal Government repudiate it and give us notice that they intend in future to repudiate it. Are we still to persist in paying \$40,000,000 to the Panama Canal Company for a contract that is thus assailed and proved to be not merely void, but fraudulent; for that is what these men charge?

"Now, sir, that war is going on. It has been flagrant every day since that transaction took place and since that Congress adjourned. They did resolve before they went out that the presidency was vacant, and thereupon the President of the provisional Government assumed that he was in lawful authority. From that day to this he has so contended. He has had his armies in the field and fought heavy battles, in which there have been great losses on both sides.

"This controversy in a minor way represents, not in principle, but in the action of the people concerned, that great and terrific controversy in which we were concerned in 1861-'62. They fight with desperate determination, and they are at it to-day. The latest accounts in the newspapers, by telegraph, on yesterday were that the Government, or the Conservatives, as they are called, were attacking the Liberals, who are fortified in Panama, and that those outside the walls had 7,000 troops and those inside the walls had about 4,000. There are 10,000 or 12,000 men to-day engaged in battle originating out of these unlawful acts, about which we are quietly legislating,

with a view of paying the company that have got up the row \$40,000,000 for their interference. That is the situation to-day.

"There is another fact connected with that war which I want to call to the attention of the American people. I have the honor of being listened to by a faithful and splendid Democrat, almost the only one who is here. The Senate is not my audience. I wish it distinctly understood that I am speaking to the American people, and through them I will speak to the Senate.

"I have presented now these facts, but I want to connect another one with it as another cause of the war. Why are these men called Liberals and Conservatives? It is an old political division, commencing on the first outbreak after the revolution in Mexico, and it has followed all the Spanish-American States after their first organization. The revolutions in those different governments found the bonds of Church and state irrevocable in all these Spanish provinces, and they revolted at that. Mexico in consequence of it had 52 presidents in fifty years, and Panama has had about that number of governors in sixty years. There are few states, if any, exempt; perhaps Chile and perhaps Argentina. There are few states, if any, in South America or in North America or in Central America that have escaped this same conflict that is raging to-day in Colombia. The division of parties is the Liberal and the Church party, or Conservatives.

"I read to the Senate the other day a paper from Pope Leo XIII, a concordat made with Colombia in 1888. It is in the Record here. It is established as a part of the fundamental government of that republic, not an established Church—Leo would not have it that way—but an independent Church represented by the Holy See and negotiating in its political capacity with Colombia as an independent republic. The two governments came to an agreement and made a compact, which is set forth in that concordat.

"The establishment of that concordat so long after Panama and Colombia had their struggles to maintain independence was a serious blow at the Liberal party in that country. They felt that the liberties for which they had actually been fighting for years and years were to be blotted out by the concordat. There it is in its hideous monstrosity, which permits a man and a woman who are duly married according to the laws of the United States and who have gone to Colombia, either of them, to marry some other person without any judicial decree of separation, if that marriage between them was not celebrated by the authority of the Catholic Church; and if the poor woman, for instance, was deserted in this way and the man married another woman in accordance with the rites of the Catholic Church, the only concession to be made at all was that the issue by her should be considered to be legitimate, and he should take care of them until she married again in accordance with the rules of the Church.

"When you come to education the public schools are not only under the patronage but under the control of the priesthood, and the bishop of each district fixes all the school-books, secular and ecclesiastical.

"Not only so, but the Government is pledged that if any man makes a lecture or writes an article or utters an opinion contrary to the tenets of the established Church or of the independent Church connected with Colombia by the concordat he is liable to criminal punishment, and the Government is bound to punish him and engages to do it. Not only so, but there is

a provision that the annual budget shall contain a certain large amount—in one instance it mentions \$100,000 a year—for the purpose of maintaining the Church in that country.

"Now, I am presenting these facts to the American people. I do not care what the Senators think about them, but I know the people will take note of it. I know the people of the United States do not want to go to Colombia under a contract which sustains the majesty and superiority of the laws of that state over a canal bill where honorable men, though they may be workmen, may desire to go and conduct their business, or some man may desire to go there and stay for the purpose of maintaining a little shop to make some money for his wife and children. I know that our people are not going to consent, for the purpose of getting a canal, to pay \$40,000,000 for the opportunity of placing themselves beneath the yoke of that concordat.

"The people will make points upon Senators on either side of this Chamber who undertake to put them and their affairs in that category by an expenditure of \$40,000,000 and then deal with a corporation that is denounced by the Liberal party, now in arms and fighting around Panama, as being absolutely and unquestionably violative of the Constitution of Columbia of 1886.

"That is as far as I care to go, Mr. President, in the presentation of that question. So in the very threshold of this legislation we are met by a company that is denounced by more than half of Colombia as a fraud and an outrage and as a conspirator in favor of the Church party and against liberal government. Whether it is true or not, what difference does it make? It shows the state of feeling there."

June 19, the House bill was radically amended by the Senate, and then passed by a vote of 67 yeas to 6 nays. The House non-concurred, but after conference receded from its disagreement to the Senate amendment. The President approved the measure in the following form June 28, 1902:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States is hereby authorized to acquire, for and on behalf of the United States, at a cost not exceeding \$40,000,000, the rights, privileges, franchises, concessions, grants of land, right of way, unfinished work, plants, and other property, real, personal, and mixed, of every name and nature, owned by the New Panama Canal Company, of France, on the Isthmus of Panama, and all its maps, plans, drawings, records on the Isthmus of Panama, and in Paris, including all the capital stock, not less, however, than 68,863 shares of the Panama Railroad Company, owned by or held for the use of said canal company, provided a satisfactory title to all of said property can be obtained.

"SEC. 2. That the President is hereby authorized to acquire from the Republic of Colombia, for and on behalf of the United States, upon such terms as he may deem reasonable, perpetual control of a strip of land, the territory of the Republic of Colombia, not less than 6 miles in width, extending from the Caribbean Sea to the Pacific Ocean, and the right to use and dispose of the waters thereon, and to excavate, construct, and to perpetually maintain, operate, and protect thereon a canal, of such depth and capacity as will afford convenient passage of ships of the greatest tonnage and draft now in use, from the Caribbean Sea to the Pacific Ocean, which control shall include the right to perpetually maintain and operate the Panama Railroad, if the

ownership thereof, or a controlling interest therein, shall have been acquired by the United States, and also jurisdiction over said strip and the ports at the ends thereof to make such police and sanitary rules and regulations as shall be necessary to preserve order and preserve the public health thereon, and to establish such judicial tribunals as may be agreed upon thereon as may be necessary to enforce such rules and regulations.

"The President may acquire such additional territory and rights from Colombia as in his judgment will facilitate the general purpose hereof.

"SEC. 3. That when the President shall have arranged to secure a satisfactory title to the property of the New Panama Canal Company, as provided in section 1 hereof, and shall have obtained by treaty control of the necessary territory from the Republic of Colombia, as provided in section 2 hereof, he is authorized to pay for the property of the New Panama Canal Company \$40,000,000 and to the Republic of Colombia such sum as shall have been agreed upon, and a sum sufficient for both said purposes is hereby appropriated, out of any money in the Treasury not otherwise appropriated, to be paid on warrant or warrants drawn by the President.

"The President shall then through the Isthmian Canal Commission hereinafter authorized cause to be excavated, constructed, and completed, utilizing to that end as far as practicable the work heretofore done by the New Panama Canal Company, of France, and its predecessor company, a ship-canal from the Caribbean Sea to the Pacific Ocean. Such canal shall be of sufficient capacity and depth as shall afford convenient passage for vessels of the largest tonnage and greatest draft now in use, and such as may be reasonably anticipated, and shall be supplied with all necessary locks and other appliances to meet the necessities of vessels passing through the same from ocean to ocean; and he shall also cause to be constructed such safe and commodious harbors at the termini of said canal, and make such provisions for defense as may be necessary for the safety and protection of said canal and harbors. That the President is authorized for the purposes aforesaid to employ such persons as he may deem necessary, and to fix their compensation.

"SEC. 4. That should the President be unable to obtain for the United States a satisfactory title to the property of the New Panama Canal Company and the control of the necessary territory of the Republic of Colombia and the rights mentioned in sections 1 and 2 of this act, within a reasonable time and upon reasonable terms, then the President, having first obtained for the United States perpetual control by treaty of the necessary territory from Costa Rica and Nicaragua, upon terms which he may consider reasonable, for the construction, perpetual maintenance, operation, and protection of a canal connecting the Caribbean Sea with the Pacific Ocean by what is commonly known as the Nicaragua route, shall through the said Isthmian Canal Commission cause to be excavated and constructed a ship-canal and waterway from a point on the shore of the Caribbean Sea near Greytown, by way of Lake Nicaragua, to a point near Brito, on the Pacific Ocean. Said canal shall be of sufficient capacity and depth to afford convenient passage for vessels of the largest tonnage and greatest draft now in use, and such as may be reasonably anticipated, and shall be supplied with all necessary locks and other appliances to

meet the necessities of vessels passing through the same from ocean to ocean; and he shall also construct such safe and commodious harbors at the termini of said canal as shall be necessary for the safe and convenient use thereof, and shall make such provisions for defense as may be necessary for the safety and protection of said harbors and canal; and such sum or sums of money as may be agreed upon by such treaty as compensation to be paid to Nicaragua and Costa Rica for the concessions and rights hereunder provided to be acquired by the United States, are hereby appropriated, out of any money in the Treasury not otherwise appropriated, to be paid on warrant or warrants drawn by the President.

"The President shall cause the said Isthmian Canal Commission to make such surveys as may be necessary for said canal and harbors to be made, and in making such surveys and in the construction of said canal may employ such persons as he may deem necessary, and may fix their compensation.

"In the excavation and construction of said canal the San Juan river and Lake Nicaragua, or such parts of each as may be made available, shall be used.

"SEC. 5. That the sum of \$10,000,000 is hereby appropriated, out of any money in the Treasury not otherwise appropriated, toward the project herein contemplated by either route so selected.

"And the President is hereby authorized to cause to be entered into such contract or contracts as may be deemed necessary for the proper excavation, construction, completion, and defense of said canal, harbors, and defenses, by the route finally determined upon under the provisions of this act. Appropriations therefor shall from time to time be hereafter made, not to exceed in the aggregate the additional sum of \$135,000,000 should the Panama route be adopted, or \$180,000,000 should the Nicaragua route be adopted.

"SEC. 6. That in any agreement with the Republic of Colombia, or with the states of Nicaragua and Costa Rica, the President is authorized to guarantee to said republic or to said states the use of said canal and harbors, upon such terms as may be agreed upon, for all vessels owned by said states or by citizens thereof.

"SEC. 7. That to enable the President to construct the canal and works appurtenant thereto as provided in this act, there is hereby created the Isthmian Canal Commission, the same to be composed of 7 members, who shall be nominated and appointed by the President, by and with the advice and consent of the Senate, and who shall serve until the completion of said canal unless sooner removed by the President, and one of whom shall be named as the chairman of said commission. Of the 7 members of said commission at least 4 of them shall be persons learned and skilled in the science of engineering, and of the 4 at least one shall be an officer of the United States army, and at least one other shall be an officer of the United States navy, the said officers respectively being either upon the active or the retired list of the army or of the navy. Said commissioners shall each receive such compensation as the President shall prescribe until the same shall have been otherwise fixed by the Congress. In addition to the members of said Isthmian Canal Commission, the President is hereby authorized through said commission to employ in said service any of the engineers of the United States army at his discretion, and likewise to employ any engineers in civil life, at his discretion, and any other persons necessary for the proper and expeditious prosecution of said work. The

compensation of all such engineers and other persons employed under this act shall be fixed by said commission, subject to the approval of the President. The official salary of any officer appointed or employed under this act shall be deducted from the amount of salary or compensation provided by or which shall be fixed under the terms of this act. Said commission shall in all matters be subject to the direction and control of the President, and shall make to the President annually and at such other periods as may be required, either by law or by the order of the President, full and complete reports of all their actings and doings and of all moneys received and expended in the construction of said work and in the performance of their duties in connection therewith, which said reports shall be by the President transmitted to Congress. And the said commission shall furthermore give to Congress, or either House of Congress, such information as may at any time be required either by act of Congress or by the order of either House of Congress. The President shall cause to be provided and assigned for the use of the commission such offices as may, with the suitable equipment of the same, be necessary and proper in his discretion, for the proper discharge of the duties thereof.

"SEC. 8. That the Secretary of the Treasury is hereby authorized to borrow on the credit of the United States from time to time, as the proceeds may be required to defray expenditures authorized by this act (such proceeds when received to be used only for the purpose of meeting such expenditures), the sum of \$130,000,000, or so much thereof as may be necessary, and to prepare and issue therefor coupon or registered bonds of the United States in such form as he may prescribe, and in denominations of \$20 or some multiple of that sum, redeemable in gold coin at the pleasure of the United States after ten years from the date of their issue, and payable thirty years from such date, and bearing interest payable quarterly in gold coin at the rate of 2 per centum per annum; and the bonds herein authorized shall be exempt from all taxes or duties of the United States, as well as from taxation in any form by or under State, municipal, or local authority: *Provided*, That said bonds may be disposed of by the Secretary of the Treasury at not less than par, under such regulations as he may prescribe, giving to all citizens of the United States an equal opportunity to subscribe therefor, but no commissions shall be allowed or paid thereon; and a sum not exceeding one-tenth of one per centum of the amount of the bonds herein authorized is hereby appropriated, out of any money in the Treasury not otherwise appropriated, to pay the expense of preparing, advertising, and issuing the same.

The Census Bureau.—The Congress passed a measure to provide for a permanent Census Office. The House committee, which reported in favor of the measure, said among other things:

"It is estimated that the sum required to complete the principal inquiries ordered by the temporary census act, and included in the proposed bill, will be about \$3,600,000, spreading it over the next four years. This involves an office force of not far from 800 people, including the present executive force, costing about \$160,000 per annum; including also rental, miscellaneous expenses, etc. Under the proposed bill, however, with the changes that have been made, it is estimated that the annual cost will be not far from \$615,000 for the next six years. This involves a material reduction in the clerical force during

the time indicated; also a reduction of about \$114,000 per year in the executive force and a corresponding reduction in general expenses, rental, etc., so that in effect the actual expenditures of the Government would be practically the same. It is the belief of your committee that when all phases of the question are taken into consideration there will be in the end an actual saving of money to the Government as a result of establishing a permanent Census Office at this time, to say nothing of the enormous gain from a scientific point of view, and increase in the value and accuracy of future censuses which would result from this legislation.

"There will also be a very handsome saving in the amount required to prepare for the ordinary decennial census. The appropriation for preliminary work at the last two decades has been \$1,000,000 each. In view of the fact that there would be a trained force in the Census Office and ample time, at least one-half of this sum could be saved in the work of preparation for the next census, and a further sum of \$100,000 saved in the way of furniture and fixtures.

"The question has been raised how the clerical force of a permanent Census Office can be kept profitably engaged during the interval that must elapse between the completion of the work on the special reports and the commencement of preparation for the thirteenth census.

"There is work enough provided for in section 8 of the existing law to keep a force of skilled clerks busy for the entire interval from July 1, 1902, to, say, October, 1908, when the preparation for the thirteenth census should be well under way. The special inquiries required by section 8 can be distributed over the whole period; and this distribution would undoubtedly result advantageously in the quality of the work done. For instance, in addition to the annual report upon births and deaths in registration areas, provided for in the new section of the present bill, the division of vital statistics would be employed upon a special report upon the deaf and dumb, a special report upon the blind, a special report upon the insane and feeble-minded, a special report upon criminals and juvenile delinquents, and a special report upon pauperism and benevolence; and these special reports would be made, one in each year, until completed.

"In the same way the report on public indebtedness, valuation, taxation, and expenditures, provided for in section 8, would divide itself into special reports upon public indebtedness, upon public receipts and expenditures, upon assessments and taxation, and upon true valuation of real and personal property. These separate reports, it is estimated, would occupy one division of the permanent Census Office until the spring of 1907, the publication of the results of the several parts of the investigation to take place from time to time as the same are completed.

"In another division the inquiries as to street-railways, telegraph and telephone, and electric light and power would be taken up and brought to completion, or substantially so, before the investigation of mines and mining is entered upon. Upon the completion of this latter report, the investigation of transportation by water, a difficult and important field of inquiry, would follow in due order. Thus the Census Office would be continuously preparing and publishing a series of valuable reports upon topics which Congress has already determined that it shall investigate. It would be entirely feasible, with a permanent Census Office, to arrange for the future publication of corresponding reports for the next census

in such a way that the report on each topic would be ten years distant from the last. This whole class of reports could thus be disassociated from the census year, with all its pressure, without destroying their comparability in point of time.

"Another clause of section 8 provides for a series of special reports on the social statistics of cities, and it will readily be seen that the work of making these reports, which will possess great value and interest, can be distributed to the best advantage over the entire period that will elapse before the next census. This course would involve the taking of the social statistics of the cities of certain sections of the country in one year and of other sections in another year, according as the facilities and opportunities of the permanent Census Office permit.

"Provision should be made also, in the event of a permanent census organization, for a careful review of the conditions governing the taking of the present census, in order that the plan of enumeration may be so perfected as to secure a very much closer supervision of the work of the census enumerators. Considerable progress has been made in this direction in the work of the twelfth census, but it is apparent from recent experience that very much more time must be given to the initiation of the preparatory work and steps taken at a comparatively early date to develop a better and more complete system, involving the possible separation of the enumeration of the population in cities from that in the rural sections of the country, and, in the latter case, making the country the unit for census supervision."

Mr. Hopkins, of Illinois, said, in presenting the measure:

"Mr. Chairman, if I can have the attention of the committee, I will take a few minutes briefly to explain the bill. I will say, however, that the report that was published in the Record this morning fully explains the character of the bill proposed here, the various provisions, and the expenditure necessarily incurred by the establishment of the bureau.

"I shall not take very much of the time of the committee to speak of the importance or the necessity of establishing a permanent Census Office.

"This is a question which has been before the people of this country for more than thirty years, and it is a question that has been favored by every statistician and every scientist in this country during that period. Every superintendent of the census since the taking of the ninth census has recommended the establishment of a permanent bureau.

"These men who have been charged with the duty of taking the census under the Constitution of the United States have seen and appreciated the wasteful expenditure of money under these temporary bureaus, and they have seen that by the establishment of a permanent bureau there can be an actual saving to the Government, in addition to the fact that the materials that are obtained under the operations of the bureau will be vastly more important by reason of their greater accuracy and the scientific manner in which they are presented to the general public.

"I take it that every member of the House who has given any thought to the subject whatever is in full accord with the views of the present director of the census in the idea that now is the opportune time to establish a permanent bureau. I take it that every gentleman who has investigated the subject at all will agree with

me that it will be a saving of money by establishing the bureau as proposed in this bill.

"When the director of the census first suggested this matter, he called the attention of the members of our committee to the extravagant expenditure of money in establishing some of the subheads in this bureau; and I violate no confidence in calling the attention of members of this House to the fact that in taking the agricultural census alone there was an expenditure of \$800,000 more than would be required under a trained force of clerks for the same work.

"As was stated by the director of the twelfth census, not a person, from the highest officer down to the lowest clerk, had any specific knowledge upon the subject that would enable him to properly and economically plan the work and then see that it was properly executed. It was only by experience, groping in this direction first, and then in that, they were enabled to gather statistics and make a report as required by law; and it is by reason of such experience, had in this special department of the bureau itself, that the director came to the conclusion that in the interest of economy alone it was important to the interests of the Government of the United States that a bureau of this character be established."

The main point of discussion was the provision in the bill as reported making permanent the appointment of employees already engaged in census work temporarily, and putting them under the civil-service rules. This occasioned some controversy, and the civil-service law came in for harsh criticism in both houses. In the Senate Mr. Stewart, of Nevada, said:

"Mr. President, while this matter of putting clerks who have been in the service under the protection of the civil service is before the Senate, I desire to put myself on record as being totally opposed to the present method of securing service in the departments. It has an element in it which in all ages, so far as we have any record, has led to unfair means and, perhaps, corruption. It has the element of secrecy about it. The public at large, although a few people may know it, do not know how a person gets into office through the civil service. They do not know upon what basis they are marked; they do not know how they are selected, and how it is all done. This undoubtedly could be explained if the people had access to the information, but they have not. It is all much of a mystery. Thousands of people have made trial to get in, have been examined, and they are now on the waiting list.

"I do not believe that this is the best way to select men for office. I think we should bring to bear some of the practical experience that great corporations—the railroad companies, who are so successful in the management of their affairs—use in selecting their employees. There should be more attention paid to the effectiveness of the parties in the particular line. Six months or a year of service is a great deal better test than any casual examination. There are a great many questions which are entirely irrelevant. Some persons can not get in who make the best and most efficient clerks. They can not answer these far-fetched questions; they are not right from school.

"As I said, we have thousands of people on the waiting list. I do not believe in the system at all. The great objection to the system is that the people do not know how it is done.

"I believe that every man is naturally honest; but he can only be kept so by publicity. Where there is secrecy, there is always a chance for

fraud and an opportunity to go into fraud. There is undoubtedly favoritism. We hear of it every day. The people are constantly talking about this service. It is a mystery to them. I believe in that portion of the civil service which retains competent and meritorious officials. I do not believe in them being turned out every time a new administration comes into power.

"The mode of selecting these officials is, I think, entirely defective. The old mode, which was called 'the spoils system,' had some defects, but it was better in many respects than the present, and secured for the Government better clerks. Before the civil service was inaugurated there was a chance for the departments to secure good clerks, for the reason that the heads of the departments had more discretion in the selection; but it was defective by reason of the fact that it permitted Senators and Representatives to make their recommendations orally. If the old system could be corrected and its defects cured by securing publicity, it would give us a most efficient service.

"So far as this bill is concerned, I have no doubt that the employees who have had experience in the Census Office have been much more fairly examined and have proved their efficiency in a much more satisfactory way than those who have been appointed after examinations which have very little to do with the particular work to which they are to be assigned. If the census clerks should be transferred to other departments, we should get a better class of clerks than we now get under the mysterious system which prevails, for many of the civil-service questions are abstract and mysterious and can only be answered by those who have just come from colleges and schools. An ordinary man can not answer such questions as are propounded. I do not suppose that five members of the Senate could go through a civil-service examination for a clerkship in any department. That does not prove the fact that Senators would not make fair clerks—that is, those of them who can write well enough—but still they could not pass the civil-service examinations. Such examinations, as I have said, can only be passed by those who are fresh from schools and colleges, who have had no experience in clerical work, and who have had no trained habits of work or industry, but who have the education which enables them to answer these conundrums.

"I do not believe that is the way to get an efficient service. I do not believe there is any railroad company desirous of employing a conductor, for instance, who would examine him in astronomy or in botany or in a great many of the things that the Civil-Service Commissioners require. No railroad company would subject a conductor or anybody who was to be placed in an important position on the railroad to any such examination. I think most of the questions asked in these examinations are entirely irrelevant and relate to matters with which persons will have nothing to do in the event of their appointment, but the persons who have been in the Census Bureau and have proved their efficiency will make the best clerks that can be obtained for the departments. There is no doubt about that, because they have had the experience and have already undergone such an examination as tended to develop their capacity for this kind of work. The civil-service examinations as they are conducted are of no consequence, and great harm has been done by the thousands who are now on the waiting list being kept out of other employment. This is doing injury to the coun-

try. I think we should try some other mode of putting men in office."

Mr. Gallinger, of New Hampshire, said:

"If it could be known—and no one can furnish that information but the Civil-Service Commission, and I think I shall ask for it some of these days—how many young men and young women who have left their homes have gone to the cities and spent from \$5 to \$10 on each pilgrimage to take the civil-service examination, who have passed the examination and have been put on the eligible list, have waited for one year and been dropped from it, and have gone again and been examined and been dropped from it, and have gone again and been examined and dropped from it—if the truth could be known and the expense it has been to the young men and the young women of this country could be aggregated, I think it would appal the Congress of the United States, and we can all imagine the disappointments it has brought to these young people.

"I have in my mind a young lady who passed three examinations, a year apart, in this city, and she passed at a very high rate. She is from my own State. She did not get an appointment. She left in despair and is doing other work; and all over our country this condition of things exists, and yet the commission are holding examinations all the time. One is scheduled for my city in the near future, and yet the eligible list is loaded down with hundreds and thousands of names that never will be reached for certification, and these young men and women are destined to disappointment.

"Not only that, Mr. President, but the young man who takes the civil-service examination and passes it nine times out of ten is not worth anything for business purposes. He expects to get a Government job, as he calls it, and he waits a year and he takes the examination again, and he waits another year, and he is enervated. I have a pathetic letter in my desk in the committee room from the father of a young boy who took the examination two years ago. He tells me that the boy is not worth anything because he expects to get Government employment, and he appeals to me to get him something to do in the Government service. I have known many and many such cases.

"So far as my State is concerned I do not know whether it is properly cared for in the departments or not. I know it to be true that the rolls of every department of this Government, so far as appointments from New Hampshire are concerned, are loaded down with people who never have been heard of in the State of New Hampshire for the last twenty-five years. The son of a dead Senator from a Western State is on the rolls at a high salary credited to the State of New Hampshire, and the only claim he has upon the State is that his mother was born in New Hampshire. I do not know who put him there. Such men, even if they once belonged to the State, do not come home to vote. They do not contribute for political purposes. They are of no earthly account to the State, and do not belong to the State, and there ought to be some way of weeding them out. But there is not. The Civil-Service Commission say they are there and they have to stay there until they die, and I presume that is a fact."

The bill passed the House of Representatives Jan. 30, 1902, and was amended and passed the Senate Feb. 17, also without a division. After a conference the measure was modified and approved by the President, March 6, 1902, in the following form:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Census Office temporarily established in the Department of the Interior in accordance with an act entitled 'An Act to provide for the taking the twelfth and subsequent censuses,' approved March 3, 1899, is hereby made a permanent office.

"SEC. 2. That the work pertaining to the twelfth census shall be carried on by the Census Office under the existing organization until the 1st day of July, 1902, when the permanent Census Office herein provided for shall be organized by the director of the census.

"SEC. 3. That the permanent Census Office shall be in charge of a director of the census, appointed by the President, by and with the advice and consent of the Senate, who shall receive an annual salary of \$6,000. It shall be his duty to superintend and direct the taking of the thirteenth and subsequent censuses of the United States and to perform such other duties as may be imposed upon him by law.

"SEC. 4. That there shall be in the Census Office, to be appointed by the director thereof, with the approval of the head of the department to which the said Census Office is attached, 4 chief statisticians, who shall be persons of known and tried experience in statistical work, at an annual salary of \$2,500 dollars each; a chief clerk, at an annual salary of \$2,500, who, in the absence of the director, shall serve as acting director; a disbursing clerk, who shall also act as appointment clerk, at an annual salary of \$2,500; 1 stenographer, at an annual salary of \$1,500; 4 expert chiefs of division, at an annual salary of \$1,800 each; 6 clerks of class three; 10 clerks of class two; and such number of clerks of class one, and of clerks, copyists, computers, and skilled laborers, with salaries at the rate of not less than \$600 nor more than \$1,000 per annum, messengers, assistant messengers, watchmen, and charwomen as may be necessary for the proper and prompt performance of the duties required by law. The disbursing clerk herein provided for shall, before entering upon his duties, give bond to the Secretary of the Treasury in the sum of \$25,000, which bond shall be conditioned that the said officer shall render a true and faithful account to the proper accounting officers of the Treasury quarter-yearly of all moneys and properties which shall be received by him by virtue of his office, with surety, to be approved by the solicitor of the Treasury. Such bond shall be filed in the office of the Secretary of the Treasury, to be by him put in suit upon any breach of the conditions thereof.

"SEC. 5. That all employees of the Census Office, at the date of the passage of this act, except unskilled laborers, may be appointed by the director of the census with the approval of the head of the department to which said Census Office is attached, and when so appointed shall be and they are hereby placed, without further examination, under the provisions of the civil-service act approved Jan. 16, 1883, and the amendments thereto and the rules established thereunder; and persons who have served as soldiers in any war in which the United States may have been engaged, who have been honorably discharged from the service of the United States, and the widows of such soldiers, shall have preference in the matter of employment; and all new appointments to the permanent clerical force of the Census Office hereby created shall be made in accordance with the requirements of the civil-service act above referred to.

"SEC. 6. That all the provisions of the act of

March 3, 1899, relating to the twelfth census, not inconsistent with the provisions of this act, shall remain in full force and effect for the taking of the thirteenth and subsequent censuses.

"SEC. 7. That section 8 of the act of March 3, 1899, is hereby amended so as to read as follows: That after the completion and return of the enumeration and of the work upon the schedules relating to the products of agriculture and to manufacturing and mechanical establishments provided for in section 7 of this act, the director of the census is hereby authorized decennially to collect statistics relating to special classes, including the insane, feeble-minded, deaf, dumb, and blind; to crime, pauperism, and benevolence, including prisoners, paupers, juvenile delinquents, and inmates of benevolent and reformatory institutions; to social statistics of cities; to public indebtedness, valuation, taxation, and expenditures; to religious bodies; to electric light and power, telephone, and telegraph business; to transportation by water, express business, and street-railways; to mines, mining, quarries and minerals, and the production and value thereof, including gold in divisions of placer and vein, and silver-mines, and the number of men employed, the average daily wage, average working time, and aggregate earnings in the various branches and aforesaid divisions of the mining and quarrying industries until July 1, 1904. And the director of the census shall prepare schedules containing such interrogatories as shall in his judgment be best adapted to elicit the information required under these subjects, with such specifications, divisions, and particulars under each head as he shall deem necessary to that end, and all reports prepared under the provisions of this section shall be designated as 'Special reports of the Census Office.' For the purpose of securing the statistics required by this section, the director of the census may appoint special agents when necessary, and such special agents shall receive compensation as hereinafter provided: *Provided*, That the statistics of special classes, and of crime, pauperism, and benevolence specified in this section, shall be restricted to institutions containing such classes and the director of the census is authorized and directed to collect statistics relating to all of the deaf, dumb, and blind, notwithstanding the restrictions and limitations contained in section 8 of said act entitled: 'An Act to provide for taking the twelfth and subsequent censuses': *Provided*, That in taking the census of said classes the inquiries shall be confined to the following 4 questions, namely: Name, age, sex, and post-office address.

"SEC. 8. That there shall be a collection of the statistics of the births and deaths in registration areas for the year 1902, and annually thereafter, the data for which shall be obtained only from and restricted to such registration records of such States and municipalities as in the discretion of the director possess records affording satisfactory data in necessary detail, the compensation for the transcription of which shall not exceed 2 cents for each birth or death reported.

"SEC. 9. That in the year 1905, and every ten years thereafter, there shall be a collection of the statistics of manufactures, confined to manufacturing establishments conducted under what is known as the factory system, exclusive of the so-called neighborhood and mechanical industries; and the director is hereby authorized to prepare such schedules as in his judgment may be necessary to carry out the provisions of this section; and that in addition to the statistics now provided for by law the director of the census shall

annually collect the statistics of the cotton production of the country as returned by the ginner and bulletins giving the results of the same shall be issued weekly beginning Sept. 1 of each year and continued till Feb. 1 following; and that the director of the census shall make, from time to time, any additional special collections of statistics relating to any branch of agriculture, manufacture, mining, transportation, fisheries, or any other branch of industry that may be required of him by Congress.

"SEC. 10. That section 17 of the act of March 3, 1899, is hereby amended so as to read as follows:

"SEC. 17. That the special agents appointed under the provisions of this act have like authority with the enumerators in respect to the subjects committed to them under this act and shall receive compensation at rates to be fixed by the director of the census: *Provided*, That the same shall in no case exceed \$6 per day and actual necessary traveling expenses and an allowance in lieu of subsistence not exceeding \$3 per day during their necessary absence from their usual place of residence: *And provided further*, That no pay or allowance in lieu of subsistence shall be allowed special agents when employed in the Census Office on other than the special work committed to them, and no appointments of special agents shall be made for clerical work: *And provided further*, That the director of the census is hereby authorized in his discretion to employ the clerical force of the Census Office for such field-work as may be required to carry out the provisions of sections 7, 8, and 9, in lieu of employing special agents for that purpose; and such employees when so employed shall be allowed, in addition to their regular compensation, actual necessary traveling expenses and an allowance in lieu of subsistence not exceeding \$3 per day during their necessary absence from the Census Office. All employees of the Census Office shall be citizens of the United States."

"SEC. 11. That the printing-office established in the Census Office is hereby abolished to take effect July 1, 1902, and the outfit and equipment therein shall be turned over to the public printer; and the director of the census is hereby authorized and directed to have printed, published, and distributed, from time to time, bulletins and reports of the preliminary and other results of the various investigations authorized by law; and all of said printing and binding shall be done by the public printer at the Government Printing-Office.

"SEC. 12. That the supplemental acts amendatory of the act of March 3, 1899, approved Feb. 1, 1900, May 10, 1900, June 2, 1900, Feb. 23, 1901, are hereby repealed; and all provisions of the act of March 3, 1899, inconsistent with this act are hereby repealed."

Oleomargarine and Dairy-Products.—A bill "to make oleomargarine and other imitation dairy-products subject to the laws of any State or Territory or the District of Columbia into which they are transported, and to change the tax on oleomargarine, and to amend an act entitled 'An Act defining butter, also imposing a tax upon and regulating the manufacture, sale, importation, and exportation of oleomargarine,' approved Aug. 2, 1886," was taken up for discussion in the House of Representatives Feb. 3, 1902. It provided that oleomargarine brought into one State from another for sale be subject to the laws of the locality, and that a tax of 10 cents a pound be levied on the manufacture of oleomargarine made in imitation of yellow butter. In support of the measure, Mr. Haskins, of Connecticut, speaking

for the majority of the Committee on Agriculture, said:

"The proposed legislation is not intended to be oppressive or unduly arbitrary, and only proposes adequate protection for the consuming public. It is the manifest duty of the governing power to prevent fraud and imposition upon those unable to protect themselves. Legislation tending to this end is as legitimate as laws for the prevention and punishment of crime and misdemeanors. Pure food of all kinds should be guaranteed to every citizen. The purchaser of all articles of food has a right to know what he is buying and consuming. If disguised, mixed, or blended, the manufacturer should be compelled to disclose the kind and quality of the ingredients used and certify to the purity and wholesomeness of the materials sold to a trusting public. It is not unjust or inquisitorial to subject producers and manufacturers to governmental inspection and control. Police supervision has long been exercised over the production and sale of milk and other dairy-products. Proper supervision is sought rather than opposed by every honest manufacturer and dealer. Reputable and inviolate trade-marks are invaluable. Manufacturers in all branches of textile and other industries fully realize this fact and carefully maintain high standards of excellence. This is equally true of the producers of cereals and other food-products. Why should manufacturers of oleomargarine or butterine be an exception to the general rule? Indeed, it is difficult to understand upon what reasonable grounds manufacturers of honestly made oleomargarine object to the proposed legislation.

"The pending majority bill, if enacted into law, will, hopefully, make the manufacture of oleomargarine colored in imitation of butter and deceptively sold unprofitable. To this end the internal-revenue tax upon colored oleomargarine is increased from 2 cents to 10 cents per pound, while the tax upon the uncolored article is reduced to one-fourth cent per pound, a nominal tax, merely imposed to maintain Government supervision and police control.

"The discrimination between the colored and uncolored will not and is not intended to ruin a legitimate industry. Your committee were strengthened in this conviction by testimony given at the committee hearings by manufacturers of oleomargarine. One manufacturer stated that one-half of his monthly product of 700,000 pounds, or about 350,000 pounds, is uncolored. Another manufacturer, when asked 'If, in his opinion, uncolored oleomargarine can be profitably made and sold,' replied: 'It is sold to some extent already, and I am one of those who believe that oleomargarine, having been used for more than a quarter of a century, there are some people at least who have learned that it is a wholesome and cheap article of food, and will continue to use it. These people, if the colored is not obtainable, will use the uncolored.'

"Properly manufactured from pure materials, the wholesomeness of oleomargarine is not challenged. The only question at issue is: 'Shall or shall not oleomargarine be colored and sold in the semblance of yellow butter?' Using the words of ex-Gov. Hoard, who ably argued the case from a dairyman's standpoint before the Committee on Agriculture, 'It is not oleomargarine the substitute for butter that we are fighting, but oleomargarine the counterfeit.' We do not care how much oleomargarine is made and sold as long as it is so manufactured as not to conflict through deception with the sale of our product. If a man prefers a mixture of lard,

tallow, and cotton-seed oil to butter, there is no reason why he should not have it. We do not ask that a single ingredient that is nourishing be omitted from the mixture. He can have it to imitate butter in taste, smell, grain, and consistency—we concede him all this. We only ask one thing—that there be about the product itself some characteristic by which the public can readily distinguish it from an article of food which has been known for four thousand years in the form it is now produced. We demand the distinction in color because there is no nutrition in color.

"The great consuming public are still unprotected from the imposition of unscrupulous manufacturers. The present Federal laws are obviously inadequate to correct a growing evil, and more stringent measures are demanded. Farmers and dairymen in all sections of the country believe that the bill reported by the majority of your committee, if enacted into law, will, without injustice to the honest manufacturers of oleomargarine, afford a fair and just degree of protection and give needed encouragement to the great farm industries of the country—industries that all will admit form the bed-rock foundation of our national prosperity."

The minority of the members of the committee presented a substitute bill described as not shaped to prevent the manufacture of oleomargarine or its legitimate sale, but to prevent its fraudulent sale as butter. They said:

"The purpose of the substitute bill, offered by the minority, is not to prevent the manufacture of oleomargarine or its legitimate sale, but to prevent it from being fraudulently sold for butter. To accomplish this end it throws such safeguards about the retail sale of the article (the only operation in which, under existing law, it is possible for fraud to be committed) as, in our opinion, to entirely eliminate all possibility of fraud in such retail sales and compel all dealers in oleomargarine to sell it for what it really is and not for butter. The substitute offered is really an amendment to sections 3 and 6 of the existing oleomargarine law. The annual licenses for the manufacture and sale of oleomargarine (\$600 for manufacturers, \$480 for wholesalers, and \$48 for retailers) are not lessened, while the penalties imposed for violation of the law are materially increased." In advocating the minority measure, Mr. Foster, of Illinois, said:

"Mr. Chairman, in my judgment the bill relating to oleomargarine as reported by the majority of the Committee on Agriculture is the most unjust and vicious measure in principle ever submitted to a legislative body. To begin with, the bill is not properly named. It should be entitled 'A bill to create a butter monopoly, by throttling legitimate industry.' I can not understand, Mr. Chairman, how any fair-minded man can vote for this bill, especially when he has the alternative of voting for the entirely just and proper measure proposed by the minority of the committee.

"Let us examine briefly these two measures and see what it is they would accomplish if enacted. The majority bill on its face provides that oleomargarine shall be subject in any State to the laws of that State. Now, as 32 States, through their legislatures, have been prevailed upon to pass laws forbidding the manufacture and sale therein of oleomargarine colored in resemblance of butter, if this bill should become a law such colored oleomargarine manufactured in other States could not be taken into and sold in those 32 States, even in the original packages. This would at once deprive oleomargarine of the larger part of

its market, and the rest of it would also be swept away by the other provision of the bill, namely, that all oleomargarine colored to resemble butter shall be taxed 10 cents a pound. In other words, this bill is simply aimed at the total and utter destruction of the oleomargarine industry.

"This is plainly evident from the wording of the bill, and what is more, it is acknowledged openly and defiantly by the promoters of the bill. Several of them have said so, in plain English, in their testimony before the committee, and all the others might as well have done so, for their purpose is perfectly obvious to everybody. This is absolutely all there is to the committee's bill—a barefaced, naked attempt to break up and ruin an industry which is just as proper and legitimate as the butter industry, and has been pronounced so by the Supreme Court of the United States and by other courts, and also by leading scientists, and by the great American public at large speaking through their representatives in Congress.

"The Supreme Court's language was, in its celebrated decision of 1898, the Schollenberger case, that 'oleomargarine had become a proper subject of commerce among the States and foreign countries.' Yet in the face of this decision of our highest court it is now coolly proposed by the promoters and sponsors of this bill to wipe out the entirely proper and legitimate industry of the manufacture and sale of oleomargarine. And why? This is not stated in the bill; but in the reports and remarks on the subject oleomargarine is referred to as an 'adulterated article of food,' and a 'deceitful article of food.'

"The charge of adulteration, Mr. Chairman, is absolutely false. The ingredients of oleomargarine are as pure and wholesome as the ingredients of butter. They have been so characterized by dozens of the highest scientific authorities in the country, as is well known by everybody—by such men as Prof. Chandler, of Columbia University; Prof. Barker, of the University of Pennsylvania; Prof. Johnson, of Yale University; Prof. Atwater and Prof. Wiley, of the United States Agricultural Department; and by many others as eminent.

"The article has been in common use by millions of people for many years, and no injury has been received from it by any one, nor any complaint made about it by any one except by the dairymen and butter monopolists. It is as nutritious and as wholesome as butter, and in many respects it is more so. It is as sweet and as palatable, and it is far cheaper, thereby enabling those of moderate or restricted means to obtain a perfectly satisfactory substitute for butter at a price within their ability to pay. And now these butter monopolists would deny to thousands—I might say to millions—of poor people the use of this, a perfectly pure and healthful substitute, on the false charge of adulteration. They make a great ado with their sneers about 'hog fat,' but, Mr. Chairman, it is not the oleomargarine men, but the butter men, who are showing a disposition to 'hog' it in this competition.

"Coming now to the charge of deceit; what do they mean by that? Much has been said about it by the distinguished gentleman from Vermont, and what is meant by deceit? If it is meant that the honest manufacturers and sellers of oleomargarine practise any deceit in the disposing of oleomargarine as oleomargarine, that charge is as false as the charge of adulteration; but if it is meant that some unscrupulous and dishonest dealers sell oleomargarine as butter, that of course is deceit, and the friends of oleomargarine are just as anxious as the friends of butter that it should be punished and put a stop to. No doubt

much of that sort of deceit has been practised in various parts of the country from time to time, and that is in reality the only complaint made against the present oleomargarine law that will hold water at all.

"Now, the friends of the pending bill propose to prevent this deceit, not by punishing those who are guilty of it, nor by preventing them from having any opportunity hereafter to pursue it—oh, no—but by uprooting and annihilating the whole oleomargarine industry! That is very much, Mr. Chairman, like curing a man's cough by cutting his head off.

"The friends of the minority or substitute bill, on the other hand, earnestly urge the members of this body and the public at large to examine this measure and judge of it fairly and impartially. If examined in this spirit the substitute bill will certainly convince anybody and everybody that it covers fully this point of 'deceit,' which is the only valid point against oleomargarine, and that it provides fully for the prevention and punishment of those who are guilty of deceit in the premises.

"By the terms of this substitute bill each 1 and 2 pound package is made an original package, and retail dealers in oleomargarine shall sell only the original package to which the tax-paid stamp is affixed. In that way, Mr. Chairman, every separate piece of oleomargarine exposed or offered for sale would bear its title on its face and would be known to all men for what it really was. What more than this could be asked by any reasonable man? Here is oleomargarine, already recognized and defined by our Supreme Court as a lawful article of commerce between the States, and here are those who manufacture and sell it, ready and willing and anxious to manufacture and sell it for what it really is, and to stamp its proper name on each and every package of it.

"And here, on the other hand, are the butter monopolists, who are hurt by its sale, and who say, 'No; we will not let oleomargarine be sold at all—we will crush it out of existence.' For that, Mr. Chairman, is what they will do if they can pass their bill. They will impose a prohibitory tax of 10 cents a pound on oleomargarine, which would raise its price to a level where nobody could afford to buy it; and, more than that, they will forbid it to be sold in 32 States of the Union at any price."

The measure of the majority of the Committee on Agriculture was amended and passed Feb. 12. In the Senate the rival methods of dealing with the matter, advocated in the House, were argued; and the bill was passed April 3 with 11 amendments, 10 of which the House accepted, concurring on the eleventh, after amending it. The Senate approved, and the President signed the bill, May 9, 1902. It is as follows:

"Be it enacted, etc., That all articles known as oleomargarine, butterine, imitation, process, renovated, or adulterated butter, or imitation cheese, or any substance in the semblance of butter or cheese not the usual product of the dairy and not made exclusively of pure and unadulterated milk or cream, transported into any State or Territory, or the District of Columbia, and remaining therein for use, consumption, sale, or storage therein, shall, upon the arrival within the limits of such State or Territory or the District of Columbia, be subject to the operation and effect of the laws of such State or Territory or the District of Columbia enacted in the exercise of its police powers to the same extent and in the same manner as though such articles or sub-

stances had been produced in such State or Territory or the District of Columbia, and shall not be exempt therefrom by reason of being introduced therein in original packages or otherwise.

"SEC. 2. That the first clause of section 3 of an act entitled 'An Act defining butter, also imposing a tax upon and regulating the manufacture, sale, importation, and exportation of oleomargarine,' approved Aug. 2, 1886, be amended by adding thereto after the word 'oleomargarine,' at the end of said clause, the following words:

"And any person that sells, vends, or furnishes oleomargarine for the use and consumption of others, except to his own family table without compensation, who shall add to or mix with such oleomargarine any artificial coloration that causes it to look like butter of any shade of yellow, shall also be held to be a manufacturer of oleomargarine within the meaning of said act, and subject to the provisions thereof."

"Section 3 of said act is hereby amended by adding thereto the following: 'Provided further, That wholesale dealers who vend no other oleomargarine or butterine except that upon which a tax of one-fourth of 1 per cent. per pound is imposed by this act, as amended, shall pay \$200, and such retail dealers as vend no other oleomargarine or butterine except that upon which is imposed by this act, as amended, a tax of one-fourth of 1 per cent. per pound shall pay \$6.'

"SEC. 3. That section 8 of an act entitled 'An Act defining butter, also imposing a tax upon and regulating the manufacture, sale, importation, and exportation of oleomargarine,' approved Aug. 2, 1886, be, and the same is hereby, amended so as to read as follows:

"SEC. 8. That upon oleomargarine which shall be manufactured and sold, or removed for consumption or use, there shall be assessed and collected a tax of 10 cents per pound, to be paid by the manufacturer thereof; and any fractional part of a pound in a package shall be taxed as a pound: *Provided*, When oleomargarine is free from artificial coloration that causes it to look like butter of any shade of yellow said tax shall be one-fourth of 1 cent per pound. The tax levied by this section shall be represented by coupon stamps; and the provisions of existing laws governing the engraving, issue, sale, accountability, effacement, and destruction of stamps relating to tobacco and snuff, as far as applicable, are hereby made to apply to stamps provided for by this section."

"SEC. 4. That for the purpose of this act 'butter' is hereby defined to mean an article of food as defined in 'An Act defining butter, also imposing a tax upon and regulating the manufacture, sale, importation, and exportation of oleomargarine,' approved Aug. 2, 1886; that 'adulterated butter' is hereby defined to mean a grade of butter produced by mixing, reworking, rechurning in milk or cream, refining, or in any way producing a uniform, purified, or improved product from different lots or parcels of melted or unmelted butter or butter fat, in which any acid, alkali, chemical, or any substance whatever is introduced or used for the purpose or with the effect of deodorizing or removing therefrom rancidity, or any butter or butter fat with which there is mixed any substance foreign to butter as herein defined, with intent or effect of cheapening in cost the product or any butter in the manufacture or manipulation of which any process or material is used with intent or effect of causing the absorption of abnormal quantities of water, milk, or cream; that 'process butter' or

'renovated butter' is hereby defined to mean butter which has been subjected to any process by which it is melted, clarified, or refined and made to resemble genuine butter, always excepting 'adulterated butter' as defined by this act.

"That special taxes are imposed as follows:

"Manufacturers of process or renovated butter shall pay \$50 per year and manufacturers of adulterated butter shall pay \$600 per year. Every person who engages in the production of process or renovated butter or adulterated butter as a business shall be considered to be a manufacturer thereof.

"Wholesale dealers in adulterated butter shall pay a tax of \$480 per annum, and retail dealers in adulterated butter shall pay a tax of \$48 per annum. Every person who sells adulterated butter in less quantities than 10 pounds at one time shall be regarded as a retail dealer in adulterated butter.

"Every person who sells adulterated butter shall be regarded as a dealer in adulterated butter. And sections 3232, 3233, 3234, 3235, 3236, 3237, 3238, 3239, 3240, 3241, and 3243 of the Revised Statutes of the United States are, so far as applicable, made to extend to and include and apply to the special taxes imposed by this section and to the person upon whom they are imposed.

"That every person who carries on the business of a manufacturer of process or renovated butter or adulterated butter without having paid the special tax therefor, as required by law, shall, besides being liable to the payment of the tax, be fined not less than \$1,000 and not more than \$5,000; and every person who carries on the business of a dealer in adulterated butter without having paid the special tax therefor, as required by law, shall, besides being liable to the payment of the tax, be fined not less than \$50 nor more than \$500 dollars for each offense.

"That every manufacturer of process or renovated butter or adulterated butter shall file with the collector of internal revenue of the district in which his manufactory is located such notices, inventories, and bonds, shall keep such books and render such returns of material and products, shall put up such signs and affix such number of his factory, and conduct his business under such surveillance of officers and agents as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, may by regulation require. But the bond required of such manufacturer shall be with sureties satisfactory to the collector of internal revenue, and in a penal sum of not less than \$500; and the sum of said bond may be increased from time to time and additional sureties required at the discretion of the collector or under instructions of the Commissioner of Internal Revenue.

"That all adulterated butter shall be packed by the manufacturer thereof in firkins, tubs, or other wooden packages not before used for that purpose, each containing not less than 10 pounds, and marked, stamped, and branded as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, shall prescribe; and all sales made by manufacturers of adulterated butter shall be in original stamped packages.

"Dealers in adulterated butter must sell only original or from original stamped packages, and when such original stamped packages are broken the adulterated butter sold from same shall be placed in suitable wooden or paper packages, which shall be marked and branded as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, shall prescribe.

Every person who knowingly sells or offers for sale, or delivers or offers to deliver, any adulterated butter in any other form than in new wooden or paper packages as above described, or who packs in any package any adulterated butter in any manner contrary to law, or who falsely brands any package or affixes a stamp on any package denoting a less amount of tax than that required by law, shall be fined for each offense not more than \$1,000 and be imprisoned not more than two years.

"That every manufacturer of adulterated butter shall securely affix, by pasting, on each package containing adulterated butter manufactured by him a label on which shall be printed, besides the number of the manufactory and the district and State in which it is situated, these words: 'Notice.—That the manufacturer of the adulterated butter herein contained has complied with all the requirements of law. Every person is cautioned not to use either this package again or the stamp thereon, nor to remove the contents of this package without destroying said stamp, under the penalty provided by law in such cases.' Every manufacturer of adulterated butter who neglects to affix such label to any package containing adulterated butter made by him, or sold or offered for sale for or by him, and every person who removes any such label so affixed from any such package shall be fined \$50 for each package in respect to which such offense is committed.

"That upon adulterated butter, when manufactured or sold or removed for consumption or use, there shall be assessed and collected a tax of 10 cents per pound, to be paid by the manufacturer thereof, and any fractional part of a pound shall be taxed as a pound, and that upon process or renovated butter, when manufactured or sold or removed for consumption or use, there shall be assessed and collected a tax of one-fourth of 1 cent per pound, to be paid by the manufacturer thereof, and any fractional part of a pound shall be taxed as a pound. The tax to be levied by this section shall be represented by coupon stamps, and the provisions of existing laws governing engraving, issuing sale, accountability, effacement, and destruction of stamps relating to tobacco and snuff, as far as applicable, are hereby made to apply to the stamps provided by this section.

"That the provisions of sections 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, and 21 of 'An Act defining butter, also imposing a tax upon and regulating the manufacture, sale, importation, and exportation of oleomargarine,' approved Aug. 2, 1886, shall apply to manufacturers of 'adulterated butter' to an extent necessary to enforce the marking, branding, identification, and regulation of the exportation and importation of adulterated butter.

"Sec. 5. All parts of an act providing for an inspection of meats for exportation, approved Aug. 30, 1890, and of an act to provide for the inspection of live cattle, hogs, and the carcasses and products thereof which are the subjects of interstate commerce, approved March 3, 1891, and of amendment thereto approved March 2, 1895, which are applicable to the subjects and purposes described in this section shall apply to process or renovated butter. And the Secretary of Agriculture is hereby authorized and required to cause a rigid sanitary inspection to be made, at such times as he may deem proper or necessary, of all factories and storehouses where process or renovated butter is manufactured, packed, or prepared for market, and of the products thereof and

materials going into the manufacture of the same. All process or renovated butter and the packages containing the same shall be marked with the words 'Renovated Butter' or 'Process Butter' and by such other marks, labels, or brands and in such manner as may be prescribed by the Secretary of Agriculture, and no process or renovated butter shall be shipped or transported from its place of manufacture into any other State or Territory or the District of Columbia, or to any foreign country, until it has been marked as provided in this section. The Secretary of Agriculture shall make all needful regulations for carrying this section into effect, and shall cause to be ascertained and reported from time to time the quantity and quality of process or renovated butter manufactured, and the character and the condition of the material from which it is made. And he shall also have power to ascertain whether or not materials used in the manufacture of said process or renovated butter are deleterious to health or unwholesome in the finished product, and in case such deleterious or unwholesome materials are found to be used in product intended for exportation or shipment into other States or in course of exportation or shipment he shall have power to confiscate the same. Any person, firm, or corporation violating any of the provisions of this section shall be deemed guilty of a misdemeanor and on conviction thereof shall be punished by a fine of not less than \$50 nor more than \$500 or by imprisonment not less than one month nor more than six months, or by both said punishments, in the discretion of the court.

"SEC. 6. That wholesale dealers in oleomargarine, process, renovated, or adulterated butter shall keep such books and render such returns in relation thereto as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, may, by regulation, require; and such books shall be open at all times to the inspection of any internal-revenue officer or agent. And any person who wilfully violates any of the provisions of this section shall for each such offense be fined not less than \$50 and not exceeding \$500, and imprisoned not less than thirty days nor more than six months.

"SEC. 7. This Act shall take effect on the 1st day of July, 1902."

The Congress likewise passed, and the President approved, July 1, 1902, an act "to prevent the false branding or marking of food and dairy products as to the State or Territory in which they are made or produced." It is as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That no person or persons, company or corporation, shall introduce into any State or Territory of the United States or the District of Columbia from any other State or Territory of the United States or the District of Columbia, or sell in the District of Columbia or in any Territory any dairy or food products which shall be falsely labeled or branded as to the State or Territory in which they are made, produced, or grown, or cause or procure the same to be done by others.

"SEC. 2. That if any person or persons violate the provisions of this act, either in person or through another, he shall be guilty of a misdemeanor and shall be punished by a fine of not less than \$500 nor more than \$2,000; and that the jurisdiction for the prosecution of said misdemeanor shall be within the district of the United States court in which it is committed."

Interpreting Pension Law.—A joint resolution was passed by the Congress and approved by the President, July 1, 1902, construing the act of June 27, 1890. It is as follows:

"Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the act approved June 27, 1890, entitled 'An Act granting pensions to soldiers and sailors who are incapacitated for the performance of manual labor, and providing for pensions to widows, minor children, and dependent parents,' is construed and held to include all persons and the widows and minor children of all deceased persons, subject to the limitations of said act, who served for ninety days in the military or naval service of the United States during the late war of the rebellion and who have been honorably discharged therefrom, and section 4716, Revised Statutes United States, is amended accordingly: Provided, however, That the foregoing shall not apply to those who served in the First, Second, Third, Fourth, Fifth, and Sixth Regiments United States Volunteer Infantry who had a prior service in the Confederate army or navy and who enlisted in said regiments while confined as prisoners of war under a stipulation that they were not to be pensionable under the laws of the United States, nor to those who, having had such prior service, enlisted in the military or naval service of the United States after the 1st day of January, 1865.

"Sec. 2. That in the administration of the pension laws any enlisted man of the army, including regulars, volunteers, and militia, or any appointed or enlisted man of the navy or marine corps, who was honorably discharged from the last contract of service entered into by him during the late war of the rebellion, shall be held and considered to have been honorably discharged from all similar contracts of service previously entered into by him with the United States during said war: Provided, That such enlisted or appointed man served not less than six months under said last enlistment or appointment, that his entire service under said last enlistment or appointment was faithful, and that he did not receive by reason of said last enlistment or appointment any bounty or gratuity other than from the United States in excess of that to which he would have been entitled if he had continued to serve faithfully until honorably discharged under any contract of service previously entered into by him, either in the army, navy, or marine corps, during the war of the rebellion."

Protection of the President.—There was much popular discussion of this theme, as the assassination of President McKinley brought home to the people once more the danger to our Chief Magistrate, not so much from treasonable conspiracy as from criminal fools and fanatics. The Congress early in the session undertook the task of protective legislation. The Senate passed a measure making it a capital crime to kill or attempt to kill the President, or any official in line of succession to the presidency, or any sovereign or chief magistrate of a foreign country; setting a penalty of twenty years' imprisonment on instigating, advising, or counseling the killing of any of these persons, or conspiring for the death of any of them; and proposing imprisonment for ten years for any one threatening or advising such assassination, by spoken, written, or printed words. The Senate bill also provided for a presidential body-guard of regular troops. The House of Representatives passed a substitute by way of amendment to this measure. It

struck out the provision for a military body-guard, drew the distinction that the President, those in line of succession, and the heads and representatives of foreign governments must be assassinated or assaulted while engaged in the performance of official duties to give the Federal courts jurisdiction over the crime, and added provisions against the general profession or teaching of anarchy. There was no report made by the Conference Committee appointed to harmonize these differences.

Reciprocity with Cuba.—This policy engaged much of the attention of the Administration, brought on heated discussion in Congress, and became a subject of sharp political controversy in the press. It is understood that President McKinley promised reciprocal trade advantage to Cuba in consideration of the adoption of the Platt amendment by the Cuban constitutional convention; and President Roosevelt urged the concession in his annual message. The Ways and Means Committee of the House of Representatives framed a bill granting a tariff reduction of 20 per cent. on all Cuban imports, on condition that the Cuban Government adopt the immigration and contract labor laws of the United States, the President to proclaim the fulfillment of the conditions and the operative effect of the law. The Republican majority in the committee could not act together on this bill, and it was reported through the help of some of the Democratic minority. Republican conferences were held on the subject, and it was found that there was strong opposition to the bill within the dominant party. The source of difficulty was in the sugar-growing interests in this country; and a serious blow was dealt to the measure when the House adopted the following amendment to the bill, offered by Page Morris, of Minnesota, April 18:

"And upon the making of said agreement, and the issuance of said proclamation, and while said agreement shall remain in force, there shall be levied, collected, and paid, in lieu of the duties thereon now provided by law on all sugars above No. 16 Dutch standard in color, and on all sugar which has gone through a process of refining, imported into the United States, 1.825 cent per pound."

This amendment, technical and harmless looking as it is, touched a sensitive spot. The bill, as reported, disturbed the relation between raw sugar and refined sugar established in the existing tariff, and this amendment aimed at restoring the equilibrium, so that the reciprocity should not be at the expense of the American sugar-growers altogether, but also at the expense of the refiners. It was adopted by a vote of 164 yeas to 111 nays; and the measure was then passed.

The following day Mr. Teller, of Colorado, offered in the Senate a resolution to investigate the relation of the Sugar Trust to the proposal to reduce the tariff on raw sugar and the rumor that American capitalists have secured large holdings in the Cuban sugar plantations. June 16, he offered a resolution for the investigation of the expenditures of money from Cuban funds to promote reciprocity. The result was to cast suspicion on the reciprocity measure. The Republican Senators, after conference, determined upon a substitute making it a condition of proclaiming reciprocity that it be proved the Sugar Trust is not a party at interest; but it was thought best to abandon the bill for the session and depend upon the negotiation of a reciprocity treaty.

June 13, the President sent to the Congress the following message on the subject:

To the Senate and House of Representatives:

I deem it important before the adjournment of the present session of Congress to call attention to the following expression in the message which, in the discharge of the duty imposed upon me by the Constitution, I sent to Congress on the first Tuesday of December last:

"Elsewhere I have discussed the question of reciprocity. In the case of Cuba, however, there are weighty reasons of morality and of national interest why the policy should be held to have a peculiar application, and I most earnestly ask your attention to the wisdom, indeed to the vital need, of providing for a substantial reduction in the tariff duties on Cuban imports into the United States. Cuba has in her Constitution affirmed what we desired, that she should stand in international matters in closer and more friendly relations with us than with any other power, and we are bound by every consideration of honor and expediency to pass commercial measures in the interest of her material well-being."

This recommendation was merely giving practical effect to President McKinley's words, when, in his messages of Dec. 5, 1898, and Dec. 5, 1899, he wrote:

"It is important that our relations with this people (of Cuba) shall be of the most friendly character and our commercial relations close and reciprocal. . . . We have accepted a trust, the fulfilment of which calls for the sternest integrity of purpose and the exercise of the highest wisdom. The new Cuba, yet to arise from the ashes of the past, must needs be bound to us by ties of singular intimacy and strength if its enduring welfare is to be assured. . . . The greatest blessing which can come to Cuba is the restoration of her agricultural and industrial prosperity."

Yesterday, June 12, I received, by cable from the American minister in Cuba, a most earnest appeal from President Palma for "legislative relief before it is too late and [his] country financially ruined."

The granting of reciprocity with Cuba is a proposition which stands entirely alone. The reasons for it far outweigh those for granting reciprocity with any other nation, and are entirely consistent with preserving intact the protective system under which this country has thriven so marvelously. The present tariff law was designed to promote the adoption of such a reciprocity treaty, and expressly provided for a reduction not to exceed 20 per cent. upon goods coming from a particular country, leaving the tariff rates on the same articles unchanged as regards all other countries. Objection has been made to the granting of the reduction on the ground that the substantial benefit would not go to the agricultural producer of sugar, but would inure to the American sugar-refiners. In my judgment provision can and should be made which will guarantee us against this possibility; without having recourse to a measure of doubtful policy, such as a bounty in the form of a rebate.

The question as to which, if any, of the different schedules of the tariff ought most properly to be revised does not enter into this matter in any way or shape. We are concerned with getting a friendly reciprocal arrangement with Cuba. This arrangement applies to all the articles that Cuba grows or produces. It is not in

our power to determine what these articles shall be; and any discussion of the tariff as it affects special schedules, or countries other than Cuba, is wholly aside from the subject-matter to which I call your attention.

Some of our citizens oppose the lowering of the tariff on Cuban products, just as three years ago they opposed the admission of the Hawaiian Islands, lest free trade with them might ruin certain of our interests here. In the actual event their fears proved baseless as regards Hawaii, and their apprehensions as to the damage to any industry of our own because of the proposed measure of reciprocity with Cuba seem to me equally baseless. In my judgment no American industry will be hurt, and many American industries will be benefited by the proposed action. It is to our advantage as a nation that the growing Cuban market should be controlled by American producers.

The events following the war with Spain and the prospective building of the isthmian canal render it certain that we must take in the future a far greater interest than hitherto in what happens throughout the West Indies, Central America, and the adjacent coasts and waters. We expect Cuba to treat us on an exceptional footing politically, and we should put her in the same exceptional position economically. The proposed action is in line with the course we have pursued as regards all the islands with which we have been brought into relations of varying intimacy by the Spanish War. Porto Rico and Hawaii have been included within our tariff lines, to their great benefit as well as ours, and without any of the feared detriment to our own industries. The Philippines, which stand in a different relation, have been given substantial tariff concessions.

Cuba is an independent republic, but a republic which has assumed certain special obligations as regards her international position in compliance with our request. I ask for her certain special economic concessions in return, these economic concessions to benefit us as well as her. There are few brighter pages in American history than the page which tells of our dealings with Cuba during the past four years. On her behalf we waged a war, of which the mainspring was generous indignation against oppression, and we have kept faith absolutely. It is earnestly to be hoped that we will complete in the same spirit the record so well begun, and show in our dealings with Cuba that steady continuity of policy which it is essential for our nation to establish in foreign affairs if we desire to play well our part as a world power.

We are a wealthy and powerful nation; Cuba is a young republic, still weak, who owes to us her birth, whose whole future, whose very life, must depend on our attitude toward her. I ask that we help her as she struggles upward along the painful and difficult road of self-governing independence. I ask this aid for her because she is weak, because she needs it, because we have already aided her. I ask that open-handed help, of a kind which a self-respecting people can accept, be given to Cuba, for the very reason that we have given her such help in the past.

Our soldiers fought to give her freedom; and for three years our representatives, civil and military, have toiled unceasingly, facing disease of a peculiarly sinister and fatal type with patient and uncomplaining fortitude, to teach her how to use aright her new freedom. Never in history has any alien country been thus administered with such high integrity of purpose, such

wise judgment, and such single-minded devotion to the country's interests. Now, I ask that the Cubans be given all possible chance to use to the best advantage the freedom of which Americans have such right to be proud and for which so many American lives have been sacrificed.

THEODORE ROOSEVELT.

WHITE HOUSE, June 13, 1902.

A Senatorial Sensation.—The quarrel between Senator Tillman and Senator McLaurin, both of South Carolina, after many dramatic incidents, came to a fight on the floor of the Senate; and perhaps a record of the session requires an account of the affair. Mr. Tillman, on Feb. 22, 1902, in discussing the Philippine tariff bill, reviewed the contest over the ratification of the treaty of Paris, reverted to the influence which Mr. Bryan exerted to procure the necessary votes, and declared it insufficient to control the Democratic Senators. The following colloquy then took place:

Mr. Tillman: But with all Mr. Bryan's influence—and it was very great, because it was recognized then that he would be the nominee of his party—he did not and could not persuade enough men here to give the necessary votes. After every man whom Mr. Bryan could influence had been influenced and counted, you still lacked votes, and you knew it. You know how you got them.

Mr. Spooner: How did we get them?

Mr. Tillman: I say you know how you got them.

Mr. Spooner: I do not know how we got them. I do not know that any man voted for that treaty except in obedience to his convictions. Does the Senator know any different?

Mr. Tillman: I only know that in a court the Senator would convict on circumstantial evidence some men.

Mr. Spooner: Does the Senator impeach any Senator? Let him name him. I do not impeach any Senator, nor do I know any ground for impeaching any.

Mr. Tillman: I have reason to believe from the circumstantial evidence and from things that have been told to me in confidence by men on the other side that improper influences were used.

Mr. Spooner: Name the man. That is due to the country, and due to the man whom you suspect, and by innuendo charge. Who was it? Let him answer for himself if he is still a member of this body.

Mr. Tillman: Whom do you mean? I can not name the man who gave me the information.

Mr. Spooner: Whoever you mean.

Mr. Tillman: I can not give the name of the man who gave me the information, because he gave it to me in confidence.

Mr. Spooner: Oh, in confidence. A man who would impeach another in confidence is a coward.

Mr. Tillman: Cowardice in that case does not rest on my shoulders.

Mr. Spooner: The Senator turned to me. If the Senator knows of any member of this body who voted under corrupt influences for that treaty, name him.

Mr. Tillman: I can not prove it.

Mr. Spooner: Well, I would not say it.

Mr. Tillman: But I can prove this—

Mr. Spooner: I would not say it.

Mr. Tillman: I can prove this: that the patronage of a State has been given to a Democrat who voted for the treaty.

Mr. Spooner: What State?

Mr. Tillman: South Carolina.

Mr. Spooner: Fight it out with your colleague.

Mr. Tillman: I am ready.

Mr. Spooner: Yes, I am ready and he is ready.

Mr. Tillman: Let him—

Mr. Spooner: He is not here—

Mr. Tillman: He has not shown his readiness.

Mr. Spooner: But he will be.

The President *pro tempore*: The occupants of the galleries must remember that any marks of approbation or disapproval are not permitted under the rules of the Senate, and if there is a violation of the rule the Chair will be obliged to have the galleries cleared.

Mr. Tillman: I will state that after having made a speech in this body two weeks before, replete with cogent arguments and eloquence, against the ratification of the treaty, and after having told us in confidence that he would not vote for it, he did; and since then he has been adopted by the Republican caucus and put upon committees as a member of that party, and has controlled the patronage in South Carolina. I did not expect to bring this in in this way, but I do not dodge or flinch from any responsibility anywhere. I simply know what I believe.

After Mr. Tillman had closed his speech, Mr. McLaurin, who had returned to the Senate chamber, rose; and the Record reports what follows:

Mr. McLaurin, of South Carolina: Mr. President, I rise to a question of personal privilege. During my absence a few moments ago from the Senate Chamber, in attendance upon the Committee on Indian Affairs, the gentleman who has just taken his seat, the Senator who has just taken his seat, said that improper influences had been used in changing the vote of somebody on the treaty, and then went on later and said that it applied to the Senator from South Carolina, who had been given the patronage in that State. I think I get the sense of the controversy.

I desire to state, Mr. President—I would not use as strong language as I intend to had I not, soon after the Senate met, replied to these insinuations and said that they were untrue—I now say that that statement is a wilful, malicious, and deliberate lie.

[At this point Mr. Tillman advanced to Mr. McLaurin, of South Carolina, and the two Senators met in a personal encounter, when they were separated by Mr. Layton, the acting assistant doorkeeper, assisted by several Senators sitting near.]

Mr. Gallinger: Mr. President, I ask that the doors be closed.

The President *pro tempore*: The Senate will be in order. Senators will please resume their seats.

Mr. Pritchard: Mr. President, if the Senator from South Carolina has concluded—

Mr. McLaurin, of South Carolina: Mr. President, I will now proceed with my remarks, which were so uncereemoniously interrupted—

Mr. Teller: Mr. President, I call the Senator from South Carolina to order.

Mr. McLaurin, of South Carolina: Which one of the Senators?

Mr. Teller: This one, and the other one, too, for that matter.

Mr. Foraker: Mr. President, I join in that. Surely there is some way of protecting the dignity of this body.

Mr. Burrows: Certainly; the Senate can not let this thing pass, Mr. President.

Mr. Gallinger: Mr. President, I asked that the doors might be closed.

Mr. Foraker: Mr. President, I move that the Senate go into executive session.

The President *pro tempore*: The Senator from Ohio moves that the Senate proceed to the consideration of executive business.

The motion was agreed to; and the Senate proceeded to the consideration of executive business. After two hours and twenty minutes the doors were reopened.

In executive session a resolution was adopted unanimously declaring both South Carolina Senators in contempt and referring the matter to the Committee on Privileges and Elections. In open session the Senate adopted a resolution allowing the Senators, though in contempt, to make explanation. This is what took place:

Mr. Tillman: Mr. President, I have always esteemed it a high honor and privilege to be a member of this body. I had never had any legislative experience when I came here, and my previous service as Governor of South Carolina for four years had unfitted me in a measure to enter this august assembly with that dignity and regard—proper regard, I will say—for its traditions and habits and rules that is desirable.

I have been here seven years. I have in that time learned to judge men with a little more catholicity of spirit than I did when I came here. I have found a great many people here in whose personal integrity and honor and regard for their obligations as gentlemen I have implicit confidence; but I have seen so much of partizanship, I have seen so much of what I consider slavish submission to party domination, that I confess I have felt somewhat at a loss how to judge men who in one aspect appeared to be so high and clean and honorable and in another appeared more or less despicable. I say this because of the fact that one of the Senators has seen fit to allude to some matters that occurred in the debate this morning.

I now want to say that, so far as any action of mine has caused any Senator here, or the Senate as a body, or the people of the United States to feel that I have been derelict and have not shown that courtesy and proper observance of the rules of this body, I regret it; I apologize for it. I was ready to do that two minutes after I had acted; but under the provocation, which was known to all of you, I could not have acted otherwise than I did; and while I apologize to the Senate and am sorry that it has occurred, I have nothing more to say.

Mr. McLaurin, of South Carolina: Mr. President, I did not realize that I was in contempt of the Senate, nor do I think now, if my words are read in the Record, that I was, but, at the same time, as the Senate has ruled that I am in contempt of this honorable body, I beg leave to apologize.

I desire to say, Mr. President, that I have been very sorely and severely tried. I was in attendance on the Committee on Indian Affairs when I received a message from a friend in the Senate that my presence was needed here.

The history of the vote on the Spanish treaty is known to all of you. There have been statements made in newspapers and insinuations that I had been influenced by improper motives in connection with my vote on that treaty. Knowing in my own soul, and knowing that God in heaven also knows that it was false, when I was told that it was centered down to me, I was so outraged by what I considered a most brutal assault upon my honor as a man, and especially in view of the fact that in the beginning of the session, after the action of my party associates, I made a most careful and deliberate statement explaining all these matters, I did not feel as a man that I could ever hold my head up again if I did not resent it in

the place where it was delivered, in the strongest and most forcible terms that I could employ.

With that, Mr. President, I am done, except I have this to say: If there is any more talk of that kind or any more—

Mr. Patterson: I beg the Senator to refrain.

Mr. McLaurin, of South Carolina: I will refrain, Mr. President.

Pending further action on the matter, Mr. Tillman presented a protest to the Senate, which was received by that body, Feb. 27. He declared himself ready to submit to whatever action the Senate might take to vindicate its own rights and dignity; but he protested against mere delay as depriving South Carolina of its right as a State to be represented in that body. On the following day the committee in charge of the matter reported a resolution of censure against Senators Tillman and McLaurin, which was adopted by a vote of 54 yeas to 12 nays. Its adoption, under the terms of the resolution, cleared both gentlemen of contempt.

Miscellaneous.—The Senate passed a ship subsidy bill early in the session, but it was not considered in the House of Representatives.

The House passed a measure admitting Oklahoma, Arizona, and New Mexico into the Union as States; but the Senate got no further than to make it a special order at the second session. The House also passed an immigration bill, which the Senate did not take up.

Two treaties were ratified—the modified agreement with Great Britain on the Isthmian Canal, and the agreement with Denmark for the purchase of the Danish West Indies.

The following acts were passed:

What is known as the omnibus public building act. It bears the title "An Act to increase the limit of cost of certain public buildings, to authorize the purchase of sites for public buildings, to authorize the erection and completion of public buildings, and for other purposes"; and it deals with public buildings in 186 towns of the United States.

An act authorizing the President to reserve public lands and buildings on the island of Porto Rico for public uses, and granting other public lands and buildings to the Government of Porto Rico.

An act authorizing the Commissioner of Internal Revenue to return bank checks, drafts, and certificates of deposit, and orders for the payment of money having imprinted stamps thereon, to the owners thereof.

An act for the allowance of certain claims for property taken for military purposes within the United States during the war with Spain, reported by the Secretary of War in accordance with the requirements of an item contained in the sundry civil appropriation act, approved June 6, 1900, authorizing and directing the Secretary of War to investigate just claims against the United States for private property taken and used in the military service within the limits of the United States.

An act authorizing the adjustment of rights of settlers on the Navajo Indian Reservation, Arizona.

An act to provide for funding taxes paid upon legacies and bequests for uses of a religious, charitable, or educational character, for the encouragement of art, etc., under the act of June 13, 1898.

An act to amend an act to prohibit the passage of special or local laws in the Territories, and to limit the Territorial indebtedness.

An act to provide for the homesteads in the Ute Indian Reservation in Colorado.

An act to accept, ratify, and confirm a proposed agreement submitted by the Kansas or Kaw Indians of Oklahoma.

An act relating to the transportation of dutiable merchandise at the seaports of Tacoma and Seattle.

An act to provide for the transfer of the title to the military reservation at Baton Rouge to the Louisiana Agricultural and Mechanical College.

An act to confer jurisdiction on the Court of Claims to render judgments for the principal and interest in actions to recover duties collected by the military authorities of the United States upon articles imported into Porto Rico from the several States between April 11, 1899, and May 1, 1900.

An act to provide for the sale of the unsold portion of the Umatilla Indian Reservation.

An act to vest in the Spanish Treaty Claims Commission certain powers possessed by circuit and district courts of the United States.

An act for the allowance of certain claims for stores and supplies reported by the Court of Claims under the provisions of the act approved March 3, 1883, and commonly known as the Bowman Act.

An act to amend the act of May 12, 1900, authorizing the Commissioner of Internal Revenue to redeem or make allowance for internal-revenue stamps.

An act reserving from the public lands in the State of Oregon, as a national park for the benefit of the people of the United States, and for the protection and preservation of the game, fish, timber, and all other natural objects therein, a tract of 249 square miles, including Crater Lake.

An act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes. It provides that "no person shall sell, barter, or exchange, or offer for sale, barter, or exchange in the District of Columbia, or send, carry, or bring for sale, barter, or exchange from any State, Territory, or the District of Columbia into any State, Territory, or the District of Columbia, or from any foreign country into the United States, or from the United States into any foreign country, any virus, therapeutic serum, toxin, antitoxin, or analogous product applicable to the prevention and cure of diseases of man, unless such virus, serum, toxin, antitoxin, or product has been propagated and prepared at an establishment holding an unsuspended and unrevoked license, issued by the Secretary of the Treasury as hereinafter authorized, to propagate and prepare such virus, serum, toxin, antitoxin, or product for sale in the District of Columbia, or for sending, bringing, or carrying from place to place aforesaid; nor unless each package of such virus, serum, toxin, antitoxin, or product is plainly marked with the proper name of the article contained therein, the name, address, and license number of the manufacturer, and the date beyond which the contents can not be expected beyond reasonable doubt to yield their specific results."

An act to provide for the allotment of the lands of the Cherokee Nation and for the disposition of town sites therein.

An act for the relief of the citizens of the French West Indies.

An act to ratify and confirm a supplemental agreement with the Creek Indians, modifying the agreement ratified by Congress, March, 1901, in regard to the allotment of lands, descent and distribution.

An act to fix fees of juries in the United States courts.

An act to provide a commission to secure plans and designs for a monument or memorial to the memory of Abraham Lincoln.

An act to amend an act for the relief and civilization of the Chippewa Indians in the State of Minnesota approved Jan. 14, 1889.

Acts granting public lands for the water-supply of Denver and Colorado Springs, Col.

An act providing that the statute of limitations of the several States shall apply as a defense to actions brought in the United States courts for the recovery of lands patented in severalty to members of any tribe of Indians under any treaty between it and the United States of America.

An act to prevent any consular officer of the United States from accepting any appointment from any foreign state as administrator, guardian, or to any other office of trust, without first executing a bond, with security, to be approved by the Secretary of State.

An act to authorize the sale of part of the Mobara military reservation in the State of Nebraska.

An act for the authorization of the erection of buildings by the International Committee of the Young Men's Christian Associations, on the military reservations of the United States.

An act to facilitate the procurement of statistics of trade between the United States and non-contiguous countries.

An act to prevent the sale of firearms, opium, and intoxicating liquors in certain islands of the Pacific, not under the protection of any civilized power.

An act to increase the efficiency, and change the name of the United States Marine-Hospital Service.

An act to promote the efficiency of the Revenue-Cutter service.

An act to extend the provisions, limitations, and benefits of an act entitled "An Act granting pensions to the survivors of the Indian wars of 1832 to 1842, inclusive, known as the Black Hawk war, Creek war, Cherokee disturbances, and the Seminole war," approved July 27, 1892. The measure brings into the scope of the original act Indian wars preceding 1832 and following 1842.

An act authorizing the Comptroller of the Currency to extend the charter of national banks twenty years.

Acts amending the following sections of the Revised Statutes: 82; 548; 658; 683; 852; 1315; 1513; 1580; 1581; 1797; 2294; 2399; 2529; 2544; 2555; 2593; 2743; 3339; 3362; 3394; 4075; 4076; 4078; 4139; 4314; 4400; 4716; 4883; 4929; 5543; 5544. Sections 1584 and 2035 were repealed.

An act for the protection of miners in the Territories.

An act for the protection of game in Alaska, not affecting, however, any law now in force in Alaska relating to the fur seal, sea otter, or any fur-bearing animal other than bears and sea lions, or preventing the killing of any game animal or bird for food or clothing by native Indians or Eskimo, or by miners, explorers, or travelers on a journey when in need of food; but the game animals or birds so killed shall not be shipped or sold, and not to be construed as preventing the collection of specimens for scientific purposes, the capture of shipment of live animals and birds for exhibition or propagation, or the export from Alaska of specimens and trophies, under such restrictions and limitations as the Secretary of Agriculture may prescribe and publish.

Acts authorizing the construction of bridges across the Arkansas river, Fort Gibson, Indian Territory, and in Arkansas; Ashley river, South Carolina; Calumet river, Cummings, Ill., and

Hammond, Ind.; Chattahoochee river, Columbia, Ga.; Columbia river, Vancouver, Wash.; Cumberland river, Nashville, Tenn.; Current river, Randolph County, Arkansas; Devils lake, North Dakota; Duluth Canal, Minnesota; East Saint Andrews Bay, Farmdale, Fla.; Emory river, Harri-man, Tenn.; Manatee river, Florida; Mississippi river, Burlington, Iowa; Champlin and Anoka, Minn., and Little Falls, Minn.; Missouri river, Council Bluffs, Iowa, and Omaha, Neb., Kansas City, Mo., Parkville, Mo., Pierre, S. Dak., Plattsmouth, Neb., St. Joseph, Mo.; Monongahela river, Clairton Station, Pa., Morgantown, W. Va.; Neuse river, Kinston, N. C.; Ouachita river, Arkansas; Ohio river, Allegheny, Pa.; Pearl river, Mississippi; Red river, Shreveport, La.; Savannah river, Savannah, Ga.; Tennessee river, Marion County, Tenn.; Waccamaw river, Conway, S. C.; White river, Newport, Ark.

Appropriations.—The following statement of the appropriations of the Fifty-seventh Congress at its first session, and covering the fiscal year of 1902-'03, was prepared by the clerks of the Committees on Appropriations of the Senate and the House of Representatives:

Agriculture.....	\$5,308,960.00
Army.....	91,530,136.41
Diplomatic and consular.....	1,957,925.69
District of Columbia.....	8,547,526.97
Fortification.....	7,398,955.00
Indian.....	9,143,902.58
Legislative, etc.....	25,398,381.50
Military Academy.....	2,627,324.42
Navy.....	78,678,963.13
Pension.....	139,842,230.00
Post-office.....	138,416,598.75
River and harbor.....	26,726,442.00
Sundry civil.....	60,125,359.13
Total.....	\$595,503,705.58
Deficiencies.....	23,089,911.43
Total.....	\$623,542,617.00
Miscellaneous.....	2,600,000.00
Total regular annual appropriations.....	\$626,142,617.00
Isthmian canal.....	50,180,000.00
Permanent annual appropriations.....	123,921,280.00
Grand total, regular and permanent annual appropriations.....	\$800,193,897.00
Amount of estimated revenues for fiscal year 1903.....	\$580,000,000.00
Amount of estimated postal revenues for fiscal year 1903.....	122,020,680.00
Total estimated revenues for fiscal year 1903.....	\$712,020,680.00

It is necessary to consider this statement in connection with the explanatory notes appended by those who prepared it. As to the District of Columbia appropriation it is said that one-half the amount is payable by the United States except amounts in the water department, which are payable out of the water rates. The post-office appropriation includes all expenses of the postal service payable from postal revenues and from the Treasury. In addition to the sum given as the river and harbor appropriation \$5,768,757 is appropriated in the sundry civil act to carry out contracts already authorized for 1903. As to the grand total, this comment is made: "In addition to this amount contracts are authorized to be entered into, subject to future appropriations by Congress, as follows: By the District of Columbia act, \$2,118,405; by the Military Academy act, \$3,500,000; by the naval act, \$18,306,000; by the river and harbor act, \$38,336,160; by the sundry civil act, \$616,000; by the urgent deficiency act, \$550,000; by miscellaneous acts, including the public buildings act, \$15,946,650; by the isthmian canal act, \$180,000,000; in all, \$259,373,215."

CONNECTICUT. (See under UNITED STATES.)

COSTA RICA, a republic in Central America. The Congress is a single Chamber of 21 representatives, elected for four years by an electoral college, the members of which are elected by the votes of all self-supporting adult male citizens. The President is also elected for four years, and may be his own successor. Rafael Iglesias was reelected President for the term which began on May 8, 1898. Demetrio Iglesias Llorente and Federico Tinoco were the Vice-Presidents. The Cabinet was composed in the beginning of 1902 as follows: Minister of the Interior, Police, and Public Works and acting Minister of Foreign Affairs, Worship, Public Instruction, Benevolence, and Justice, Ricardo Pacheco; acting Minister of Finance, E. Truque; acting Minister of War and Marine, Demetrio Iglesias.

Area and Population.—The area is estimated at 23,000 square miles, and the population on Feb. 18, 1892, was 243,205, comprising 122,480 males and 120,725 females. On Dec. 31, 1899, the population was officially estimated at 309,683. The number of births registered in 1900 was 10,695; deaths, 6,275. San José, the capital, has about 25,000 inhabitants.

Finances.—The revenue in 1901 was 8,700,833 colones, and expenditure 9,319,192 colones. The gold colon was adopted as the monetary unit by the act of Oct. 26, 1896, which established a gold standard at the ratio of 1 to 26½, the paper peso being made exchangeable for the colon, which weighs 0.778 gram, 900 fine. The new currency was put into circulation on July 16, 1900, when 5,000,000 colones had been coined. There were 3,000,000 pesos of paper currency in circulation. About 1,000,000 pesos of fractional silver currency were issued, and this is legal tender up to 10 pesos. Foreign gold coins are legal tender, but foreign silver coins are not.

The foreign debt, which in view of the depreciation of silver was scaled down in 1888 and again in 1897 by arrangement with the creditors, amounted on June 30, 1901, to £2,080,000 sterling, the amount in 1887 having been £2,691,300, with £2,119,512 interest in arrear. The interest on £1,475,000 of the capital was reduced in 1897 to 2½ per cent. and on £525,000 to 3 per cent. The unpaid coupons from Jan. 1, 1895, when the Government defaulted, till April, 1897, when the new arrangement went into effect, are paid by instalments of £5,000 a year for twenty years, £31,562 having been paid at the start. Amortization of the debt will begin in 1917 by the annual payment of £10,000. The floating debt in 1900 amounted to 6,067,898 pesos, and the total internal debt to 6,916,072 pesos.

Commerce and Production.—Costa Rican coffee brings a high price, and lands adapted for its culture when situated near a railroad are valuable. The banana plantations on the coast are remunerative, and the cultivation of cacao is a growing industry. There are also plantations of rubber-trees. The people are industrious and frugal, but little else is grown besides these products and corn, rice, yams, and potatoes for food. There are herds of cattle and horses on the highlands valued at 12,695,065 pesos in 1897. Gold is mined by American companies, which exported \$160,000 worth in 1900. The total value of imports in 1900 was \$6,084,895, and of exports \$6,321,192. Of the imports, 46.2 per cent. came from the United States, 27.3 per cent. from Great Britain, 13.6 per cent. from Germany, and 12.9 per cent. from other countries. The exports of coffee were valued at \$3,800,190; bananas, \$1,354,390; gold and silver, \$500,000; hides and skins, \$103,330; rubber, \$98,070.

Navigation.—The number of vessels entered and cleared at Limon and Punta Arenas during 1900 was 605, of 689,460 tons. The merchant fleet of Costa Rica consisted of 2 sailing vessels, of 541 tons, and 3 steamers, of 783 tons.

Railroads, Posts, and Telegraphs.—The railroad from Limon to Alajuela, with its branches, has a length of 137 miles. The line from San José to Tiveves, 59 miles, will, when completed, establish rail communication between the Atlantic and Pacific coasts.

The number of letters and other mail-matter that passed through the post-office in 1899 was 1,772,914 in the internal and 637,163 in the foreign service.

There were 880 miles of telegraph-wire in 1899; number of despatches, 342,572. The telephone-lines had a length of 200 miles.

CRETE, an island in the Mediterranean, formerly a Turkish vilayet, since Dec. 21, 1898, an autonomous province under the suzerainty of the Porte administered by a High Commissioner of England, France, Italy, and Russia. The High Commissioner is Georgios, Prince of Greece, born June 24, 1869, second son of Georgios I, King of the Hellenes. He was appointed for three years on Nov. 26, 1898, entered on his office on Dec. 21, 1898, and was reappointed on Dec. 15, 1901. The Constitution was adopted on April 28, 1899. The High Commissioner has supreme command of the military forces. The legislative body is the Boule, 64 members of which, of whom 3 are Mohammedans, are elected by universal suffrage for two years, in the proportion of 1 to 5,000 inhabitants, and 10 members, including 1 Mohammedan, are nominated by the Prince. The electoral system provides for minority representation. The Boule sits for two months every two years. The ministers are appointed by the Prince, and take part in the discussions of the Chamber without having the right to vote. The representatives at Rome of the protecting powers are authorized by their governments to decide questions affecting the foreign relations of Crete. The Council appointed on Sept. 7, 1901, was composed as follows: Finance, J. A. Tsouderos; Interior and Public Safety, Manoussos R. Koundouros; Public Instruction, Worship, Justice, and Foreign Affairs, A. D. Boreades.

Area and Population.—The island has an area of 3,326 square miles. The native population at the census of June 17, 1900, was 303,543, comprising 269,319 Greek Catholics, 33,496 Mohammedans, and 728 Jews. Compared with 1881 there were 62,256 more Greeks and 39,955 fewer Mohammedans. The number of foreigners in 1900 was 6,096, including 3,593 Hellenes and 1,071 Turks. Canea, the capital, had 21,025 inhabitants; Candia, 22,331.

Finances.—The revenue for the year ending Aug. 31, 1901, was estimated at 6,471,860 drachmas, and the expenditure at 6,281,277 drachmas. The revenue is derived mainly from direct taxes and duties on consumption. The chief expenditures were 1,789,553 drachmas for finance, 1,444,492 drachmas for communications and public safety, 1,344,214 drachmas for the interior, 749,508 drachmas for public instruction, and 703,510 drachmas for justice. The intervening powers promised to advance 4,000,000 drachmas to Crete, and Great Britain and Italy did advance 1,000,000 drachmas each, Russia 352,500 drachmas, and France 12,500 drachmas. This constitutes the total public debt, excepting 1,500,000 drachmas which the protecting powers in 1901 decided that Crete should pay to the Ottoman Public Debt Commission, besides the concession of the salt

monopoly for twenty years, thereby canceling all pecuniary claims of the creditors of Turkey against Crete.

Commerce and Production.—The chief product is coarse olive-oil from which soap is manufactured. Wine is made, and oranges, chestnuts, and carobs are exported. The silkworm is raised. Goats and sheep are reared. Commerce is carried on mainly with Greece and Turkey. The total value of imports in 1900 was 11,078,055 drachmas; exports, 5,590,436 drachmas.

Political Affairs.—M. Venezelo, whose proposal to establish an independent autonomous Government in Crete, a principality on the model of Bulgaria, resulted in his dismissal from office by Prince George in 1901, took the lead of the Opposition party. He did not propose a permanent principality, but one which should serve as a transitional arrangement and by the elimination of international control to a great extent and the removal of the international troops hasten the realization of a union with Greece. The democracy of Greece, however, and the Cretan patriots suspected an ambitious design of the High Commissioner. The storm of popular disapproval evoked by his proposal caused M. Venezelo to abandon the idea and put forward as his program the earliest possible union with Greece as the only solution of the Cretan question. Demonstrations in favor of immediate union, like those which in 1901 drew from the protecting powers an admonition to Prince George declaring their resolve to maintain the *status quo*, were supported by all parties and elements except the remnant of the Moslem population, reduced to a third of its former numbers. The substitution of a Greek force for the international troops was urged by the Government as the general desire. The Moslems insisted on the retention of the international troops, whose protection alone enabled them to live in the island. Those who still remained were mostly congregated in the towns. The small proprietors had sold or abandoned their farms and the beys had parceled out their estates among Christian tenants. The number of Mohammedan officials was constantly decreased. Parts of the Evkaf, or pious foundations, of the Mohammedans were appropriated by the Christians. When some Mussulman boatmen were murdered by Christians who had escaped the general disarmament the Mohammedan community of Canea appealed to the ministers of the four powers at Rome and to the Sultan as suzerain of the island to redress their grievances. A new independent party was started by M. Koundouros, who retired from the Cabinet in the beginning of June and was replaced by M. Mylogianakis. This party, which clamored likewise for speedy annexation to Greece, was encouraged by the Government as a rival to the growing Opposition party. The requests which Prince George made to the powers on accepting a prolongation of his mandate remained unanswered. In the summer the High Commissioner visited St. Petersburg and Vienna. Although party spirit in Crete raged more violently than ever, the Christian peasants, who form the bulk of the population, were comparatively unaffected. They reaped an abundant grain harvest in 1902 and the grape and olive crops were excellent.

CUBA, a republic in the West Indies. By the treaty of peace between the United States and Spain signed at Paris on Dec. 10, 1898, Spain relinquished the sovereignty of Cuba and the United States assumed the obligations for the protection of life and property. United States troops, already in occupation of parts of the

island, replaced the Spanish garrison when it was withdrawn in December, 1898. The President of the United States appointed a military Governor-General at the head of the administration which the United States undertook to carry on pending the establishment by the Cubans of a settled Government capable of fulfilling international obligations. Major-Gen. John R. Brooke, the first Governor-General, was succeeded, on Dec. 20, 1899, by Brig.-Gen. Leonard Wood. On July 25, 1900, the President of the United States directed that a call be issued for the election of members of a constitutional convention to frame a Constitution for Cuba on such a basis as would insure a stable, independent Government. By order of the military Governor-General the election took place on Sept. 15, 1900, and the convention assembled at Havana on Nov. 5, 1900. Governor-General Wood informed the delegates that it was their duty to frame and adopt a Constitution adequate to secure a stable, orderly, and free Government, and to formulate the relations which, in their opinion, ought to exist between Cuba and the United States, after which the Government of the United States would doubtless take such action as would lead to a final and authoritative agreement between the people of the two countries to the promotion of their common interests. The Constitution was completed and adopted by the Convention on Feb. 11, 1901, and was signed on Feb. 21, 1901. Conditions demanded by the President and Congress of the United States were on June 12, by vote of the convention, embodied in the Constitution. These were that Cuba shall make no treaty which may tend to place in jeopardy the independence of the island or any portion thereof; that no loans shall be issued unless a surplus of revenue is available for the service of such obligations; that the United States may intervene if it becomes necessary for the preservation of Cuban independence or for the protection of life and property; that the acts of the United States military administration were recognized as valid; that proper hygienic measures must be taken to protect public health; that the question whether the Isle of Pines belongs to the United States or to Cuba should be reserved for future determination; and that coaling stations on the coast of Cuba should be sold or leased to the United States, the localities to be decided upon later. The Constitution vests the legislative power in a Congress consisting of a Senate of 36 members, 6 from each department, and a House of Representatives having as many members as the population contains multiples of 25,000. Senators are elected by the municipalities for six years, one-third retiring every two years. Representatives are elected in separate districts for four years by universal adult male suffrage. The executive power is committed to a President, who, with the Vice-President, is elected for four years by popular suffrage through colleges of electors. Each voter ballots for only two-thirds of the electors allotted to his department. Each department has a Governor and an Assembly elected by popular suffrage for three years. Departments and municipalities have a large measure of local self-government, with power to raise revenues and contract loans. Municipal government is carried on by a mayor and an elective municipal council. Spaniards and other foreigners residing in Cuba at the time of the adoption of the Constitution may adopt Cuban citizenship at their option, and so can all Cuban-born children of foreigners on attaining their majority. The Constitution guarantees freedom of speech,

of the press, and of religious worship. Prisoners can not be detained longer than twenty-four hours without judicial authority. The civil and criminal laws can be framed and amended only by Congress, which also has sole power to regulate railroads and telegraphs. Major-Gen. Leonard Wood was military Governor-General at the beginning of 1902. His civil Cabinet was composed as follows: Secretary of Foreign Affairs and of the Interior, Diego Tamayo; Secretary of Agriculture, Commerce, and Industry, Perfecto Lacoste; Secretary of Justice, Varela; Secretary of Public Instruction, Varola; Secretary of Finance, Cancio; Secretary of Public Works, Villalon; Secretary of the Treasury, Roloff. The military commandant of the Oriental Department, with headquarters at Santiago, was Col. Samuel M. Whitside. Gonzales de Quesada was Cuban commissioner at Washington.

Area and Population.—The area of Cuba is 35,994 square miles. The population by the census of Oct. 16, 1899, was 1,572,797. The area and population of the provinces which now constitute the departments of Cuba are shown in the following table:

PROVINCES.	Square miles.	Population.
Havana	2,265	494,804
Pinar del Rio.....	5,145	173,064
Matanzas	3,506	202,444
Santa Clara.....	7,534	355,536
Puerto Principe.....	7,439	86,284
Santiago de Cuba.....	10,125	327,715
Total.	35,994	1,572,797

In Havana province there were 187 inhabitants to the square mile; in Matanzas, 58; in Santa Clara, 47; in Pinar del Rio, 34; in Santiago, 32; in Puerto Principe, 12. Of the total population 910,299, or 57.89 per cent., were native whites, divided into 447,373 males and 462,926 females; 142,198, or 9.05 per cent., were foreign whites, divided into 115,740 males and 26,458 females; 234,638, or 14.91 per cent., were negroes, divided into 111,898 males and 122,740 females; 270,805, or 17.21 per cent., were of mixed white and negro blood, divided into 125,500 males and 145,305 females; 14,857, or 0.94 per cent., were Chinese, divided into 14,694 males and 163 females. Of the total population 815,205 were males and 757,592 were females. The total number of colored inhabitants was 505,443; of whites and others having no negro blood, 1,067,354. The total number of foreigners, white and colored, including Chinese, was 172,535, of whom 129,240 were Spanish, 12,953 African negroes, 6,444 Americans, 1,968 Spanish Americans, 1,279 French, 731 British, 505 Italians, and 284 Germans. The number of persons engaged in occupations was 622,330, of whom 299,197 followed agriculture, mining, or fishing, 141,936 domestic service, 93,034 manufactures, 79,427 commerce and transportation, and 8,736 the professions. The illiterates among adult male white Cubans numbered 94,301, and among the colored 78,279. Education has been compulsory since 1880.

Commerce and Production.—There were 90,960 estates in Cuba in 1891, of the total estimated value of \$220,000,000, the annual rental being estimated at \$17,000,000. The total value of imports in 1900 was \$64,760,000, and of exports \$47,645,000. The imports from Cuba into the United States were \$31,371,704 in value, and exports from the United States to Cuba were \$26,513,613. In 1901 the imports of Cuban produce into the United States were \$43,428,088, and United States exports to Cuba \$25,964,801. The chief

imports of Cuban produce into the United States in 1900 were sugar for \$18,243,639 and tobacco for \$9,703,331, and among the exports of United States produce to Cuba were provisions for \$5,214,489, iron and steel manufactures for \$3,717,127, breadstuffs for \$2,122,553, lumber for \$2,122,553, and cattle for \$2,042,710. In a special message to the Cuban Congress President Palma requested Congress to pass laws for the reestablishment and development of stock-raising, suggesting that measures be taken to stimulate private enterprise, especially by removing all duties from cows and from bulls of established breeds, stallions, and jackasses, also for one year from fencing wire. He proposed to prohibit the slaughter of cows fit for breeding. Of 18,000,000 acres now unproductive, more than half the area of Cuba, nearly the whole is good grazing ground, capable of supporting 4,000,000 head of stock. President Palma estimated that in the first year of his administration 400,000 cattle would arrive, the average consumption for food being 300,000. Half of those arriving he thought ought to be pastured for six months before slaughtering, insuring an addition to the national income estimated at \$2,000,000, and he suggested prohibiting the slaughter of lean cattle for three months after importation.

Railroads, Posts, and Telegraphs.—There are 950 miles of railroads, of which British companies own 551 miles.

The length of telegraph-lines is 2,300 miles, with 3,450 miles of wire.

Establishment of the Republic.—An electoral law was framed by a committee of the constitutional convention. On Jan. 1, 1902, presidential electors were chosen, who, on Feb. 24, 1902, elected Tomas Estrada Palma President of the republic and Señor Estevez Vice-President. In fulfilment of the joint resolution of the United States Congress, approved on April 20, 1898, for the recognition of the independence of the people of Cuba, demanding that the Government of Spain relinquish its authority and government in the island of Cuba and withdraw its land and naval forces from Cuba and Cuban waters, and directing the President of the United States to use the land and naval forces of the United States to carry these resolutions into effect, the President of the United States was authorized in the army appropriation act approved on March 2, 1901, to leave the government and control of the island of Cuba to its people so soon as a Government shall have been established under a Constitution which, either as a part thereof or in an ordinance appended, defines the future relations of the United States with Cuba in substantial agreement with the Platt amendment. These provisions are that the Government of Cuba shall never enter into any treaty or compact with any foreign power which will impair or tend to impair the independence of Cuba, nor in any manner authorize or permit any foreign power or powers to obtain by colonization or for military or naval purposes or otherwise lodgment in or control over any portion of the island; that it shall not assume or contract any public debt to pay the interest upon which, and to make reasonable sinking-fund provisions for the ultimate discharge of which, the ordinary revenues of the island, after defraying the current expenses of government, shall be inadequate; that it consents that the United States may exercise the right to intervene for the preservation of Cuban independence, the maintenance of a Government adequate for the protection of life, property, and individual liberty, and for

discharging the obligations imposed by the treaty of Paris on the United States, now to be assumed and undertaken by the Government of Cuba; that all acts of the United States in Cuba during its military occupancy be ratified and validated, and all lawful rights acquired thereunder maintained and protected; that the Government of Cuba execute and as far as necessary extend the plans already devised or other plans to be mutually agreed upon for the sanitation of the cities of the island to the end that a recurrence of epidemic and infectious disease may be prevented, thereby assuring protection to the people and commerce of Cuba, as well as to the commerce of the Southern ports of the United States and their residents; that the Isle of Pines be omitted from the proposed constitutional boundaries of Cuba, the title thereto being left to future adjustment by treaty; that to enable the United States to maintain the independence of Cuba and to protect her people, as well as for its own defense, the Government of Cuba sell or lease to the United States lands necessary for coaling or naval stations at certain specified points to be agreed upon with the President of the United States; and that by way of further assurance the Government of Cuba embody these in a permanent treaty with the United States.

These conditions having been fulfilled, President Roosevelt in a message to Congress dated March 27, 1902, recommended measures for diplomatic and consular representation in Cuba. The people of Cuba having framed a Constitution and elected a President, preparations were made by the Secretary of War to terminate the military occupation and permit the installation of the Government of Cuba on May 20. The Cuban Senate and House of Representatives was convened by Gov. Wood on May 5 to pass on the credentials of their members, after which they officially informed the American military Governor of the election of Estrada Palma as President of the republic. President Palma selected his Cabinet on May 17 from both the Nationalist and Republican parties and included one Independent. It was composed as follows: Secretary to the Government, having charge of the Rural Guard, Sanitation, the Post-Office, and the Signal Service, Diego Tamayo; Secretary of State and of Justice, Carlos Zaldo; Secretary of Agriculture, Emilio Terry; Secretary of Public Works, Manuel Luciano Diaz; Secretary of Public Instruction, Eduardo Yero; Secretary of Finance, Garcia Montes. Gov. Wood formally transferred the government and control to President Palma and the Cuban Congress on May 20, advising them that the transfer was made on the understanding and condition that the new Government, pursuant to the appendix to the Cuban Constitution adopted by the constitutional convention on June 12, 1901, assumed the obligations which the United States had assumed with respect to Cuba by the treaty with Spain signed at Paris on Dec. 10, 1898. The judicial and subordinate executive officers appointed by the Government of occupation continued in the discharge of their functions, except such of them as Gov. Wood had already replaced with nominees of the President-elect, and all the laws promulgated by the provisional military Government remained operative until they should be changed by the new Government. Gov. Wood, in the proclamation of transfer, recited the obligations imposed on Cuba in her relations with the United States by the American Congress and accepted in the appendix to the Cuban Constitution of

Feb. 21, 1901, as a part of the organic law of the Cuban Republic. He read a message from the President of the United States declaring the American occupation at an end, and then lowered the American and raised the Cuban flag. The United States garrison had been gradually withdrawn, and the remaining troops left with Gen. Wood, excepting 800 of the coast-artillery, left to care for three batteries on the coast until these should be replaced by a Cuban force. The Cuban Congress met and proclaimed the Constitution as soon as the Government was installed. President Palma in his message to Congress on May 28 said that the motive of the United States in siding with Cuba in her fight for independence was purely disinterested and that Cuba is capable of fulfilling all the obligations and promises she has contracted. The budget, however, should be prepared with care. Cattle-raising ought to be encouraged and agricultural stations established to improve the methods of culture of sugar and tobacco, and agricultural industries of various kinds should be introduced. The crisis in the sugar industry was due to the excessive production of beet-sugar in Europe. An immediate remedy would be the reduction of the American tariff charge on sugar, to obtain which he would devote his efforts. The Government would also devote attention to education and encourage the construction of railroads, at the same time protecting the capital already invested in them. Cuba must cultivate cordial relations with all nations and secure favorable treaties of amity and commerce, and must also take special care that her relations with the United States are of the friendliest character. The new Cuban Government pardoned all convicted Americans, including the post-office officials Neely, Reeves, and Rathbone, sentenced for ten years. On Aug. 10 Señor Terry offered his resignation as Secretary of Agriculture. The State Department at Washington decided that the Isle of Pines passed under Cuban control when American authority over Cuba was withdrawn and must remain so until the question of its ownership is settled by treaty. American settlers, who have obtained half the grazing ground that constitutes the chief wealth of the island in dispute, petitioned for the protection of the United States Government because the Cuban Government neglected to exercise any authority or jurisdiction. Rear-Admiral R. B. Bradford, who inspected sites for naval and coaling stations in the West Indies, recommended that one naval station be established at Triscornia, in Havana harbor, opposite the capital, and another at Guantanamo, and that coaling stations be located at Nipe Bay and at Cienfuegos. By means of these the United States could control the passes leading to its coasts from the Caribbean Sea. The Cubans were not inclined to oppose these selections except the one that the American naval expert considered the most important of all, the one in Havana harbor, commanding the Bahama, Florida, and Yucatan channels and the entrance to the Gulf of Mexico. Although it insures the Cuban capital against attack without cost to Cuba and provides employment and remuneration for many individual Cubans, they would chafe to see the United States flag flying in Havana harbor, to be saluted equally with the Cuban flag by foreign ships as they enter. It would seem like an emblem of American suzerainty and a sign of their vassalage, and appeared to be unnecessary, since without such fortified station the United States could use Havana as a naval base in case of war. The Isle of Pines, having no good harbor, is valueless for

a naval or coaling station. While the American settlers and some of the other inhabitants petitioned for annexation to the United States, others asked that it be permitted to remain attached to Cuba. It is claimed by Cuba as an island adjacent to the coast which was under the administration and jurisdiction of the Spanish colonial Government. The claim of the United States is based on the cession of Porto Rico and all other islands belonging to Spain in the West Indies by the treaty of peace acknowledging the independence of Cuba.

Reciprocity with the United States.—The oppression of Spain from which Cuba was freed by the intervention of the United States was mainly a financial and commercial oppression. Spain, however, gave Cuba a preferential market for her products. This market was closed as a result of the war, and as a condition of withdrawing the military Government and permitting the Cubans to set up an independent republic the United States Congress, in the Platt amendment, imposed a restriction on their independence, denying them the right to seek a market in any other country by granting preferential tariff rates that should not be shared by the producers and exporters of the United States. The sugar and tobacco on which the livelihood of the Cubans depends could find a market nowhere save in the United States; yet they were excluded from that market by the prohibitive duties of the Dingley tariff. The Cuban planters were holding their unmarketable sugar by the aid of money borrowed at 2 per cent. a month, awaiting the opening of United States ports by a removal of the tariff barrier. Although reciprocal trade relations were generally believed to be conducive to American, as they were essential to Cuban prosperity, a strong opposition to effective reciprocity was shown by the American beet-sugar growers, whose entire crop has till now reached only 77,000 tons, and by growers of tobacco for cigars, in whose behalf the Protectionists opposed a reduction of tariff sufficient to afford relief to Cuba. A bill for reciprocal trade relations introduced by the Committee on Ways and Means in the House of Representatives provided for a reciprocal reduction of duties equivalent to 20 per cent. ad valorem, conditional on the enactment by Cuba of the same immigration and exclusion laws as those of the United States. Gov. Wood's opinion was that a reduction of not less than 33½ per cent. in the United States sugar tariff was absolutely necessary for the welfare of the island. The merchants of Europe were very desirous that there should be no operative reciprocity between Cuba and the United States. Representatives of various commercial interests in England and India prayed their Government to use any possible means to prevent it. Mr. Roosevelt, in his message to Congress of March 27, said that the commercial and political conditions in the island of Cuba while under the Spanish Crown afford little basis for estimating the local development of intercourse with this country under the influence of the new relations which have been created by the achievement of Cuban independence and which are to be broadened and strengthened in every proper way by conventional pacts with the Cubans and by wise and beneficent legislation aiming to stimulate the commerce between the two countries if the great task we accepted in 1898 is to be fittingly accomplished. Even the measure of reciprocity contained in the bill before Congress was strongly opposed by a section of the Republican members, who refused to be bound by the decision of the party, pronounced by a major-

ity vote of 54 in the caucus. Early relief was necessary to enable the Cuban planters to market their crop. When a minority of Republicans in the Senate refused to sanction the reciprocity measure, and it could not therefore be put to a vote, President Roosevelt, on June 13, sent a special message to Congress in response to an appeal from President Palma for legislative relief before it is too late and Cuba is financially ruined. Mr. Roosevelt considered that the Cuban question stood alone, and did not raise the question of tariff revision; nor would any American industry be injured, but many would benefit, and the growing Cuban market should be controlled by American producers. If Cuba was expected to treat the United States on an exceptional footing politically, she should be put economically in an exceptional position in relation to the United States. To give all possible chance to the young republic to use to advantage the freedom for which many American lives have been sacrificed was the plain duty of a wealthy and powerful nation like the United States. The national honor was pledged to give the relief needed. Mr. Roosevelt suggested that the substantial benefit of a reduction of duties should go to Cuban producers, not to American sugar-refiners, and advised against recourse to a bounty in the form of a rebate. The deadlock was not broken by the President's message nor by the indorsement of his policy by one Republican State convention after another. The Spooner bill providing for a 20-per-cent. reciprocal reduction of duties for five years, which was amended in the House by a provision to abolish

the differential duty protecting American refiners, though retaining the countervailing duties on bounty-fed sugar, was recommended by the Senate Committee on Cuban Relations, considered in a conference of Republican Senators, but the minority opposed to reciprocity remained firm and unbroken. Meanwhile the industrial situation in Cuba grew more acute. Planters were unable to borrow more money to give employment to laborers, and distress prevailed throughout the island. Starvation was in sight, and disorder as its sequel. The finances of the republic were in such shape that there was scarcely money enough to meet expenses. Early in August the Cuban Congress discussed a bill for raising a loan of \$4,000,000 at 5 per cent., redeemable in thirty years, to be issued at 90, the proceeds to be devoted to the assistance of cane-growers. It was proposed to issue six months later a loan of \$35,000,000 on the same terms, with the customs receipts as security, for the purpose of paying the Cuban army and discharging debts mentioned in the Constitution. A tariff bill was passed increasing to 50 per cent. the duties on fresh and salt beef and pork, codfish, rice, wheat-flour, eggs, coffee, olive-oil, and beer; those on cheese, butter, wines, and liquors to 70 per cent.; the duty on lard to 80 per cent.; those on soap, starch, poultry, condensed milk, beans, peas, onions, potatoes, and preserved foods to 100 per cent.; the duty on corn to 333 per cent.; also putting a duty of 17 per cent. on shoes, one of 40 cents a cubic meter on undressed pine lumber, and one of 25 cents a ton on coal. The increases were expected to add \$520,000 to the revenue.

D

DELAWARE. (See under UNITED STATES.)

DENMARK, a kingdom in northern Europe. The legislative body, called the Rigsdag, consists of an upper house, the Landsting, of 66 members, 12 appointed for life by the King and 54 elected for eight years by indirect suffrage, and a popular assembly, the Folkething, containing 114 members, elected for three years by the direct vote of all male citizens thirty years of age excepting criminals, paupers, and servants living with their employers. The reigning King is Christian IX, born April 18, 1818. The heir apparent is Prince Frederik, born June 3, 1843, eldest son of the King and Queen Louise, daughter of the Landgrave Wilhelm of Hesse Cassel.

The Cabinet appointed July 23, 1901, was composed as follows: President of the Council and Minister of Foreign Affairs, Dr. J. H. Deuntzer; Minister of Marine, Rear-Admiral F. H. Jöhnke; Minister of War, Col. V. H. O. Madsen; Minister of Finance, C. F. Hage; Minister of Justice and for Iceland, P. A. Alberti; Minister of Worship and Public Instruction, J. C. Christensen; Minister of Agriculture, O. Hansen; Minister of Public Works, V. L. B. Hørup; Minister of the Interior, E. Sørensen.

Area and Population.—The area of the divisions of Denmark and the population at the census of Feb. 1, 1901, are given in the following table:

DIVISIONS.	Square miles.	Population.
City of Copenhagen.....	21	378,285
Islands in the Baltic.....	5,062	1,007,513
Peninsula of Jutland.....	9,765	1,062,792
Faroe Islands.....	512	15,220
Total.....	15,360	2,464,770

The population, not including that of the Faroes, was divided into 1,193,448 males and 1,256,092 females. The increase in population since 1890 was 12.75 per cent., annual increase 1.1 per cent. The increase in the urban population was 29.7 per cent., and in the rural population 4.3 per cent. The population of Copenhagen within the city limits was 378,235; with suburbs, 476,806. Aarhus had 51,814 inhabitants; Odense, 40,138; Aalborg, 31,457. The number of marriages in 1900 was 18,499; of births, 72,141; of deaths, 40,924; excess of births, 31,217. The emigration, mainly to the United States, was 3,570.

Finances.—The revenue for the year ending March 31, 1901, was 78,959,357 kroner; expenditure, 78,883,529 kroner. For 1902 the revenue was estimated at 71,512,513 kroner and expenditure at 72,077,975 kroner. The budget estimate of revenue for the year ending March 31, 1903, was 72,871,598 kroner, of which 927,892 kroner are a balance from domain revenues, 3,239,923 kroner are interest on state assets, 10,886,300 kroner come from direct taxes, 51,405,630 kroner are from customs, excise, and other indirect taxes, 136,006 kroner are net revenue from posts and telegraphs, 1,090,000 kroner are the balance accruing to the state from lotteries, 549,377 kroner are separate revenues, and 4,636,468 kroner are revenue from employment of capital and funding of debt. The total expenditure was estimated in the budget at 72,388,208 kroner, of which 1,203,200 kroner are the civil list and appanages, 532,032 kroner are expenses of the Rigsdag and the Council of State, 7,041,384 kroner are the public debt charges, 3,377,130 kroner are civil and military pensions, 739,300 kroner are for the Ministry of Foreign Affairs, 2,844,977 kroner for the Ministry of Agriculture, 6,035,954

kroner for the Ministry of the Interior, 4,950,168 kroner for the Ministry of Justice, 6,970,705 kroner for the Ministry of Worship and Public Instruction, 10,226,370 kroner for the Ministry of War, 6,742,635 kroner for the Ministry of Marine, 4,164,676 kroner for the Ministry of Finance, 77,164 kroner for the Ministry for Iceland, 3,836,304 kroner for extraordinary state expenditure, and 13,646,159 kroner for improvement of state property and reduction of debt. The reserve fund kept at the disposal of the Government to provide for sudden emergencies amounted on March 31, 1901, to 17,891,915 kroner. The actual revenue for the financial year 1902 amounted to 96,800,000 kroner and expenditure to 76,700,000 kroner. The receipts included 30,000,000 kroner of the loan concluded in 1901, of which 10,000,000 kroner were used, leaving 20,000,000 kroner unexpended and a total balance in the treasury of 40,000,000 kroner on March 31, 1902. In the budget for the year ending March 31, 1904, the revenue is estimated at 70,200,000 kroner, including a balance in the treasury on April 1, 1903, estimated at 11,000,000 kroner, and the expenditure is estimated at 74,500,000 kroner, showing a probable deficit of 4,300,000 kroner. The amount of the public debt on March 31, 1901, was 217,294,224 kroner. The foreign debt was 149,012,250 kroner, the domestic debt 68,281,974 kroner. The rate of interest is generally 3 per cent. The value of state railroads on March 31, 1901, was 247,492,711 kroner and of other investments and the domains 81,751,643 kroner, including the war chest.

The city of Copenhagen had a revenue of 23,647,206 kroner in 1900, 19,363,676 kroner of expenditures, a debt of 59,255,344 kroner, and property valued at 66,936,304 kroner. The revenue of the provincial towns in 1899 amounted to 18,264,393 kroner, their expenditures to 14,882,386 kroner, their debts were 36,750,368 kroner, and the value of their property was 61,439,805 kroner. The collective revenue of rural communes was 23,023,172 kroner, their expenditure was 20,669,605 kroner, their debts amounted to 19,466,375 kroner, and the value of their property to 48,357,907 kroner. Provincial places collected 3,600,570 kroner of revenue, expended 3,132,596 kroner, had 5,556,737 kroner of debts, and owned 7,477,508 kroner of property.

The Army.—Young men from the age of twenty-two are liable to serve eight years in the regular army and its reserve and eight years longer in the extra reserve. When drawn for service they are drilled six months for infantry, three months for field-artillery and engineers, eight months for cavalry, and four months for fortress-artillery. Recruits who fail to become proficient are required to go through a second period of drill, which is eight months for infantry, eleven months for cavalry, and twelve months for artillery and engineers. All troops are called into camp for annual exercises lasting from twenty-five to thirty days. The army is organized in 2 divisions, one of 2 and one of 3 brigades, the brigade consisting of 3 regiments of infantry and 1 regiment of cavalry. There are 31 battalions of infantry of the line, 11 battalions of reserve, 5 regiments of cavalry, 2 regiments of field-artillery of 6 active batteries, and 4 reserve batteries each, 1 regiment of fortress-artillery, and 1 regiment of engineers. The total strength on the peace footing was 824 officers and 8,945 men in 1901; war footing, 1,448 officers and 60,138 men.

The Navy.—The Danish navy contains one old turret-ship, the *Helgoland*, of 5,370 tons,

armed with one 36-ton gun, 4 22-ton guns, 4 5-inch guns, and 2 2½-inch quick-firers. The bar-bette ship *Iver Hvitfeldt*, of 3,450 tons, carries 2 28-ton and 4 5-inch guns and 2 2½-inch quick-firers. The cruiser *Tordenskjold*, of 2,530 tons, has a 52-ton gun in an armored bar-bette and 2 5-inch guns. The armor-clad coast-defense vessels *Gorm*, of 2,400 tons, and *Herluf Trolle*, of 3,470 tons, launched in 1899, carry 2 26-ton or 18-ton guns in armored turrets. The *Skjold*, of 2,160 tons, has a single 26-ton gun. The *Lindormen*, of 2,100 tons, has a pair of 13-ton guns. The *Odin*, of 3,230 tons, has 4 18-ton guns in a central battery. A new turret-ship of 5,317 tons, launched in 1900, has 2 pairs of 26-ton guns. Nearly all the vessels of the navy were built at Copenhagen. The *Valkyrien*, of 3,020 tons, the *Fyen*, of 2,740 tons, and the *Geiser*, *Hekla*, and *Heimdal*, of 1,310 tons, are deck-protected cruisers of recent construction.

Commerce and Production.—The European agricultural crisis affected Denmark as seriously as any country and led to a diversification of crops, a contraction in the area under cereals, and a great extension of pastoral industry which with the encouragement of the Government and by the aid of agricultural schools has placed Denmark in the first rank of dairying countries, and not only restored but augmented the former prosperity. There were exported 40,578 cattle, 20,543 horses, and 2,095 sheep in 1900. The quantity of beet-sugar produced was 49,678 tons. The manufacture of oleomargarine was 18,254 tons. There were 21,879,576 gallons of beer brewed, and the distillation of spirits amounted to 7,479,845 gallons. The catch of fish in 1899 was valued at 7,455,871 kroner. The total value of imports in 1900 was 526,803,000 kroner; of domestic exports, 281,919,000 kroner; total exports, 393,570,000 kroner. The special imports were valued at 416,200,000 kroner, of which 96,200,000 kroner represent food substances, 81,300,000 kroner articles for personal or domestic use, 43,100,000 kroner fuel, 71,300,000 kroner seeds, manure, and fodder, and 124,300,000 kroner raw products. Of the domestic exports 235,500,000 kroner represent food substances, 4,500,000 kroner articles for personal or domestic use, 2,000,000 kroner seeds, manure, and fodder, and 39,900,000 kroner raw products. Of the general imports 44,534,000 kroner and of exports 14,085,000 kroner were colonial produce; of the imports 7,655,000 kroner and of the exports 3,448,000 kroner were beverages; of the imports 58,372,000 kroner and of the exports 6,306,000 kroner were textile manufactures; of the imports 47,081,000 kroner and of the exports 12,079,000 kroner were metals and metal manufactures; of the imports 25,626,000 kroner and of the exports 2,162,000 kroner were timber and wood manufactures; of the imports 47,362,000 kroner and of the exports 4,470,000 kroner were coal; of the imports 2,513,000 kroner and of the exports 21,852,000 kroner were live animals; of the imports 52,037,000 kroner and of the exports 231,228,000 kroner were dairy-produce and provisions; of the imports 66,873,000 kroner and of the exports 13,339,000 kroner were cereals. The values in kroner of the commerce of Denmark with various foreign countries in 1900 are given in the table on the next page.

The imports of Danish butter into Great Britain increased from £767,190 in 1870 to £8,029,625 in 1900; imports of eggs, from £67,654 in 1878 to £923,551 in 1900; and in the latter year £3,058,782 of Danish bacon was imported.

Navigation.—The number of vessels in the foreign trade entered at Danish ports during 1900

COUNTRIES.	Imports.	Exports.
Great Britain.....	108,098,000	238,467,000
Germany.....	158,568,000	67,765,000
Sweden and Norway.....	60,508,000	50,222,000
United States.....	77,839,000	6,909,000
Russia.....	49,051,000	28,010,000
France.....	14,854,000	1,524,000
Netherlands.....	12,476,000	646,000
Belgium.....	7,559,000	1,041,000
Danish colonies.....	3,760,000	4,186,000
Rest of America.....	5,121,000	82,000

was 33,389, of 2,913,849 cargo tons; cleared, 34,313, of 844,567 tons of cargo. There were 33,650 vessels entered and 33,667 cleared coastwise. The merchant fleet of Denmark and the colonies comprised 3,252 sailing vessels above 4 tons, of 158,303 tons, and 521 steamers, of 250,137 tons.

Railroads, Posts, and Telegraphs.—The length of railroads in operation in 1901 was 1,810 miles, of which the state owned 1,108 miles, built at a cost of 247,492,711 kroner.

The number of letters and postal cards carried in the mails in 1900 was 95,791,494; of newspapers, circulars, samples, etc., 87,321,089.

The Government telegraph-lines in 1900 had a total length of 2,413 miles, with 8,601 miles of wire. The length of telephone-lines was 1,351 miles, with 2,620 miles of double and 595 miles of single wire.

Colonies.—*Iceland* has an area of 39,756 square miles, a small part of which is productive. The population in 1900 was 70,927. The imports in that year were valued at 2,386,000 kroner, and exports at 2,993,000 kroner. The coast and deep-sea fisheries are the principal resource of the population. Fishermen from all the countries bordering on the North Sea visit the fishing-banks. The Althing, the autonomous legislature, passed a law in 1898 by which trawling in Icelandic waters is prohibited, and inhabitants of the island are forbidden under penalties of imprisonment to aid or abet trawling. Fishing with trawling-nets from steamers has depleted the fisheries on which Icelanders depend for a living, and therefore the territorial waters have been vigilantly patrolled and the law strictly enforced against steam trawlers. British owners of these vessels have complained of confiscations due, not to illegal trawling in territorial waters, but to the storms of the northern seas which compelled their vessels to seek a port of refuge. A fisheries convention was concluded by Denmark in 1901 by which trawlers are no longer excluded from territorial waters. They have liberty to navigate and anchor if they enter them through stress of weather or ignorance of the currents, but they must stow away their trawling gear. The Icelanders have sought a larger degree of autonomy, which the Danish Government is quite willing to concede. In 1901 the Althing passed a resolution requesting that the Minister for Iceland in the Danish Cabinet should always be a person acquainted with the Icelandic language. The Danish Government submitted a constitutional reform bill to the Althing convened in special session by which not only will a special minister for Iceland be appointed who knows the language of the island, but the seat of the ministry is transferred from Copenhagen to Reykjavik. Besides fish, the Icelanders export sheep, wool, and mutton, and also ponies of the shaggy northern breed. The imports are cereals, groceries, and textiles. The trade is shared with Denmark by Great Britain.

The Danish colony of *Greenland* has an area of 46,740 square miles, with a population in 1900 of 10,516. These people, cut off from the rest of

the world, are visited every year by Government steamers which bring the supplies they need and take away the oil, furs, and other arctic products, which are purchased by the Government and resold in Europe. The value of imports in 1900 was 831,000 kroner; of exports, 340,000 kroner.

The Danish West Indies are the islands of *St. Croix*, *St. Thomas*, and *St. John*. When West Indian islands were in a more prosperous condition than at present the sugar, rum, and molasses of the Danish Antilles found a ready market in the United States. Of late years they have suffered more than most of the other islands from the depression in their main industries. Negotiations have been going on for years looking to their transfer by purchase to the United States (see WEST INDIES).

Legislation.—The question of the sale of the West Indian possessions of Denmark to the United States was the main subject of discussion in the Rigsdag in 1902. The treaty for their transfer was signed at Washington on Jan. 24, 1902. It was ratified by the United States Senate on Feb. 17. The Danish Steamship Company, which has a large traffic in the Atlantic, opposed the sale, and it was distasteful to the upper classes of Denmark. The signing of the Brussels sugar convention seemed to promise a better future for the islands. When the treaty was laid before the Folkething its opponents debated long against it, but it was ratified on March 18 by an overwhelming majority, only 7 voting to reject it outright and 19 withholding their votes, desiring the matter to be left to a vote of the people of the islands. This proposition found favor in the Landsting, which voted to delay the decision until the qualified electors of the islands indicated their desire by a plebiscite. Meanwhile various enterprises designed for the economic benefit of the islands were promoted in Denmark, chief of which were a new steamship company to start a regular service between North Sea and Gulf ports, and a plantation company, which intended to buy up land in the islands and have it tilled scientifically under the direction of Danish agriculturists. Objections were made to the treaty on the ground that it did not secure to the islanders American citizenship and free trade with the United States, although former ministers in their negotiations with the United States Government had stipulated for these privileges. The Folkething would not accept the provision inserted by the Landsting that the inhabitants of the island who have the right to vote, for members of the colonial councils first take a vote on the question, but agreed by 98 votes to 2, with 5 abstentions, to have a plebiscite taken of all the male inhabitants of the islands, as was done in 1867, when the former treaty for the sale of the islands was made, which failed of ratification in the United States Senate. The Landsting by 33 votes to 30 insisted on its own amendment, and the matter had to be postponed till another session. The electors to the two colonial councils, to whom the Conservative majority in the Landsting proposed to refer the question, are only 366 in number, while the adult male population exceeds 6,000. There was a possibility that the electors might pronounce in favor of the sale by a slight majority. The amendment of the Landsting was therefore framed so that the Rigsdag would not be bound by the vote unless the feeling in the islands as indicated by it was undoubtedly in favor of the sale. The Agrarians, who constituted an overwhelming majority of the voters of Denmark, were

united in their desire to relieve the country of the financial burden and the trouble of these distant negro colonies. The bankers and merchants of Copenhagen, the university men, and the court circle were as strongly bent on keeping the islands for Denmark. Since ratifications could not be exchanged by the date fixed, July 24, 1902, the time for ratification was, at the proposal of Mr. Hay, extended for a year.

Negotiations for the sale of the Danish Antilles to the United States have been resumed several times since the conclusion of the abortive treaty of 1867. The latest negotiations were suggested to Mr. Hay by a Danish adventurer named Christmas, who brought the information that overtures for the purchase of the islands would be favorably received at Copenhagen. Horace White, secretary of legation at London, was entrusted with an informal mission early in 1900 to sound the views of the Danish Government. Admiral N. F. Ravn, Minister of Marine in the Hørring Cabinet, who was also provisional Minister of Foreign Affairs, was ready to discuss the matter with Mr. White, but turned Christmas, who accompanied him, out of his office. Christmas returned to the United States and pretended to have a part in the business in association with other lobbyists and go-betweens, on the basis of which he demanded money from the Danish Government. His claim was denied, and when the contest over the ratification of the treaty began he turned to the opponents of the sale and supplied them with scandalous tales of secret corrupt dealings, asserting that Danish ministers had promised a large sum to be expended in influencing statesmen and legislators in Washington and the American press and that he had paid over money for these purposes.

The Rigsdag increased postage rates, chiefly in order to give better pay to employees. The session was closed on May 17 after the Folkething had spent over half a year on the budget, and left it with a prospective deficit of 5,500,000 kroner, making larger military appropriations than the Conservative ministries had ever obtained, yet accomplishing none of the fiscal reforms that Radicals and Social Democrats have called for, such as the abolition of tithes and revision of the whole system of taxation. The Government proposed to make a declaration to the powers that Denmark desired to be neutral in all European wars, such as had been made before, and in a consultation with the Cabinets of Sweden and Norway the policy of all the Scandinavian nations making simultaneous declarations was considered. Elections were held on Sept. 20 to replace half the members. The old Conservative party lost its small majority. Of the new Lands-thing 29 were Extreme Conservatives, 8 Independent Conservatives, 3 Conservatives not belonging to any faction, and 25 Radicals, including 1 Socialist.

DISCIPLES OF CHRIST. The report of the statistical secretary presented to the General Missionary Convention at Omaha, Neb., in October, furnished the following summaries of the churches of the Disciples of Christ: Number of churches, 10,957; of communicants, 1,207,377; of Bible schools, 8,271, with 796,899 pupils, officers, and teachers; of ministers, 6,477; showing gains for the year of 84 churches, 26,836 members, 269 Bible schools, 22,158 members of Bible schools, and 94 ministers. The report gave as the money raised during the year for the various church enterprises: For the Foreign Christian Missionary Society, \$178,324; for the Christian Woman's Board of Missions, \$139,034; for the American

Christian Missionary Society, \$82,931; for the Board of Church Extension, \$54,866; for State and district missions, \$154,059; for miscellaneous missions, \$15,000; total for missions, \$624,214; for education and benevolence (including buildings and endowments of schools, homes for orphans, the aged, etc., and ministerial relief), \$254,753; for local church work (ministerial support, incidental church expenses, church buildings, and church and Bible school literature), \$5,315,000; making the whole amount of annual contributions from all sources, \$6,193,967. Special notice is made of the growth of interest in missions as shown in the increase of contributions for that object from \$4,671 given to one national society in 1874 to \$464,902 contributed to four national societies in 1902—one hundred-fold in twenty-seven years.

The General Board of the convention met in Omaha, Oct. 18. H. O. Breeden presided. Reports were made on church extension, ministerial relief, and statistics, and addresses were delivered on various subjects, in nearly all of which the desirability of Christian union was emphasized. A conference was held on this subject, as the basis of which the following points were set forth: "What modification or modifications of our proposition on the subject of Christian union ought we to make? None whatever. What features of our plea for union ought to be made especially prominent to meet changed conditions? The whole of it. In what ways can we promote union among Christians? By practising it everywhere and all the time."

The Christian Woman's Board of Missions reported 1,716 auxiliary societies with 37,211 members. Its receipts for the year had been \$139,034. More new work had been undertaken during the past than in any previous year in its history. Among the enterprises reported upon were new school-buildings; additional missionaries and new stations in India; special offerings for Mexico and the purchase of a building site there, evangelistic work in Chicago, and State University Bible work in Kansas. The year's receipts of the Home Mission Board had been \$82,931, in addition to which \$134,895 had been contributed to the State boards for their missions, making a total of \$217,826 of offerings by the churches for home missions. Forty-nine more churches and 62 more Endeavor Societies had contributed to the work of the board than in the previous year, and the whole increase of contributions was \$6,039. The board had assisted 274 missionaries in 34 States and in Ontario, Prince Edward Island, Nova Scotia, Manitoba, and Porto Rico, who had visited and assisted 947 places, organized or reorganized 101 churches, and received 11,284 members, of whom 6,419 had been received on confession of faith and baptism. Adding those under the direction of the State boards, 418 home missionaries had been employed. Ten named memorial funds of \$5,000 each, intended to keep one missionary at work, were reported. The sum of \$23,720 had been received in annuity funds, being a gain of \$10,020 over the previous year. The Board of Ministerial Relief had raised \$9,326 during the year. The Board of Church Extension returned \$54,866 of new receipts, \$37,551 received from returns of loans, and \$16,000 from the sale of land, which, with \$84 for insurance, made its total receipts \$108,501, showing a net gain of \$4,850 over the previous year. Its permanent fund amounted to \$345,044. Since the beginning of its operations \$180,658 had been returned on loans, \$60,289 had been received in interest, 655 churches had been aided, and 249 churches had

returned their loans in full. During the year 73 loans aggregating \$79,939 had been made, and loans aggregating \$61,500 promised to 52 churches.

The Foreign Christian Missionary Society had had the best year in its history. Its total receipts, \$178,323, were \$6,425 in excess of those of the previous year, and were derived—\$68,586 from the churches and \$48,117 from the Sunday-schools. The bequests amounted to \$2,947, or \$11,664 less than in 1901, and the annuities to \$29,411. Reports were given of work in China, where there were 19 stations and out-stations; Japan, 44 stations, etc.; India, 13 stations, etc.; Scandinavia, 16 churches; Turkey, 24 stations; Hawaii, 3 stations; Africa, 1 station; Cuba, 2 stations; England, 14 churches; and in the Philippine Islands, 1 church. At these stations 70 missionaries and 234 native helpers were employed, besides the ministers in England; 629 additions were returned, besides more than 5,700 pupils in Sunday-schools and 1,411 pupils in day-schools in China, India, and Japan. Two boarding-schools were maintained in China, hospital

work was carried on in China and India. The Drake Bible College was about to open in Japan, with a fund of \$20,000; and new buildings were in course of erection or to be built in India. The churches in Canada, England, and Australia cooperate with the society, supporting 7 missionaries, while the Canadian churches were preparing to support another.

The annual convention of the English churches was held in Southport in September, with Mr. Leslie T. Morgan as president, who delivered an address on The Reunion of Christendom. An increase of 163 members was reported. Work had been begun in three new places. During the past year the churches had raised \$19,208 for their local work, \$3,546 for home missions, and \$1,233 for foreign missions, making in all \$24,387. In the convention \$2,500 were contributed for home, and about \$400 for foreign missions.

At the annual conference of the South Australian churches, in September, a net gain of 158 members was reported. In Victoria, the number of accessions in six months was about 700.

DOUKHOBORS. (See under MANITOBA.)

E

EARTHQUAKES AND VOLCANIC ERUPTIONS. The year 1902 was one of unusual volcanic and seismic activity. In Mexico, Guatemala, the West Indies, the Aleutian Islands, and Russia severe disturbances occurred, accompanied by great loss of life, while the volcanoes of Vesuvius and Mauna Loa, Hawaii, displayed marked activity. But two apparently quiescent and long-forgotten volcanoes gave the most striking exhibition of the impotency of man against the wrath of nature. In one terrible moment a great blast of hot ashes, rocks, and poisonous gases rolling down from the crater of Mont Pelée, in the island of Martinique, wiped out of existence the beautiful city and commercial center of that island and destroyed its entire population of 30,000, except one who escaped, and that one, a condemned murderer, was confined in an underground chamber. About the same time La Soufrière, in the neighboring island of St. Vincent, similarly burst forth, sending up great clouds of flame and smoke, red-hot cinders, rocks, and ashes, which, in descending, covered the beautiful green fields with desolation and destroyed thousands of lives.

In earthquake countries it is the common belief that after a series of violent shocks the earth must open to let out its pent-up fires, after which the shiverings that constitute local earthquakes subside. The sequence of such events in the early part of the year appears to justify this belief, were it not offset by the fact that in Japan, where the Government keeps a record and studies earthquake shocks more carefully than they are studied in any other part of the world, 1,000 earthquakes have been recorded annually without any unusual volcanic disturbances. However, on Jan. 16, a section of country on the western coast of Mexico was violently shaken, destroying several cities and towns. The earthquake was felt in the City of Mexico, where the people, rushing from their dwellings and offices, became so panic-stricken that many of them threw themselves on their knees in the middle of the streets and plazas, praying for mercy. Telegraph-poles awayed like trees in a gale, but no particular damage was done, and within thirty seconds it was all over, the earth resuming its normal condition of quie-

tude. But Chilpancingo, the capital of the state of Guerrero, which appears to have been in the center of the earthquake zone, was almost totally destroyed. The earthquake occurred on a quiet, pleasant afternoon, about twenty minutes past five o'clock. The ground heaved and shook with such force that not a building was left in Chilpancingo without some damage. The disturbance began with a slight tremor of the ground, accompanied by a rumbling noise such as that made by a heavy truck driven over a roughly paved street. The rumbling swelled, and then distinct oscillations of the ground were felt, and then came an upheaval and a crash. Walls fell outward, roofs fell in, and clouds of dust ascended amid the shrieks of the wounded and dying and panic-stricken. In their wild terror those who could escape fled over the *débris* which blocked their way, never stopping to look back, nor heeding the cries of the maimed, till they had reached the open fields, the usual goal of safety in countries where the people are accustomed to these violent shakings. As the clouds of dust cleared away and the calmer people looked about them, they saw only their ruined town with its streets blocked with the ruins of their houses. The domed roof of the old Spanish church in which the Mexican Declaration of Independence was signed and in which the bones of their patriot, Gen. Bravos, repose had fallen in, burying beneath it two women who were praying. The pedestal that had supported a statue of the general in the little park fronting the church, now supported only a pair of legs, while the body of the statue lay in two pieces on the ground. The belfries of the two churches were cracked from top to base, and the roofs of one-story houses were shaken in and their walls of solid masonry cracked. Comparatively speaking, there was only small loss of life, owing to the fact that the people fled from their houses upon feeling the first tremor of the earth's crust. At Chilapa, another good-sized town within the zone of the shaking, which suffered greatly, the people were gathered in the open plaza, looking at a tight-rope performer. This resulted in many lives being saved that would have otherwise been buried under falling *débris*; but many people went insane with fright, while many contended

that the earthquake was sent in punishment of the sacrilege that had been committed in allowing the performer to tie one end of his rope to the church tower.

A series of earthquake shocks were reported from Guatemala on April 8, and on the night of the 18th they were of such severity that they were

city of many imposing edifices of lime and stone construction, with an estimated population of 25,000 to 30,000 inhabitants. It is supposed by some to have been built within the crater of an extinct volcano, but this is doubtful, the belief having originated from the fact that it is surrounded by high, jagged mountain peaks at an elevation of 8,000 feet above the sea. The only reliable account of the seismic disturbances that shook the Cordilleras and finally destroyed this city appears in a communication from Edwin Rockstroh, a German for a long time in the employ of the Guatemala Government as an engineer. He says that at 8.25 P.M., April 18, an earthquake of more than thirty seconds' duration affected a large part of Guatemala, eastern Chiapas, and western Salvador and Honduras. The intensity of the movement was greatest in western Guatemala, where the second and richest city of the country was completely destroyed, with the loss of about 500 lives. The cities of Sololá, San Marcos, and its sister town, San Pedro Sacatepequez, were also completely ruined, with a loss of more than 200 lives. Retalhueu and Mazatenango, important towns on the Pacific coast plain to the south of Quezaltenango were also ruined. The cities that were most violently shaken were those on the highlands a little north of the great volcanoes that rise in the vicinity of Quezaltenango. Besides the cities named, nearly every town and hamlet in the Department of San Marcos, Quezaltenango, Retalhueu, and Suchitepequez, and several in Chimaltenango, suffered, and nearly every one of the many important coffee and sugar plantations in the western coast regions had its buildings, aqueducts, and machinery shattered. At the port of Ocos only 3 houses remained standing, and the pier extending into the sea was broken in two. Later it was reported that Ocos was sinking beneath the sea. The railways between Retalhueu and the port of Champerico, and the one between Ocos and Coatepec, were interrupted by the falling of bridges and other damage. Until May 5 earthquakes were frequent, extending from Gualan, near the Atlantic coast, to the west, near the Pacific.

It was on the night of May 3 when Mont Pelée began to throw large quantities of scoria and volcanic ash into the surrounding country, and on May 5, two days later, a stream of lava rushed down the mountainside, reaching the sea, 5 miles distant, in three minutes, it is said. When the red-hot stream met the sea the water receded 300 feet on the west coast of the island, returning with great force. Two days later, May 7, a hot blast from the volcano engulfed the town of St. Pierre, destroying everything. Almost simultaneously with the outbreak of the Martinique volcano occurred that of La Soufrière, in St. Vincent.

Forming the arc of a circle, roughly speaking, a string of islands extends around the western border of the Caribbean Sea, from Porto Rico to a point near the continent of South America. The group begins with Saba on the north, and ends with Grenada on the south, near the large island of Trinidad. In this group lie the islands of Martinique and St. Vincent. The islands appear from the sea like mountain peaks, and geologists tell us that they are merely ancient ash-heaps over which time has weathered a soil and moisture has nursed a luxuriant tropical vegetation. On all of the larger ones there are evidences of their volcanic origin in the form of craters and boiling springs; but, with the exception of St. Vincent, none of them seemed to have suffered from any severe eruptions since they were

BROKEN STATUE IN CHILPANCINGO, MEXICO.

recorded by the seismograph in the Isle of Wight, and might have been recorded in any part of the world. It appears that on this night the Cordilleras of Central America were relieved of their seismic strain; villages and towns were shattered and earthquake waves passed over the world, and other unusual phenomena were recorded. On April 23 Mont Pelée showed a plume of smoke, and on May 3 it showed a fiery glow at night from the incandescent lava within its crater. There were low rumblings in the neighboring island of St. Vincent, and its long-extinct volcano, La Soufrière, began its eruptions two days later. On May 8 a geyser or boiling lake in Dominica, about 300 feet in length by 200 in breadth, disappeared completely. About the same time it was reported from Tacoma that Mount Redoubt, Cook inlet, in the State of Washington, was pouring forth dense volumes of smoke, and that it had become luminous in the night. Volcanic ashes fell, and snow near the mountain was covered with ashes. The last eruption of Mount Redoubt occurred in 1867. On May 31 earthquake shocks were felt in various parts of Greece.

Lack of available means of transit comparatively shuts off Guatemala from the rest of the world, and it was not till about the time the world was horrified with the news of the eruption of Mont Pelée and the wiping out of the city of St. Pierre, as also that of La Soufrière, that definite news came from the Central American republic that its second largest and richest city, Quezaltenango, had been completely destroyed by an earthquake, undoubtedly the one that had been recorded on the Isle of Wight in the night of April 18. Quezaltenango was a well-constructed

ST. PIERRE, MARTINIQUE, BEFORE THE ERUPTION.

discovered four hundred years ago; and to such an extent did the inhabitants of Martinique consider themselves as enjoying immunity from such disturbances that they spoke of Mont Pelée, which overshadowed them at a height of 4,428 feet, as an extinct volcano. St. Vincent's volcano, La Soufrière, erupted in 1812, and Caracas, the capital of Venezuela, was destroyed about the same time, when the entire city was shaken down and 10,000 people lost their lives. This fact merits attention because about three months previously to the recent eruption of La Soufrière Caracas and the country about it suffered from considerable seismic perturbation. In both instances the disturbances in the northern part of Venezuela preceded the eruption of the St. Vincent volcano. La Soufrière mountain rises to an altitude of 3,500 feet. Previously to the recent eruption it had two craters, known as the old and the new. The first was 3 miles in circumference and 500 feet deep, and was separated from that which was known as the new crater, formed in 1812, by a ridge of igneous material. This crater was half a mile in diameter, with a beautiful lake at the bottom, walled in by rocky cliffs to a height of 800 feet, covered with verdure, and fringed over the top with a growth of dense forest.

The first news of the outburst of either of these island volcanoes to reach the United States was a despatch of May 6 from St. Thomas, W. I. On the same day severe earthquake shocks were reported from Spain at Barcelona, Saragossa, Irun, Tafalla, and Murcia. At the last-named place the cathedral, a convent, and several houses suffered damage. At Alberique, in Valencia, houses were destroyed and a school-building and a church suffered severe damages. The disturbances dislodged great masses of rock in the Fuen-Santa mountains, and similar shocks were reported from Bordeaux, Bayonne, Pau, and other places in that region. On May 9 the London Times published a despatch from the West Indies saying that the Martinique volcano had destroyed St. Pierre on the day previous, and that the steamer Roddam had returned to St. Lucia at 5 P. M. from that city, almost a total wreck from fire, with 17 of her crew dead and the survivors badly burned. The captain reported that he had barely been able to make his escape from the harbor of St. Pierre, and that the Quebec steamer Roraima was lost with all the crew in the harbor, with the rest of the shipping. May 10 a fuller report was given of the terrible disaster. The French cruiser Sachet attempted to make a landing at St. Pierre, but was forced to desist, owing to the terrible heat. The crew reported dead bodies lying all about the wharves and shore, and 30 survivors, more or less burned, were picked up from the sunken vessels in the harbor. Consul L. H. Aymé reported to the State Department from Guadeloupe that 18 vessels were burned and sunk, including 4 American vessels and the steamer Roraima. Among those lost was the cable-repair steamer Grappler. The Roddam carried the first news of the disaster to St. Lucia, whence the outside world was informed, the cable from Martinique having been interrupted since Sunday, May 4. The Colonial Office at London received a despatch dated May 8, announcing the outbreak of the St. Vincent volcano, La Soufrière, from the Governor of the Windward Islands, then at Kingston. A later despatch from St. Lucia announced that cable communication was broken off with St. Vincent, and a despatch from Bridgetown, Barbados, more than 100 miles away to the east, said that loud reports like cannonading had been heard in the direction of St. Vincent, and

that volcanic dust from the volcano had been falling all over the island in great quantities. Orders were immediately cabled by the British Government to the cruiser *Indefatigable* at Trinidad to go at once to the relief of St. Vincent. A subsequent cablegram from Barbados reported the continued rumbling sound resembling artillery fire in the direction of St. Vincent, and at 5 P. M. darkness set in, with thunder and a downpour of dust. It was also reported from Pointe à Pitre, Guadeloupe, that La Soufrière had been in a state of eruption for nine consecutive mornings.

The Secretary of the Navy cabled from Washington to Capt. McLain, of the cruiser *Cincinnati*, at Santo Domingo city, to go with the utmost haste to Martinique and render such assistance as was possible, and at the same time he ordered the commander of the Brooklyn Navy-Yard to prepare the *Dixie* for sea as soon as possible. The State Department ordered Consul Aymé, at Guadeloupe, to go to the scene of the great disaster to report thereon, and inform the United States of the help needed.

A definite report was received from St. Vincent on May 11, which said that on the 5th a loud explosion was heard proceeding from La Soufrière crater, and that the water forming the lake within ascended in a stupendous cloud of steam and exploded high in the heavens. Explosions and noises continued till May 7, when the old crater, 3 miles in circumference, and the new crater, both belched forth smoke and stones, forcing the inhabitants of Wallabou and Richmond valley, beneath the volcano, to fly to Chateau Belair for refuge. At midday the craters ejected enormous columns of steaming vapor, which, rising 8 miles high, expanded in the form of huge cauliflowers through which flashed streaks of fire resembling lightning. Later the mountain rid itself of a mass of molten lava, which flowed over its sides, forming 6 red-hot streams down its slopes. About 2,000 lives were reported lost, whole families were exterminated, and the bodies were left unburied.

The United States took the lead among nations in helping France in the work of rescue and relief of her unfortunate citizens, and both the executive and the legislative department of the Government prepared for the work. A resolution passed the Senate on Saturday, May 10, under

RUINED CHURCH IN CHILPANCIÑO, MEXICO.

suspension of the rules, providing for an appropriation of \$100,000 for the relief of the citizens of the French West Indies, and authorizing the President to purchase provisions, clothing, medicines, and other supplies and to tender them in the name of the United States Government to the French Government for the relief of the af-

flicted people; and the Secretary of War was authorized to use such vessels as might be necessary for the quick transportation of the articles. This bill was held up in the House by being re-

Dr. E. O. Hovey, of the American Museum of Natural History, also went on the *Dixie*, as well as newspaper and magazine correspondents, photographers, and artists. The *Dixie* reached

A WEALTHY CITIZEN'S RESIDENCE, QUEZALTENANGO, GUATEMALA, RUINED BY THE EARTHQUAKE.

ferred to the Committee on Appropriations; but when the President informed Congress on the following Monday in a special message that the French Government had asked for relief, and urging immediate action, also recommending that the appropriation be increased to \$500,000, the House increased the Senate appropriation by \$100,000 (on May 12). The War Department at once ordered the *Dixie* to load the necessary stores, and by direction of the President, Secretary Hay cabled Ambassador Choate at London to express to the British Government the sympathy of the President and the people of the United States in the affliction that had befallen the island of St. Vincent, and our desire to share in the work of relief and rescue.

The *Dixie* sailed from Brooklyn in the night of May 14, at 9 o'clock, bearing the relief expedition to the unfortunate islands, including a special scientific expedition to investigate the regions of the disturbances under the auspices of the National Geographical Society. Its members consisted of Prof. Robert T. Hill, of the Geological Survey; Prof. Israel C. Russell, Professor of Geology in the University of Michigan; Comd. C. E. Borchgrevink, antarctic explorer; Dr. T. A. Jaggar, of Harvard University; Mr. G. C. Curtis, of Cambridge; and Dr. Angelo Heilprin, president of the Philadelphia Geographical Society. This was one of the most important and best equipped expeditions ever sent out to study volcanic action.

Fort de France, Martinique, on the morning of May 21, and while the explorers proceeded to St. Pierre in a smaller boat she unloaded a part of her supplies. A desolate scene met the gaze of those who debarked among the ruin and piled-up *débris* and volcanic ash on what was once the beautiful city of St. Pierre. There was not a person in sight or a living thing among all this ruin, except where a squad of French soldiers were busy far up the slope piling up the dead to be cremated. Prof. Russell estimated that about 20 square miles had been devastated on the western slope of Mont Pelée, and in all that space not a living thing was left. Fire followed the hurricane of hot vapor, and a rain of rock dust buried what the fire left uncovered. Never in the history of man had such complete destruction been wrought on an area of equal size. As to the precise nature of the blast that destroyed the city, the opinions of the commission seem to differ. Prof. Russell favors the opinion that the general cause of death was a blast of steam charged with hot dust. The people on the border of the devastated area who escaped, and who in some instances were injured, suffered from burns inflicted by hot dust that adhered to the skin. Witnesses who were on the *Roddam* in front of St. Pierre at the time of the disaster say that when the eruption occurred the vessel was struck with such force by the material ejected that she was nearly capsized, and at the same time she seemed to be enveloped

in a whirlwind of fire. It appeared to them that what burst from the volcano was highly heated gas, carrying with it immense quantities of white-hot volcanic ash. After the vessel reached the harbor of Castries, St. Lucia, a survivor gave the following account of his experience: "No human being could stand against that terrific deluge of molten ashes. Even those who reached the cabin or the hold did not escape, almost every nook and cranny of the ship being filled with the blazing dust. Capt. Freeman sought shelter in the chart-room, but, the port-holes being open, the fire streamed in and burned him horribly on the face and hands. The heat was awful, for the mass of ashes that poured into the ship all aglow retained their heat, and it was only with the greatest difficulty and caution that it was possible to move about."

From such testimony as could be gathered, it appears that a fissure opened on the side of the mountain overlooking the city and belched out lava, superheated steam, and poisonous gases. This rolled in a great cloud like a hurricane down upon the doomed city, and in three minutes, as estimated by some, every living creature, except the man in the underground cell, was dead.

From Martinique the *Dixie* proceeded to St. Vincent, where more of her supplies were issued to those who had been driven from their homes. Here not so many lives were lost as in Marti-

have been no hurricane blast of steam or gas charged with burning dust sweeping down upon any part of the island, as in Martinique. The words of a survivor show how most of those who were killed died: "A dark cloud came from La Soufrière about 4 P. M., and a fine leaden powder filled the air, penetrating the doors and windows of the houses. People breathed it, and it was so hot it burned the flesh. The people in the houses began to cry out and struggle, shouting for water; and, placing their hands on their stomachs, they gasped, fainted, and died. The hot powder burned into the flesh wherever it touched."

The eruptions appear to have been heard at Maracaibo, Venezuela, 830 miles away. The United States consul at that place reported that on the morning of the eruption of Mont Pelée he heard a noise as of cannonading. Eruptions of both volcanoes continued through the summer. Soufrière was reported in eruption on Oct. 8, causing even greater distress in the island than that which prevailed before. Large areas of land that were considered outside the volcanic zone were buried in sand. Dust continued to fall in Barbados, with a very strong smell of sulfur, for several days, producing a deposit about an eighth of an inch in depth. Again on Oct. 15 and 16 La Soufrière increased its area of destruction.

The eruption of Mont Pelée continued through August. On the night of Aug. 28 a magnificent

BELL-RING IN QUEZALTENANGO, GUATEMALA, RUINED BY THE EARTHQUAKE.

nique, as there was no large city within the zone of destruction, and those who were within the zone, unlike the people of Martinique, sought refuge at the first mutterings of the volcano. Nevertheless, the destruction was terrible, due to dust, lapilli, and stones, which rained down upon everything while yet hot. But there appears to

display of lightning was seen issuing above the mountain. It seemed to shoot out from the mountain in all directions, zigzagging and flickering flashes alternating with or accompanied by reddish globes of fire, which ascended and exploded and shot out stars and long rays. Two days later there was another disastrous eruption of

Pelée, accompanied by an enormous discharge of steam and hot water, even greater than in the case of the earlier eruptions. As there were no large rivers or lakes to supply water in sufficient quantity to produce the phenomenon, it is supposed that the sea got in by some fissure and, reaching the fire feeding the volcano, was blown out at the top. Much alteration was discovered in the bed of the sea near the volcanoes; the cable-repair ship reported that the depth had increased in some places a half-mile. Unprecedented difficulties were encountered in the endeavor to repair the cables between St. Lucia and St. Vincent, and St. Lucia and Grenada. The section between St. Lucia and St. Vincent was buried in mud. On the night of Aug. 30 Mont Pelée again sent out one of its extraordinary explosions of hot water and red-hot dust, and the pretty little village of Morne Rouge, which had barely escaped the St. Pierre disaster, was engulfed and 1,500 persons were killed.

On Aug. 27 Gen. Chaffee reported from the Philippine Islands a series of earthquakes in the Lake Linao country in the Moro section of the island of Mindanao. Up to that time 400 shocks had been felt since Aug. 21. Severe earthquake shocks were also reported from the island of Guam. A volcanic eruption was also reported in August from Tori Shima, and a vessel that was sent out to investigate the disaster in that island returned to Yokohama on Sept. 1, and reported that Tori Shima was in a state of utter ruin, and that its population of 150 had all been destroyed. The island was found buried beneath the *débris* of a volcanic eruption that was still in progress. The disturbance was distinctly visible from a distance of 25 miles. The vessel drew as near the island as possible, but at the distance of about a mile it was thought dangerous to go any nearer. Tori Shima is in 30° 28' 26" north latitude, 140° 14' 20" east longitude, and rises 1,200 feet above sea-level. It is about 1½ mile long by 1 mile wide. About a mile south of Tori Shima a submarine volcano was reported sending up huge columns of mud and water to a height of about 600 feet at intervals of ten and fifteen minutes.

On Oct. 30 a cable despatch to Castle Brothers, coffee importers in San Francisco, announced the eruption of one of Guatemala's many volcanoes, Santa Maria. Only meager details were given, but the despatch said that the entire coffee zone of western Guatemala had been buried in ashes, and that the flames from the volcano threatened every living thing in the vicinity. This volcano is between Retalhulue and Quezaltenango, and is about 50 miles from the Pacific coast, near the center of the earthquake zone that destroyed those towns in April last. The volcano had been quiet for many years. Additional details from Guatemala were that it began to erupt on Oct. 25, and continued active till Nov. 9. The country within 30 miles was rendered a desolate waste, and every vestige of life was destroyed. The loss of human life was placed at 7,000, mostly Indians, and 10 villages, with populations varying from 50 to 5,000, were wiped out, the Indian huts being buried beneath tons of volcanic *débris*. Porfirio Herrera, who owned a valuable coffee plantation 7 miles from the volcano, reported that when the eruption ceased, on Nov. 9, he went to his plantation and found it buried 11 feet under ashes, mud, and sand. Everything was in ruins, the residence was destroyed, and of his 112 laborers, all but 7 had perished. These happened to be away when the eruption began and they took refuge in a cave.

On Dec. 5 it was reported at Honolulu that the inhabitants of Savii, the most southern of the Samoan group, had been removed to other islands of the group, owing to a volcanic eruption and continued excitement of the people, who feared a repetition on a smaller scale of the Martinique disaster. Earthquakes shook the little island with great violence and were of exceptional duration. Great stones were sent rolling down the volcano's sides, blocking roads and damaging groves and fields. Great yawning chasms opened in the earth, extending long distances and to an unknown depth. Panic-stricken, the entire population deserted the vicinity of the mountains and fled to the seashore, where they were picked up by the German authorities, who ordered the evacuation of the island till such time as the disturbances should subside.

EAST AFRICA. The strip of coast over which the Sultan of Zanzibar formerly exercised sovereign rights was leased by him to Germany, Great Britain, and Italy, and these three powers subsequently made agreements dividing among themselves the Hinterland as far as the borders of the Congo State and the equatorial provinces of Egypt. German East Africa extends from the Umba river southward to the Rovuma river, which is the northern boundary of the Portuguese possessions on the east coast. British East Africa extends from the Umba northward to the Juba, where the Italian sphere begins, and in the interior borders on Abyssinia. Zanzibar itself was declared a British protectorate in 1890.

German East Africa.—The German protectorate has an area estimated at 384,180 square miles and is supposed to have a population of 8,000,000. It is divided into 9 districts, in each of which is an administrator assisted by a council. At the head of the administration is the Imperial Governor, Graf von Götzen, who resides at Dar-es-Salam. A decree was issued in November, 1901, for the mitigation of slavery and its ultimate abolition. The military force consisted in 1901 of 176 German officers and sergeants and 1,692 native troops, the police force of 20 German officers and 570 Askaris. The number of Europeans on June 30, 1900, was 1,139, of whom 872 were Germans. Native planters cultivate bananas, corn, and pulse. German settlers have planted coconut-palms, coffee, vanilla, tobacco, cacao, rubber-trees, and various fiber plants. Many tropical plants have been tried in the Government experiment stations, and new breeds of cattle have been introduced as well as asses, mules, and camels. The natives raise goats and some cattle, hogs, and sheep. Dar-es-Salam and Bagamoyo have about 13,000 inhabitants each; Pangani, Saadani, and Kilwa, 10,000; Lindi, Mikindani, and Tanga, 5,000. A railroad from Tanga to Muheza, 54 miles, has been continued to Mombo, 28 miles farther, and thence to Korogwe, through which pass the two main trade routes to the lake country. Another will run from Dar-es-Salam to Mrogoro, and a telegraph-line to Kilossa. The seaports are connected with each other by telegraph-lines and with Zanzibar by a cable. The expenditure for 1903 is estimated at 9,601,496 marks, of which 2,186,296 marks are covered by the estimated local revenue, and 6,415,200 marks are contributed by the Imperial Government. The total value of imports in 1900 was 11,430,500 marks. The value of exports was 4,293,600 marks. Imports of provisions were 776,600 marks in value; textile goods, 3,649,700 marks; hardware and iron manufactures, 1,897,300 marks; rice, 1,353,200 marks. Rubber was exported to the amount of

1,058,700 marks; grain, 373,375 marks; coffee, 274,800 marks.

German enterprise is mainly in the hands of the German East Africa Company, founded in 1890 with a Government grant of 6,500,000 marks. The plantations of the company are constantly being extended at an outlay exceeding the annual sales of produce. The company has the coinage privilege, and makes a small profit out of the difference between the cost of silver and the nominal value of the rupees and half and quarter rupees coined. The privilege of mining in the stream beds of the East Africa Protectorate has been reserved to the Government. German merchants who formerly had agencies in East Africa lost through giving credit to Arabs. The trade of the interior has fallen into the hands of Greeks, Arabs, and Banians. Labor is abundant in the German protectorate at rates which the Government has fixed that are twice as high as those paid on the British side of the border. The pay of the native soldiers and Soudanese in the German military force is equally liberal. The roads in the German protectorate, one from Bagamoyo through Dar-es-Salam to Tabora, thence branching off to Muanza on the Victoria Nyanza and Ujiji on Lake Tanganyika, another from Kilwa on the coast to Withaven on Lake Nyasa, are the best in central Africa. The Tabora route to the two northern lakes has been selected for a Government railroad or one with a Government guarantee.

British East Africa.—The British East Africa Company, provided with a royal charter from the English Government, took possession of the coast north of the Umba, leased for fifty years from the Sultan of Zanzibar, as far as Kipini, which was recognized as the northern limit of the Sultan's dominions on the mainland. The interior was claimed as a British sphere and conceded as such in the Anglo-German agreement of Nov. 1, 1886, and the supplementary agreement of July 1, 1890. An agreement was made with Italy in 1891 conceding the region north of the Juba river as an Italian sphere of interest. The British East Africa Company, having occupied Uganda and the countries beyond as far as the Semliki and becoming involved in warfare with the natives, resigned its responsibilities in 1893 into the hands of the Imperial Government, which proclaimed a British protectorate over Uganda on June 19, 1894, and over the region between the coast and Victoria Nyanza on June 15, 1895. The latter region, the *British East Africa Protectorate*, has an estimated area of 280,000 square miles and a population estimated at 2,500,000, including 25,000 British Indians and 450 Europeans and Eurasians. The British agent and consul-general at Zanzibar is Commissioner and consul-general having control of the administration. The dwellers are Arabs and Suahelis. Parts of the interior are inhabited by Bantu negro tribes, other parts by Masais, Somalis, and Gallas. Mombasa, the seat of the local administration, has a population of 27,000. The revenue in 1901 was £84,750, and the expenditure £157,886. The value of imports was 6,662,131 rupees, and of exports 1,259,385 rupees. Banian merchants carry on the trade. A duty of 5 per cent. is levied on imports under the Brussels act. The Indian code of law has been adopted, modified by local customs. Domestic slavery is legal on the coast strip leased from the Sultan of Zanzibar; elsewhere it is prohibited. There is a military force of 1,000 Soudanese, Suahelis, and Masais, known as the East African rifles, and 300 Soudanese besides; the police force numbers

650. The exports are ivory, rubber, cattle, goats, grain, gum copal, and hides. Cotton cloth is imported from England and India, and the only other considerable imports, except provisions, are brass wire and beads for barter with the natives of the interior. The protectorate embraces Seyyidieh, the 10-mile strip leased from the Sultan of Zanzibar; Ukamba, comprising Teita, Kitui, Masailand, Ulu, and Kenia; Tanaland, with Lamu for its capital; and Jubaland, the capital of which is Kismayu. The British Government in 1902 made grants in aid of £93,000 to the British East Africa Protectorate and £172,000 to Uganda, and contributed £80,000 to Somaliland and £50,000 to British Central Africa. Under the Uganda Railway act £870,000 were spent in the year ending March 31, 1902, on the railroad, the lake end of which was in Uganda, but in April, 1902, the boundary of the East Africa protectorate was moved so as to include all the country between the lake and the ocean.

Slavery still exists in the coast strip under sanction of the law, the British Government having refused to abolish the legal status of slavery, although the Sultan of Zanzibar was persuaded to do so within his own remaining dominions, the islands of Zanzibar and Pemba. In Pemba, where there were 25,000 negro slaves on the clove plantations of the Arabs, 5,000 have obtained emancipation under the decree of April, 1897, which enables any slave to go before a magistrate and obtain emancipation papers by declaring his wish to be free. Of late very few have sought their freedom, only 240 in 1901. The introduction of fresh slaves into the islands or into the coast strip, now a part of the East Africa Protectorate, has been forbidden since 1896. Nevertheless, slaves have been brought in or illegally held by the Arab planters, who have not been restrained by the authorities. Bishop Tucker asserts that 90 per cent. of the slaves are held in illegal bondage. Under the social customs and the regulations in force as to freed slaves the condition of a freeman is worse than that of a slave. He loses the regard and protection of his master and the society and companionship of his fellows, and is left alone in the world. The Arabs allow these freedmen the use of a house and patch of land if the latter will work half the time on their plantations, and thus they get their land cultivated by freedmen as well as by slaves without paying wages. Under the native laws a slave has rights against his master for maintenance, care in sickness, and other matters, which he forgoes when he obtains his freedom. The slaves in Zanzibar and Pemba are generally so comfortably off and some of the freed slaves so much worse off than they were before that the desire for emancipation no longer exists, those who were ill treated having already obtained their freedom in most cases. The fact that any slave who is ill treated can claim his freedom operates to alleviate the condition of the mass who remain in slavery in the immediate dominions of the Sultan. In the 10-mile strip of the mainland, where domestic slavery can be lawfully maintained, there is no such palliating check. Beyond the 10-mile strip slavery is not legal, though it exists where the Arabs have plantations, and the buying and selling of slaves still goes on in many parts of the East Africa Protectorate.

The protectorate proclaimed in 1894 over Uganda and the neighboring countries has been extended since 1896 until it embraces all the British sphere west and north of the East Africa

Protectorate, being bounded by the parallel of 5° of north latitude on the north, by the meridional line passing through the middle of Lake Rudolf, the parallel of 1° of north latitude and the German frontier on the south, and the frontier of the Congo State on the west. The eastern province is to be transferred to the East Africa Protectorate. The estimated area of the Uganda Protectorate with its present limits is 140,000 square miles. Uganda proper is ruled under British direction by 3 native chiefs in the name of a Kabaka, or King, Daudi Chua, the infant grandson of Mtesa. Other districts are governed under native laws by native rulers more independently of British control, although in 11 out of 18 districts British supervision is recognized and the position and revenues of the kings are regulated by treaty. The British Commissioner, consul-general, and commander-in-chief of the forces is Lieut-Col. James Hayes Sadler. Uganda proper has a population of about 1,000,000, the majority of whom are Christians. The Eastern, Rudolf, and Central provinces, and the Nile province, which extends from the Victoria Nyanza northward as far as Lado, the southern limit of the Egyptian Soudan, are inhabited by Masai and Soudanese, and the Western province by Bantu and Soudanese and some tribes of dwarfs near the Semliki river. Including the kingdom of Uganda, the total population is estimated at 4,000,000. The military force under the commander-in-chief numbers about 4,000 men, consisting of a native battalion, the remnant of the Soudanese rifles brought into the country by the British East Africa Company, the rest having mutinied and returned to the Soudan, an armed native constabulary, bodies of native levies, and a battalion of Indian troops who volunteered for native regiments in India to serve three years in Uganda after the mutiny of the Soudanese troops. The native battalion of African rifles consists of 9 companies under 25 British officers. Another battalion of 600 men from the Central African Protectorate, which served in the Ashanti war and was afterward stationed at Zomba, was held in readiness to serve in Uganda if needed. An armed steamer on Lake Victoria and 2 steam-launches, with some sailing vessels, form an efficient naval force. The seat of the British administration is Entebbe, which is the terminus of the Uganda Railroad. This railroad was completed on Dec. 19, 1901, to Kisumu and Port Florence, on the lake. The length from Mombasa to Port Florence is 583 miles. The British Government built the line at a cost of £4,815,600. Ivory, rubber, and cattle are exported. Germans, Englishmen, Bombay Banians, Persians, and Arabs carry on the trade. The natives of Uganda pay a hut-tax and a tax on firearms. The total local revenue for 1903 is estimated at £60,000. Roads for wheeled traffic are being made through Buddu province and from Entebbe, on Lake Victoria, to Butiaba, on Lake Albert. The hut-tax is levied through the agency of the native regents and chiefs who retain a share of it for themselves. In case the people refuse to pay or are incited to resistance by the head men, who are deprived of the imposts they formerly levied, the authorities will not resort to extreme measures to collect the tax. The natives are encouraged and trained to grow cereals, vegetables, and fruits, to domesticate useful animals, and to collect rubber and other wild products. Mining and land regulations have been framed with a view of attracting capital and white settlers, though no promise of Government assist-

ance is held out to intending settlers. The new railroad is expected to develop a considerable external commerce. At some future time the Nile route will be opened by making a navigable channel from Nimule to Gondokoro, and then there will be a double outlet for the products of Uganda and the adjacent countries. Although the revenue is increasing, it can not be expected to meet the expenditure for years to come. There are several regions that are suitable for colonization by whites. Besides the extensive Nandi country, sparsely inhabited by a turbulent people, which lies northeast of Lake Victoria and has been detached from Uganda and annexed to the British East Africa Protectorate, there are districts between the Victoria and Albert lakes and on the slopes of the Ruwenzori range where white families could live and rear their children, but none such below an elevation of 5,500 feet. There are large tracts suited to agriculture and others where cattle can be reared, and horses in the areas free from the tsetse fly. Regions unhealthful for Europeans include what are now the productive parts of the protectorate, thickly peopled by races representing all the types found in Africa—Hamitic, Semitic, Bantu, negro, pygmy, and their intermixtures, and some of these are capable of civilization and industrial development if their prospects are not marred by injustice and misrule.

Major C. Delmé Radcliffe, who had civil and military control in the Nile province, conducted in 1901 an expedition into the Lango country to reduce the people to subjection and capture the remnant of the Soudanese mutineers who had settled among them and formed with the chiefs the pact of blood brotherhood. The mutineers with their Lango allies carried on raids as far as Acholi and entered into a league with Rajumba and other rebels in Unyoro, who persuaded the natives that Kabarega, their king, would return. When the British officers with their force of loyal Soudanese and Baganda troops entered the Lango country they found that some of the tribes were on bad terms with the mutineers and the chief who had received them, Obokhe by name. Others could be induced to take sides with the British if they could be freed from the obligations of blood brotherhood. The English doctor invented a charm that broke the spell, which he accomplished by making them thoroughly sick by an injection of morphine in the cicatrix, followed by nauseous doses. Since the capture of Mwanga and Kabarega none of the British expeditions had been thorough enough to disturb the Soudanese rebels and the Lango tribes that befriended them. When Major Radcliffe began his operations they offered a strong resistance, which they were encouraged to continue when smallpox broke out among the Government troops. The British persisted, however, and scoured the country until they had killed or captured nearly all the mutineers and made a prisoner of the Lango chief who protected them, which they were enabled to do by the active aid of three other native chiefs and a force of native levies that operated from the southeast, despatched by Sir Harry Johnston, who as special commissioner was examining the region west of M. Elgon. The operations lasted nearly six months. As in the earlier pursuit of the mutinous Soudanese, the Government had to rely mainly on the Soudanese troops that remained loyal. In 1902 many of the troops of the protectorate were stationed in Unyoro and near the Semliki and toward the German frontier, which was delimited by Major Radcliffe and

Major R. G. T. Bright and German commissioners. Major Bright and Major H. H. Austin in 1901 conducted an expedition from the Nile up the Sohat river, and thence overland through the Rudolf province of Uganda, to which the Abyssinians lay claim, to the British post on Lake Baringo, losing in the journey three-fourths of their Soudanese soldiers and attendants, as none of the tribes of the disputed region would furnish them with food.

The railroad has wrought great economical changes in the country through which it runs and in Uganda. Where wire, beads, and cloth were used in exchange rupees are now current. The journey from Mombasa to Port Florence takes two days and a half, the steamer journey of 148 miles to Mengo one day more. The caravan journey occupied seventy days. Suahili is spreading as the language of commerce and general intercourse. There are 90,000 Christian converts in Uganda and 90,000 children in the mission schools. The route of the railroad through the British East Africa Protectorate is mountainous, rising to 7,700 feet above the sea 350 miles from the starting-point, falling to 6,000 feet in the next 75 miles, rising again to 8,300 feet in 65 miles, and finally descending to 3,700 feet at the lake terminus. Little unskilled and no skilled labor could be found in the country, and this necessitated the importation of 20,000 laborers and mechanics from India, for whom supplies had to be brought from India and Great Britain, and in the dry tracts water was transported from 20 to 60 miles. The railroad was the only means of transport, since pack animals could not live in the country, owing to the tsetse fly. The workmen suffered from fevers and from ulcers caused by jiggers, and in some parts they were frightened from their work by man-eating lions. The maximum grade on the line is 1 in 50; the sharpest curves have 800 feet radius.

The sultanate of Zanzibar, comprising the islands of Zanzibar and Pemba, was declared a British protectorate in 1891. The Sultan, or Seyyid, in the beginning of 1902 was Hamud bin Mohammed bin Said, who was set up by the British on the death of Seyyid Hamed bin Thwain on Aug. 27, 1898. The Sultan receives an allowance of 195,000 rupees from the public revenue for the maintenance of his court and harem, and no expenditure can be incurred without the consent of the British agent and consul-general, Sir C. N. E. Elliot. The military and police force of 900 men is commanded by Gen. A. E. Raikes. The Prime Minister is A. S. Rogers, appointed in November, 1901. A duty of 5 per cent. in aid of the suppression of the slave-trade was imposed from Oct. 1, 1899, previous to which date Zanzibar had been since Feb. 1, 1892, a free port. The legal status of slavery on the islands was abolished on April 6, 1897. The area of Zanzibar is 640 square miles; of Pemba, 380 square miles. The population of Zanzibar is about 150,000; of Pemba, 50,000. The foreign population includes about 50 English, 40 Germans, and smaller numbers of American, Greek, French, Italian, and other traders. The native population, aside from about 7,000 East Indians and 10,000 Arabs, consists of negro slaves and ex-slaves. The town of Zanzibar has about 100,000 inhabitants. The revenue is derived from customs and a tax on produce. The value of imports in 1900 was £1,116,041, and of exports £1,167,794, including only the commerce with foreign countries. The imports of cotton goods were valued at £255,720, and exports at £264,701; imports of rice at £159,353; imports of ivory at £94,817,

and exports at £115,354; imports of grain at £33,482, and exports at £98,351; imports of groceries at £54,326, and exports at £55,168; imports of kerosene at £37,102; exports of cloves at £158,148. Cloves are the chief product. The tonnage entered in 1900 was 348,405 tons. The value of the trade with different countries in 1900 is shown in the following table:

COUNTRIES.	Imports.	Exports.
British India.....	£406,902	£123,123
German East Africa.....	180,628	487,811
Great Britain.....	106,400	106,166
United States.....	60,781	81,477
British East Africa.....	72,507	101,530
Germany.....	67,331	36,592
France.....	28,660	56,907
Belgium.....	51,066	.....

Sultan Hamud died, and Seyyid Ali, his minor son, was on July 20, 1902, proclaimed his successor and A. S. Rogers was appointed regent until the new Sultan attains the age of twenty-one.

British Somaliland, on the Gulf of Aden, formerly a dependency of Egypt, was declared a British protectorate in 1887, delimited by agreement with Italy in 1894, and in 1897 an arrangement was made with the Emperor of Abyssinia by which 7,000 square miles were conceded to him. The present area is about 68,000 square miles. The revenue in 1901 was 334,858 rupees; expenditure, 389,557 rupees. The value of imports at Berbera and Bulhar in 1901 was 2,838,776 rupees, and of exports 2,170,403 rupees. At these ports a duty of 5 per cent. is levied on imports and a 3-per-cent. duty on exports. At Zeyla, where the import duty is 5 per cent. on some articles and on others from 1 per cent. up, and the export duty is only 1 per cent., the imports were 3,070,577 rupees and the exports 3,289,919 rupees in value. Cotton goods, rice, and dates are imported. The exports are hides and skins, cattle, sheep, gum, and ostrich-feathers. The administration of the protectorate was left with the Indian officials of Aden till 1898, when it was taken in hand by the Imperial Government.

Col. Swayne, who in 1901, cooperating with an Abyssinian army, carried on an indecisive campaign against the enemy to the British in Somaliland, Mohammed Abdullah, called the Mad Mullah, resumed operations in the spring of 1902. When the British force concentrated at Burao the Mad Mullah gathered his followers, who were increased by the hitherto neutral eastern tribes, against which Col. Swayne led a flying column in May. The combined forward movement followed. The friendly tribes gave aid to the British. The Mad Mullah retired as before into a waterless region, the Haud country. A mounted column under Col. Cobbe seized the camels and sheep of some of the Mullah's allies. Other animals were captured by a second column under Major Phillips. The main column endeavored to get between the Mullah and the tribes that supported him. The British force marched and countermarched on short rations, but were not able to overtake the enemy. The Somalis on their fleet ponies always evaded a fight, although the British formed a camel corps to enable them to move faster. On Oct. 6 the British main column, advancing from the zareba, or fortified camp, against the Mullah at Mudug, was surprised while marching through the dense jungle. The native levies were rallied, and they beat off the tribesmen, only to be attacked on the other flank. The transport and the firing-line were

thrown together in confusion and the artillery was driven back. Many camels were captured by the Mullah, and one of the Maxim guns. Col. Swayne finally checked the Mullah's horde by a gallant charge and retook some of the camels. Major Phillips and another officer and 50 men were killed and about 100 wounded. Col. Swayne retreated to Erego and called for 600 reliable men to reenforce his command, numbering about 3,000, mostly Somalis, whose loyalty and confidence in their leaders were shattered owing to the mishap. A much larger development of force was required to awe the Mullah and the hostile Somalis, who now had allies in the Italian protectorate. Col. Swayne was compelled to continue his retreat northward from the Italian border into the center of British Somaliland. The rainy season was beginning, in which the Somalis, as well as the British, could move more freely. None of the sheikhs or mullahs of Somaliland, of whom there are about 15, each at the head of a village of cultivators, has shown hostility to Europeans until the fanatical Mohammed Abdullah began to preach a holy war against Christians. His supporters came from the nomadic Somalis, who rear sheep, goats, cattle, asses, horses, and camels, and are addicted to plundering. One tribe often sends out a party of horsemen to carry off the live stock and grain of a neighboring tribe, but they never attack the settlements over which the pious mullahs preside. White traders and hunters have usually been respected until the troubles arose in British Somaliland which have almost put a stop to the commerce of Zeila, Berbera, and Bulhar. The Somalis are an active and intelligent race, fine horsemen and skilful fighters with native weapons, proud of their Arab blood, regarding as an inferior race the pure Gallas who live to the west of them. The force that the Mad Mullah led against the British was 12,000 strong at the end of 1901, and in 1902 he had at least 15,000 followers, many of them armed with rifles.

Italian Somaliland.—The sultanate of Obbia was declared an Italian protectorate in 1889, and the Mijertain Sultan accepted Italian protection for a part of his dominions and agreed not to conclude treaties with other powers regarding the rest. The ports of Brava, Merka, Mogadocio, and Warsheik and a zone extending 180 miles inland by cession of the Sultan of Zanzibar in 1892 and by agreement with England in 1891 and 1894 were included in the Italian sphere, the total extent of which is estimated at 100,000 square miles, with about 400,000 inhabitants. The agreed boundary between the British and Italian spheres is the Juba river up to 6° of north latitude, that parallel to 35° of east longitude, and that meridian northward to the Blue Nile.

French Somaliland.—The French occupied Obok in 1881 and proclaimed a protectorate over Tajura, Sagallo, and Ambado in subsequent years. France claims also the Bay of Adulis. The area of the French sphere is estimated at 45,000 square miles, with 200,000 inhabitants. The port of Jibouti has 15,000 inhabitants, including 2,500 Europeans. The people of the country are Danakils and Gallas. A railroad to Harar has been built for a distance of 100 miles, and caravans travel at regular intervals between the present terminus and Harar. The imports are grain, provisions, tobacco, beverages, and cotton and silk goods. The exports are ivory, sheepskins, gold, civet, coffee, and gum arabic. The value of imports in 1900 was 5,929,107 francs, and of exports 693,013 francs. The local revenue and

expenditure was 581,000 francs, and the expenditure of France 200,000 francs. The fisheries off the coast are valuable.

ECUADOR, a republic in South America. The legislative power is vested in the Congress, consisting of a Senate of 32 members, 2 for each province, and a House of Representatives, 41 in number, elected for two years by adult male citizens who can read and write. The President is elected for four years by direct popular suffrage, and the Vice-President, who is called upon in certain contingencies to take the place of the President, is elected for the same term at the succeeding biennial election. The President elected for the term ending Aug. 31, 1905, is Gen. Leonidas Plaza. The Vice-President is Carlo Freile Zaldumbide. The Cabinet appointed by President Plaza was composed as follows: Minister of the Interior, Police, Public Works, and Public Charity, A. Moncayo; Minister of Foreign Affairs, Public Instruction, Worship, and Justice, José Peralta; Minister of Finance, T. Gagliardo; Minister of Fomento, Dr. F. Lopez; Minister of War and Marine, Gen. Nicolo Arellano.

Area and Population.—Ecuador has an estimated area of 120,000 square miles. The population is estimated at 1,271,861. Quito, the capital, has about 180,000 inhabitants; Guayaquil, 51,000; Cuenca, 30,000.

Finances.—The ordinary revenue in 1899 was 7,805,191 sucres, and the expenditure was 6,662,945 sucres for ordinary purposes and 2,234,715 sucres for railroads, wharves, debt, etc., under special appropriations, which left a deficit of 1,271,829 sucres. The total revenue for 1900 was estimated at 8,268,100 sucres and the total expenditure at 8,967,783.

The foreign debt, the payment of which was undertaken by the Guayaquil and Quito Railroad Company, was £671,000 on July 1, 1901. The internal debt, which was 4,580,000 sucres in 1896, has since been increased. The railroad company was merged in the Ecuadorian Association, and the majority of the shares were transferred from English to American holders, who raised the money to continue the railroad as far as Guamote. The cost of completing the whole line was estimated at £200,000.

The coinage law of 1898 adopting the gold standard, which went into operation on Nov. 4, 1900, provided for the coinage of gold condores of 10 sucres, of the same value as the English sovereign. In 1900 100,000 condores were minted. There were in circulation 1,000,000 silver sucres, and 2,000,000 sucres were in the vaults of the banks, which are required by law to hold metallic reserves equal to one-half of the bank-notes issued. There are two banks of issue. The Bank of Ecuador on Jan. 1, 1899, had 2,138,170 sucres of notes in circulation and 1,955,424 sucres of gold and silver in its reserve. The Banco Comercial y Agrícola had 3,522,242 sucres of notes out and a reserve of 1,495,251 sucres, of which 600,000 sucres were gold.

The Army.—The regular army numbers 3,341 officers and men, consisting of 1 brigade of field-artillery, 1 brigade of fortress-artillery, 4 battalions of infantry, 2 companies of light infantry, and 1 regiment of cavalry. The naval force consists of a torpedo-launch and a transport steamer.

Commerce and Production.—The leading product is cacao. There are estimated to be 47,200,000 cacao-trees in the coast provinces, and in 1900 the production was 18,280,000 kilograms. Of vegetable ivory, another valuable product, 19,620,800 kilograms were exported. The export of sugar was 1,733,500 kilograms; of coffee, 2,300,-

000 kilograms. The rubber export was 501,600 kilograms. The forests of rubber-trees have been nearly exhausted, but many trees have been planted in recent years. The Indians wash gold from stream beds, and at Esmeraldas an American company is working with hydraulic machinery, obtaining both gold and platinum. At Zaruma quartz is mined. Silver is also found. Copper, lead, iron, sulfur, and petroleum exist, but are not exported. The total value of imports in 1900 was 13,431,179 sucres; of exports, 15,419,222 sucres. The principal imports are cotton goods, woollens, machinery, and hardware. The export of cacao in 1900 was 10,700,581 sucres; of ivory-nuts, 1,400,793 sucres; of rubber, 1,076,068 sucres; of silver coin and bullion, 349,876 sucres; of Panama hats, 321,367 sucres. Of the total imports Great Britain sent 29 per cent., the United States 25 per cent., Germany 19 per cent., France 9 per cent. Of the exports France took 35 per cent., the United States 20 per cent., Germany 17 per cent., and Great Britain 15 per cent.

Navigation.—The number of vessels in the ocean trade entered at the ports of Ecuador during 1900 was 862, of 55,358 tons; cleared, 850, of 50,651 tons.

Railroads, Posts, and Telegraphs.—A railroad from Duran, opposite the port of Guayaquil, to Chimbo, 65 miles, is being rebuilt and extended to Quito, 20 miles having been completed beyond Chimbo in 1901, leaving 195 miles to be constructed through a fertile country producing cacao, coffee, and sugar.

The length of telegraph-lines is 1,242 miles.

The post-office in 1900 carried 820,000 letters in the internal and 1,809,000 in the international service and 6,347,000 newspapers and packets.

EGYPT, a principality in northern Africa, tributary to Turkey and under the military occupation and the political and financial control of Great Britain. The Government is an absolute monarchy of the Mohammedan type, modified by the law of primogeniture and the introduction of a Council of Ministers, and now subject to the control of the British diplomatic agent. The Khedive, or Viceroy, is Abbas Hilmi, born July 14, 1874, who succeeded on the death of his father, Mehemet Tewfik, Jan. 7, 1892. The heir apparent is Prince Mohamed, born Feb. 20, 1899. The British occupation has lasted since the suppression of the military revolt led by Arabi Pasha in 1882, and since Jan. 18, 1883, an English financial adviser has had the power of veto over financial measures and has generally exercised a decisive voice in all important measures, imposing such as he and his Government consider desirable and preventing the enactment of others that they disapprove. A conference of representatives of the powers, assembled at Constantinople to consider the situation caused by the bankruptcy of the Egyptian treasury, dissolved when England intervened single-handed in Egypt after the signature of a self-denying protocol. England and France previously exercised a dual financial control; but, France having refused to join in the military intervention, Great Britain thenceforward assumed control of the Egyptian Government, giving the assurance, which was reiterated afterward by successive British ministers, that the British troops would evacuate Egypt as soon as Egypt should be able to maintain a firm and orderly Government. The Cabinet of the Khedive, appointed on April 16, 1894, was composed as follows: President of the Council and Minister of the Interior, Mustapha Fehmi Pasha; Minister of War and Marine, Mohamed Abani Pasha; Minister of Public

Works and Public Instruction, Hussein Fakhry Pasha; Minister of Foreign Affairs, Butros Ghali Pasha; Minister of Finance, Ahmet Mazlum Pasha; Minister of Justice, Ibrahim Fuad Pasha. The British diplomatic agent at the beginning of 1902 was Earl Cromer; financial adviser, J. L. Gorst; commander-in-chief of the army of occupation, Lieut.-Gen. R. A. J. Talbot.

Area and Population.—Egypt has an area of 400,000 square miles below Wady Halfa, including the oases in the Libyan desert, the desert region between the Nile and the Red Sea, and the district of El Arish in Syria. The fertile valley and delta of the Nile have an area of only 12,976 square miles. The total population at the census of 1897 was 9,734,405, comprising 4,947,850 males and 4,786,555 females. The foreign population was 112,526, including 38,175 Greeks, 24,467 Italians, 19,557 British, 14,155 French, 7,117 Austro-Hungarians, 3,193 Russians, 1,277 Germans, 1,301 Persians, and 3,284 of other nationalities. The increase in the general population since 1882 has been at the rate of 2.76 per cent. per annum. Of the native population in 1897 over ten years of age 2,049,258 males were employed in agriculture; 532,322 males and 21,496 females in industries; 184,096 males were laborers; 61,577 males and 4,801 females were clerks; 4,072 males and 2,553 females were in the professions; 156,623 males and 2,218 females were engaged in religious work and in teaching, including 2,171 Christian ecclesiastics and Jewish rabbis and 113,438 readers of the Koran, 40,441 students and school children above the age of ten, and 4,934 teachers of all kinds; 29,201 males were in the army or police; 111,665 males and 32,663 females were domestic servants; and 142,089 males and 3,088,673 females were without gainful occupation. The total native population over ten years of age was 6,423,307, comprising 3,270,903 males and 3,152,404 females; under ten years of age, 3,198,524, including 1,612,698 males and 1,585,826 females; total native population, 9,621,831, comprising 4,883,601 males and 4,738,230 females. Of the foreign population, comprising 64,249 males and 48,325 females, 385 males were engaged in agriculture; 25,494 males and 2,371 females were in industries and trades; 1,172 males were laborers; 6,031 males and 148 females were clerks; 1,959 males and 189 females were in the liberal professions; 4,361 males and 2,049 females were ecclesiastics, teachers, or students; 6,850 males were on the public force, including the army of occupation; 1,712 males and 2,683 females were domestic servants; 5,309 males and 30,229 females over ten years of age had no occupation; and 10,976 males and 10,656 females were under ten years of age. Cairo, the capital, had 570,062 inhabitants in 1897; Alexandria, 319,766. Of the total foreign population over seven years of age 74 per cent. could read and write, of the sedentary Egyptian population only 5.8 per cent.

Finances.—The revenue in 1900 was £ E. 11,447,095 and the expenditure £ E. 9,895,224, leaving a surplus of £ E. 1,552,000, of which £ E. 666,000 were paid into the general reserve fund, £ E. 265,000 were paid into the economies fund, £ E. 62,000 were set aside for the sinking-fund, and £ E. 559,000 went to the Egyptian Government. The estimate of revenue for 1901 was £ E. 10,484,000, and of expenditure £ E. 9,822,728. For 1902 the revenue was estimated at £ E. 11,060,000, including £ E. 215,600 contributed from the general reserve fund. The revenue from ordinary sources was estimated at £ E. 10,844,400, of which £ E. 4,708,000 came from the land tax, £ E. 172,000 from other direct taxes,

£ E. 1,000,000 from customs, £ E. 1,000,000 from tobacco, £ E. 477,000 from other indirect taxes, £ E. 650,000 from other taxes, £ E. 207,400 from miscellaneous sources, £ E. 2,200,000 from railroads, £ E. 60,000 from telegraphs, £ E. 130,000 from the post-office, and £ E. 240,000 from other sources. The total expenditure was estimated for 1902 at £ E. 10,850,000, of which £ E. 9,900,279 were ordinary expenditures, £ E. 265,037 conversion economies, £ E. 65,646 the sinking-fund of the guaranteed loan, and £ E. 619,038 the share of surplus paid into the general reserve fund. Of the ordinary expenditures £ E. 255,361 were for the Khedivial civil list, £ E. 2,342,732 for administrative expenses, £ E. 1,047,200 for operating railroads, £ E. 49,922 for telegraphs, £ E. 119,466 for the post-office, £ E. 70,360 for other services, £ E. 448,816 for the Egyptian army, £ E. 84,825 for the army of occupation, £ E. 410,000 for pensions, £ E. 665,041 for tribute, £ E. 37,300 for expenses of the Caisse de la Dette, £ E. 488,866 for the expenses of the consolidated debt, £ E. 208,669 for debts not consolidated, £ E. 250,000 for suppression of the corvée, £ E. 389,721 to cover the deficit in the Soudan, and £ E. 32,000 for a reserve to meet unforeseen expenditure. The expenditure in the Soudan and the accumulation of conversion economies required under the law are unfavorable to a true showing of the financial condition of the Government, while these conversion economies and the arbitrary limit placed upon administrative expenditure, precautions taken for the security of the bondholders, hamper the financial resources of the Government. These provisions the English administrators would like to alter. The result of the accumulation of economies is that the Government buys its own bonds at a premium, and thus aids in maintaining an artificial price to its own disadvantage. If Egypt were not hampered by the peculiar system of accounts and estimates imposed by its international obligations, the estimate of revenue for 1902 would have been £ E. 10,844,000, and of expenditure £ E. 9,900,000, showing a surplus of £ E. 944,000. For 1901 the revenue would have been £ E. 11,944,000, and expenditure £ E. 9,988,000; surplus, £ E. 1,956,000.

The Egyptian debts on Jan. 1, 1901, amounted to £102,714,180 sterling, of which the guaranteed debt of £8,333,000 pays 3 per cent. interest, the privileged debt of £29,393,580 pays 3½ per cent., the unified debt of £55,971,960 pays 4 per cent., the Daira Sanieh loan of £6,117,240 pays 4 per cent., and the domains loan of £2,898,400 pays 4½ per cent. The charges on these debts amount to £ E. 3,851,761 a year, and the total debt charge, including the Turkish tribute, is £ E. 4,399,876. The reserve funds on Jan. 1, 1901, amounted to £ E. 5,997,772, of which £ E. 4,002,302 were economies from conversions, £ E. 1,186,790 the general reserve fund, and £ E. 808,680 the special reserve fund.

The Army.—The Egyptian army had a strength of 18,114 men in 1902, with 134 English officers in the principal commands, 1,610 horses and mules, 1,100 camels, and 150 guns. The commander-in-chief, called the Sirdar, is Major-Gen. Sir Reginald Wingate.

The British army of occupation had in 1902 a strength of 4,500 men. The annual expense to the Egyptian Government to maintain this force is £87,000.

Commerce and Production.—Cotton, sugar, and rice are grown in the summer; rice, sorghum, and vegetables in the autumn; and grain of various kinds in the winter. In Lower Egypt, where

there is perpetual irrigation, cotton, sugar, rice, corn, wheat, and cucumbers and other vegetables occupy the ground throughout the year. In Upper Egypt the land is irrigated at high Nile and one crop of millet or vegetables is obtained except where the canals permit of repeated irrigation and the cultivation of cotton and sugarcane. The reservoir at Assouan and the barrage at Assiout store 1,065,000,000 cubic meters of water, and when the irrigation canals are completed large tracts of new land will be made available for high culture. The cotton crop in 1900 was 6,510,000 kantars of 50 kilograms. The exports of cotton were 4,868,596 kantars, valued at £ E. 13,039,000; exports of sugar, 53,729,309 kilograms, value £ E. 575,496. The total value of merchandise imports in 1901 was £ E. 15,244,939, and of exports £ E. 15,730,088; imports of specie were £ E. 3,085,678, and exports £ E. 2,432,172. Imports of animals and animal food products were £ E. 685,012, and exports £ E. 112,958; imports of hides, skins, and leather and its manufactures were £ E. 219,560, and exports £ E. 90,642; imports of other animal products were £ E. 80,551, and exports £ E. 63,825; imports of cereals and vegetables were £ E. 1,706,352, and exports £ E. 2,649,970; imports of provisions and drugs were £ E. 415,089, and exports £ E. 804,471; imports of spirits and oils were £ E. 812,867, and exports £ E. 19,579; imports of books, paper, and paper material were £ E. 231,051, and exports £ E. 15,132; imports of coal, wood, and wood manufactures were £ E. 2,139,420, and exports £ E. 15,979; imports of stone, lime, glass, etc., were £ E. 407,683, and exports £ E. 1,487; imports of dyes and colors were £ E. 324,710, and exports £ E. 25,524; imports of textiles and textile materials were £ E. 4,642,241, and exports £ E. 11,892,397; imports of metals and metal manufactures were £ E. 1,744,084, and exports £ E. 4,187; imports of tobacco were £ E. 595,021; imports of miscellaneous merchandise were £ E. 880,142, and exports £ E. 18,008. The value of cotton cloth imported was £ E. 2,414,681. The quantity of raw cotton exported was 6,123,350 kantars, valued at £ E. 11,833,277. Of £ E. 14,112,370, the total value of imports of merchandise in 1900, the value of £ E. 12,429,306, and of £ E. 16,766,610, the total value of exports, the value of £ E. 16,486,911 passed through the port of Alexandria. The values of imports from and exports to various countries in 1901 are given in the following table:

COUNTRIES.	Imports.	Exports.
Great Britain.....	£ E. 5,568,498	£ E. 8,013,911
France and Algeria.....	1,406,435	1,262,524
Turkey.....	2,246,414	312,760
Russia.....	612,346	1,743,305
Austria-Hungary.....	1,061,200	628,408
America.....	315,960	1,016,455
Germany.....	530,368	778,096
India and Australia.....	882,458	107,378
Italy.....	802,156	549,863
Belgium.....	498,768	88,088
China and Japan.....	138,394	114,969
Greece.....	157,075	5,897
British Mediterranean colonies.....	130,708	6,634
Morocco.....	49,226	167
Persia.....	36,844	1,868
Total.....	£ E. 15,244,939	£ E. 15,730,088

Navigation.—The number of vessels in the foreign trade entered at the port of Alexandria during 1900 was 2,830, of 2,375,619 tons, of which 673, of 1,022,834 tons, were British; 109, of 291,643 tons, were French; 129, of 248,875 tons, were

Austrian; 135, of 222,706 tons, were Italian; 1,399, of 175,938 tons, were Turkish; 84, of 166,425 tons, were Russian; 176, of 80,511 tons, were Greek; 35, of 58,459 tons, were German; 26, of 49,436 tons, were Swedish and Norwegian; and 64, of 58,788 tons, were of other nationalities. The total number cleared was 2,784, of 2,364,672 tons, of which 674, of 1,019,908 tons, were British; 110, of 292,076 tons, were French; 129, of 251,587 tons, were Austrian; 136, of 223,134 tons, were Italian; 1,364, of 173,148 tons, were Turkish; 83, of 163,769 tons, were Russian; 169, of 78,024 tons, were Greek; 35, of 58,427 tons, were German; 22, of 42,038 tons, were Swedish and Norwegian; and 62, of 62,561 tons, were of other nationalities.

Railroads, Posts, and Telegraphs.—The Government railroads on Jan. 1, 1902, had a length of 1,393 miles, and private companies owned 780 miles of agricultural railroads. Of the state railroads 958 miles were in the delta and 435 miles in Upper Egypt. The number of passengers carried on the state railroads during 1900 was 12,428,300; tons of freight, 2,950,000; gross receipts, £ E. 2,158,877; working expenses, £ E. 971,495, being 45 per cent. of the receipts; net earnings, £ E. 1,187,382.

The number of letters and postal cards handled by the Egyptian post-office in 1900 was 13,759,000 in the internal and 2,920,000 in the international service; newspapers, etc., 8,061,000 internal and 1,280,000 international; parcels, 197,000 internal and 90,000 international; post-office orders 628,500, value £ E. 17,191,000.

The telegraphs owned and operated by the Egyptian Government have a total length of 2,365 miles, with 9,934 miles of wire. The number of inland telegrams sent in 1901 was 4,250,571.

Internal Affairs.—Egypt under British control is making a slow but appreciable advance in the direction of civilized government. The fiscal system is on a sound basis. In the general administration no radical change is contemplated. The institution of slavery is practically extinct. The corvée has been abolished in its oppressive features. The *courbash* is no longer employed as an instrument of government. The judicial system and the organization of the police admit of further improvement, yet already law and order prevail. New prisons and reformatories have been built, and the treatment of prisoners is in conformity with the principles generally adopted in Europe. Hospitals have been established, where the sick receive proper care. The lunatic is no longer treated as a wild beast. Education in all its branches has received a great impulse. The army is well organized and efficient, and all the abuses of the old recruiting system have been swept away. The principal irrigation works have been completed. Means of locomotion by rail and road have been improved and extended. The Government has taken steps to enable the fellahin to shake themselves free from the grip of the money-lenders. The result of the experiment, which has been going on since 1899, indicates that the peasants will not use the advantages offered them to incur fresh loans. The usurers charge from 40 to 100 per cent. per annum on their loans. In 1902 an agricultural bank was founded with a capital of £2,500,000, which makes advances to fellahin on easy terms. The Government guarantees the repayment of the advances and interest on the capital. Occasional cases of slave-dealing and kidnaping come before the courts. In 1902 a provincial governor was retired and an influential pasha and several police officers were imprisoned for applying torture to extract a confession from cattle-thieves who had

robbed the Khedive. The plague and the cholera appeared in Egypt in 1901 and continued in 1902. Officials found difficulty in dealing with the plague, owing to the habits and prejudices of the people.

The Egyptian Soudan.—The Mahdi and the Khalifa having ruled the Soudan for sixteen years, the latter was defeated by an Anglo-Egyptian army on Sept. 2, 1898, and on Jan. 19, 1899, a convention was signed at Cairo by representatives of the British and the Egyptian governments in accordance with which the territory south of 22° of north latitude is administered by a governor-general appointed by the Khedive with the approval of the British Government; the Egyptian and British flags are used together; laws are made by proclamation; no duties can be levied on imports from Egypt, and duties on goods from other countries shall not exceed those levied by Egypt; the importation or exportation of slaves is prohibited, and special attention is paid to the provisions of the Brussels act of 1890 regulating the importation and exportation of firearms and ammunition and of spirits.

The Soudan is divided into the provinces of Khartoum, Dongola, Berber, Kassala, Senaar, and Kordofan and the districts of Wady Halfa, Suakin, and Fashoda, over each of which is a Mudir, or military governor. The estimated revenue of 1901 was £ E. 224,374, and the expenditure was estimated at £ E. 614,095, leaving a deficit of £ E. 389,721 to be paid out of the Egyptian treasury. The total area of the Egyptian Soudan, extending southward to Albert Nyanza and east and west from the Red Sea to Wadai, is estimated at 950,000 square miles, with a population which was formerly estimated at 10,000,000, but has declined under the rule of the Dervishes. The frontier between the Italian colony of Erythria and the Soudan has been delimited by a joint commission. The port and district of Massowa, which before the Mahdist revolt were occupied by Egypt, now belong to Italy; Zeila and Berbera belong to Great Britain; and Harar belongs to Abyssinia. The Soudan was placed by the British under an embargo during the Mahdist régime, and all trade ceased excepting a surreptitious trade in slaves. It was again declared open for traffic on Dec. 12, 1899; but the trade in gum arabic, ostrich feathers, ivory, gold dust, and skins has not returned. Ebony, rubber, gum, and other valuable forest products can be obtained on the White Nile and the rich lands on the Blue Nile are adapted to grow wheat as well as sesame, millet, dhurra, and pulse, which are now cultivated. In the northern part of the country regular government has been restored and industries have in some measure been revived. Khartoum, which has again been made the capital, instead of the neighboring Mahdist city of Omdurman, is connected with Cairo by the Anglo-Egyptian military railroad and by a telegraph-line. The Governor-General of the Soudan is the Sirdar, Sir Reginald Wingate, who has Col. F. J. Nason for his civil secretary and Sir Rudolf von Slatin for inspector-general. The accumulation of swamp vegetation called the *sudd*, which renders the Nile and its tributaries impassable, has been removed. The Nile is open the entire year from Khartoum to Gondokoro, the northern post of the Uganda Protectorate, which is 15 miles from Mongalla, the southernmost post of the Egyptian Soudan. Lado and Kiro are held by a Belgian force, and from those stations officers of the Congo State administer the *enclave* on the Nile that was leased to the Congo Government. The Egyptian Soudan has been generally

tranquil since its occupation by the Anglo-Egyptian forces. The Sultan of Darfur, who pays tribute to the Government at Khartoum, had trouble with his own people, against whom he sent an expedition. Government posts have been established in Kordofan, which is developing rapidly. The Agar Dinkas in January, 1902, raided a camel caravan near Rumbek and killed Lieut. Scott Barbour and 40 of his men. They were promptly punished by Lieut.-Col. Hunter from Nao cooperating with an expedition sent from Shambek to Rumbek. The Bahr-el-Ghazal was occupied by an expeditionary force under Lieut.-Col. Sparkes, who has cut the *sudd* in the Djur river so as to permit steamers to ascend to Wau, the chief military station in the province. The only railroad project favored by the Government is the proposed line from Berber to Suakin, which will furnish a shorter outlet than the river-and-rail route northward through Egypt, and will supply the Soudan with fuel. Beds of coal have been discovered near Rosaites and Abu Haras. The Egyptians, who have provided the money for the conquest and development of the Soudan, regard with dismay the prospect of losing their trade with the Soudan, and European merchants fear that India will capture the market. In the southern parts of the Soudan a little roadmaking in the uneven places will enable motor cars to transport freight all over the country. The money taken out of the Egyptian treasury to build the Khartoum railroad and for barracks and other purposes in the Soudan is treated as an advance to be repaid at some future date. In 1901 the expenditure of Egypt in the Soudan was £ E. 417,000. The Caisse de la Dette has ceased to dispute the financial sacrifices Egypt is called upon to make for the Soudan. Of £ E. 1,287,000 in the special reserve fund on Dec. 31, 1901, the amount pledged for future expenditure, mainly in the Soudan, was £ E. 567,000. The finances of the Soudan are in a more satisfactory condition than was anticipated, but it is not yet possible to balance the budget without a heavy deficit, which for 1902 was £2,268,000. Vast tracts of fertile country and valuable mineral lands in the Soudan lie idle because there are no facilities for bringing produce to market. Engineers who are studying the question of irrigation have found plenty of water available. Cotton of good medium grade is now grown. Wheat and barley grow freely. Indigo is cultivated. Rubber is obtained in some sections. The soil is exceedingly rich, capable of producing all kinds of useful plants.

Suez Canal.—The number of vessels that passed through the Suez Canal in 1900 was 3,441, of 13,699,238 tons, of which 1,935, of 7,771,346 tons, were British; 462, of 2,047,230 tons, were German; 285, of 1,167,987 tons, were French; 232, of 704,458 tons, were Dutch; 126, of 467,605 tons, were Austro-Hungarian; 100, of 451,152 tons, were Russian; 63, of 351,854 tons, were Japanese; 82, of 247,167 tons, were Italian; 34, of 153,248 tons, were Spanish; 27, of 97,240 tons, were Danish; 30, of 90,205 tons, were Norwegian; 22, of 78,314 tons, were American; 28, of 43,125 tons, were Turkish; 7, of 16,895 tons, were Belgian; 3, of 6,424 tons, were Portuguese; 2, of 2,996 tons, were Swedish; 1, of 1,777 tons, was Argentinian; and 2, of 214 tons, were Greek. The receipts in 1900 were £3,624,944. The number of passengers that passed through was 282,203.

The Storage Dam at Assouan.—It is hardly credible that the engineers of the Pyramids and the builders of league-long colonnades beside the

Nile could have failed at least to make estimates for harnessing the great river upon which the Egypt of antiquity as well as of to-day depended for its wealth and power. It is certain, however, that nothing was accomplished on a scale at all commensurate with the importance of the work. If one of the early Pharaohs had set the example of perpetuating his memory by means of a great irrigating and regulating dam, instead of a mere pyramid, his example would have probably been followed by his successors and the Nile would have been put in training thousands of years before the earliest English was spoken, and it would not have been left for a nation then unborn to rejuvenate Egypt in her declining years.

It is not intended to ignore the achievements of the early engineers who utilized the great valley of Fayum as a reservoir (Lake Moëris) or to belittle the importance of the irrigating canals, partly natural and partly artificial, which they constructed with wonderful skill; but apparently they made no serious attempt to control the river itself, being perhaps appalled at the magnitude of the undertaking and not having at hand resources of the twentieth century. It must have been obvious to them, however, that the storage in great reservoirs of the surplus flood, for use during the season of low water and consequent drought, was a problem demanding complete solution. The Nile, as we have all learned at one time or another, cuts its way northward from the great lakes of Central Africa for 2,000 miles and more through a region that, with proper irrigation, is among the most productive on earth. It breaks through ranges of hills in its course, forming numerous rapids and six "cataracts," as they are called, some of which are barely more than rapids, which at high-water are navigable, though with some difficulty and danger, by the river craft, but are impassable at low water.

The lower or first cataract is at Assouan, about 600 miles from the mouth of the river and 250 miles above Cairo, which marks the southern angle of the famous delta. Here, after protracted consideration of the whole problem, it was decided to build the first dam. Sir W. Willcocks, K. C. M. G., was appointed director-general, with a large staff of assistants. The preliminary surveys were accomplished, and the work of construction was begun in 1898, that being the year in which the British were fighting the Mahdi in the upper reaches of the Soudan. The work was completed and the structure formally accepted by the Khedive and the Duke of Connaught, with due ceremony, on Dec. 10, 1902.

Many changes have taken place in the staff of engineers entrusted with the work—so many that the officials who deserve the credit can not all be named here, but the original plan was carried out with but few changes, and the work was completed under Maurice FitzMaurice as resident engineer.

The dam is located at what was the head of the first cataract. Its total length is 1,950 meters, or a little less than a mile and a quarter. It is laid in a straight line directly across the channel of the river, and not with the curve up-stream which is often introduced in such structures with a view to increasing their strength. To receive and retain the foundation, a trench was excavated mainly through solid rock in the river-bed. In this was laid a wall of solid masonry, 29 meters in width at its deepest section and narrowing to 7 meters (nearly 23 feet) at the crest. The lower face of the dam is very steep, and the

THE GREAT DAM AT ASSOUAN, ON THE NILE.

up-stream face is pitched at a less abrupt angle in order to secure greater stability. The height of crest or roadway above the zero mark of the long-established water-gage is 25 meters, and the high-water level as at present designed is 22 meters above the same zero. When full, the reservoir will hold 1,165,000,000 cubic meters of water, and its set-back will reach 143 miles above the dam. The total cost of construction as given by the best English authorities was £2,400,000, and the amount of work accomplished is divided as follows: Excavation, 775,000 cubic meters; masonry, 496,000 cubic meters; brickwork, 7,000 cubic meters; ashlar, 41,400 cubic meters; sluice-gates, 2,240 square meters; lock-gates, 530 square meters. At these figures, the initial rate of water-storage is about 1 cent for each cubic foot, but as this must diminish in a direct but irregular ratio from year to year, it will eventually disappear altogether when balanced against the accruing benefits.

Technically, the dam is described as "insubmersible"—that is to say, it is not intended that the water shall at any time flow over its lip or crest. The reason for this is, that the Nile carries in suspension such enormous quantities of silt that if the flow is entirely checked at any point the suspended matter settles to the bottom. In the case of a reservoir, no matter how large, it is evident that in a few years it would be filled up, and its purpose for irrigation would be defeated. This dam, therefore, is provided with an elaborate system of sluice-gates, 65 of them being but 3½ meters above the zero mark; then come 75 at 8 meters, 18 at 12 meters, and 22 at 16 meters above zero. These different groupings of the sluice-ways can be seen in part in the accompanying illustration, and some idea can be formed of the way in which the discharge of the river can be regulated through these great openings, each of which is fitted with its own hand-operated machinery for the effective opening and closing of its gates.

During the period of high water that is beginning about the middle of July, when the percentage of solid matter in suspension is at its highest, the river will be permitted to flow through the sluices with as little hindrance as possible, bearing its rich alluvial tribute to be deposited in the lower valley. When all the sluices are open there will be little perceptible difference in the appearance of the river channel a short distance above and below the dam from what has always existed. As the flood subsides, usually some time in November, the water becomes comparatively clear, and the gates will then be closed. Under average conditions the reservoir should be at its full level in January, and this can be maintained until May, when the need of reserve water begins to be felt in the agricultural regions. From this time until the next flood is due in July the gates will be open, regulating the quantity of water in the lower Nile according to the special climatic conditions of the season.

At the western end of the great dam is a navigating channel with locks, each 75 meters long and 9½ meters wide, affording ample accommodation for any river craft likely to be in use upon the Nile. The lock-gates were designed by F. B. M. Stoney, who is also the designer and patentee of the sluice-gates used in the dam. The heavier lock-gates are worked by hydraulic power.

The present high-water line of the reservoir is as stated above; but the structure was intentionally designed to sustain a pressure resulting from a higher level, 28 meters above the zero mark being contemplated. This will nearly or quite double the capacity of the reservoir, and as the expense of raising the dam will be comparatively small (£250,000), it may be effected before many years.

Curious and interesting problems are involved in this initial step toward harnessing the great river of the Pharaohs. Similar dams or weirs

are in contemplation at the different cataracts, at the sources of the river, and near certain of the natural depressions in the desert lands adjoining. The great lakes Victoria and Albert Nyanza, Lake Tana, and Lake No will all be utilized. Of these lakes, Victoria and Tana are held back by natural dikes of rock, which will only need to be tunneled or cut to make it possible to draw off the enormous accumulations of water as they may be needed. Lake Albert will need to have its level raised by damming its natural outlet; this can be done, however, without asking any one's permission, as the whole region is in British territory and so nearly barren of inhabitants that possible claims for damages may be ignored. These plans, if carried out, would furnish about 18,000,000,000 cubic meters of water per annum. The additional water-supply is not the only question involved, for there are extensive swamps along the White Nile, which in years of extremely low water pollute the whole river, with serious and often fatal results to animal life. With the supply under control at its source, these swamps could be practically eliminated by preventing stagnation and checking the flow of the dreaded "green-water," which at times affects the stream even to Cairo.

It is remarkable that this is the first comprehensive scheme that ever has been attempted for reducing a large river as far as possible to the service of man. Some European rivers have been in a measure harnessed and reduced to service; but the Nile is unique in many of its surroundings and affords opportunities for ingenuity in the matter of engineering that can hardly be found in any other stream. The greater rivers of the world, as, for instance, the Mississippi and the Amazon, are far beyond the reach of mortal power in its present development, and indeed their courses for the most part lie through

a country that makes it impossible for any great engineering operations to be undertaken, even if they were desirable. Some of the smaller rivers in the arid regions of our own Western States are already largely subjected to a system of management that has already wrought wonderful improvements in the great deserts of the West, but the historic Nile affords thus far the most conspicuous instance of a great river so placed by nature that its productive powers can be readily controlled for the benefit of mankind.

The construction of the dam at Assouan with a view to future enlargement has a curious side issue. The original plans were considered by an international commission, and no sooner was it known among archeologists that the first cataract was chosen as the site for a dam than it became evident to those interested that the structures on the island of Philæ would be submerged. This island, with its stately temples and colonnades, is among the most famous localities in a land rich in the treasures of antiquity, and archeologists all over the world raised such an outcry against the desecration that the engineer in charge, being a wise man, announced that the dam should not be built so high as was at first intended. This was something of a subterfuge, for these wonderful and majestic ruins will necessarily be to some extent submerged except when the river is flowing in its natural channel—that is to say, when the sluice-gates are all open. Unfortunately, this period of the year corresponds in a general way with the season least attractive to Egyptian tourists, so that some of the finest specimens of Egyptian architecture will be less accessible than heretofore to modern observers. The engineers have taken the precaution to strengthen and reinforce the ancient foundations of the temples, so that it is thought no harm will actually result from their periodical submergence.

F

FARMERS' NATIONAL CONGRESS. The twenty-second annual meeting of the Farmers' National Congress was called to order by the president, the Hon. George L. Flanders, of New York, in Macon, Ga., Oct. 7, 1902.

The congress was welcomed to Georgia by Gov. Allen D. Candler, who in the course of his address said: "Most of the men that have shaped the destinies of this republic since it was born were farmers and sons of farmers. It is almost impossible to grow a man on a brick pavement. We propose that Georgia shall be the best place on earth for a good negro, and the worst place for a bad negro."

The congress was welcomed to Macon by the Hon. George A. Smith, president of the Macon Chamber of Commerce. He called attention to the fact that the largest residence in the city was built with the proceeds of one year's peach-crop of the owner. Another mansion was built from one season's hay-cutting. Cotton is not the only crop grown in Georgia. Mr. Smith called attention to the Torrens system of registering the title to lands, and strongly recommended it. He reminded his hearers that Henry Ward Beecher had called Macon "the most beautiful city in America."

The addresses of welcome were responded to on the part of the congress by its first vice-president, the Hon. Harvie Jordan, of Georgia, president of the Cotton Growers' Association of America. In speaking of the meeting just opened, he

said: "It will put into motion a sentiment along the lines of national cooperation by the farmers of the country, which will be of untold profit and benefit to the great industry of which the Farmers' National Congress has become the leading representative organization. The days of individual action are rapidly being relegated to the past, while the cultivation of a closer relationship along the lines of cooperative action is being fast inculcated in the minds of our people all over this country. The unprecedented prosperity of the United States is due in largest measure to the results of the labor of our farmers. We are largely feeding and clothing the nations of the civilized world, and it is due to the vast exports of our cotton, meats, and cereals that the United States has within recent years become the creditor nation of the world."

In his annual address, President Flanders said: "The education that has been going on in the interest of the farmers during the past thirty years, at the State agricultural colleges, etc., has produced wonderful results, but all or nearly all are upon one side of the two-sided question, viz., upon the side of production, without touching the question of distribution or the question of the relation of the farmer to the governments under which he lives and by virtue of which he is protected. We are living in an age of combination; an age of corporations and corporate interests united for purposes which to them seem proper and just and

right; an age in which capital, generally speaking, is organized and combined for reasons which to it seem just and right, so that when any problem arises, from the question of distribution to the question of legislation, they are prepared at short notice to determine what action should be taken, and then act as a unit. What is true of these combinations is not true of the agricultural population, and yet that population is ten-twenty-ninths of the entire number engaged in industrial pursuits in this country. The scope of our educational work should now be such that it will extend to this class of our population as much information as possible, through some kind of organization or through some means best suited to that end, of the fundamental principles involved in the economic questions of the times and of their political duties and obligations to themselves and others through the governments under which they live."

More than 800 delegates were present, from 31 States.

A Committee on Resolutions of one from each State, selected by the delegates from each State, was announced, and organized by electing Hon. Benjamin F. Clayton, of Iowa, chairman, and Prof. W. F. Massey, of North Carolina Agricultural College and Experiment Station, secretary.

Prof. T. J. Woolter, of Georgia, read a paper on *An Inter-oceanic Canal*. He said: "Let us not waste too much time quibbling over choice of routes, but push to successful completion one or the other. We need the canal. It is to be our good right hand. Agriculture and manufacture stimulate each other. Agriculture must furnish much raw material; then, as more and more people engage in manufacturing, greater demands are made on agriculture to feed them. Roundly put, then, stimulation in production of raw materials and increase in manufacturing must inevitably follow lessening cost of transportation and extending the limits of the markets. New England and the Middle Atlantic States, which constitute the most important manufacturing section of the country, have to ship to Europe to contest the home markets of the Old World, or to ship long distances to the Orient or to our Pacific regions by way of Cape Horn, Cape of Good Hope, and the Isthmus of Suez. These manufacturing regions must get some of their raw materials and food supplies from the States on the Pacific Ocean, and in turn these Pacific people desire the manufactured articles of New England. The water distance from New York to San Francisco is 15,000 miles; by an isthmian canal it would be 5,000 miles. The canal will give us a decided advantage over the other nations of the world in the competitive international struggle which is certain to take place to secure the industries of the great Pacific Ocean."

At the morning session, Oct. 8, a paper on *Reciprocity—How may it affect Agricultural Interests?* was read by the Hon. John K. Campbell, of Michigan. Mr. Campbell said he did not consider it just "to frame a bill that will admit the raw material free to benefit the manufacturer, and then shut the door on the manufactured product by a high tariff that enables the home manufacturer to charge his own price, imposing on the farmer the burden of the tax that benefits only the manufacturer." Referring to the beet-sugar industry, he said he favored a diversified system of agriculture, and that "every protection should be extended to the farmer that will aid him in developing the cultivation of the sugar-beet, or any other product that the farmer, under proper protection, can develop."

At the afternoon session a paper on *Forestry and the Preservation of Forests* was read by George M. Whitaker, editor of the *New England Farmer*. He declared that not cotton nor corn, but "the tree is king!" He deplored the waste in cutting and in using timber, and emphasized the danger of a timber famine. "The supply of oak and hickory in the Northern and Eastern States has been so nearly exhausted as to create a heavy demand for timber lands in Tennessee, Arkansas, and Mississippi. The papers report that all the wagon-manufacturers of the North and East, as well as wood-working companies of all kinds, have their agents in these States for the purpose of buying up every available acre of timber land. This is emphatically a farmer's question. A tree is a product of the soil. The national Department of Agriculture is undertaking to assist the farmer in applying better methods, by which the forest on his wood-lot will be improved without appreciably increasing the cost of harvesting the forest crop."

At the opening of the morning session, Oct. 9, Prof. Louis B. Magid, of Georgia, had a few minutes in which to present the claims of silk-growing in the United States. This he did so ably that a strong sentiment manifested itself in the congress favorable to the action of the national Department of Agriculture to determine the feasibility of silk-growing in this country.

Prof. Magid's paper was followed by one in favor of National Irrigation, by C. M. Heintz, of California. This paper presented some striking figures, including the following: "By the building of irrigation systems, great wealth is actually created. Take the Colorado delta, for an example. Here is a body of about 900,000 acres of land arid and worthless. The Colorado river is of sufficient size, it is estimated, to reclaim 8,000,000 acres. This land was worthless without the water, and the water was worthless without the land. When they are brought together, there are 900,000 acres of land that will be worth, when fully reclaimed, an average of \$100 an acre, or a total of \$90,000,000. National expansion should be confined to building up our home country first. There is no sense in subduing the jungles of the Philippine Islands until we have first reclaimed the arid wastes of America."

The opposing view of National Irrigation was presented in a paper by Gilbert M. Tucker, editor of the *Country Gentleman*. He called attention to the fact that "the vast development of our national contributions to the sustenance of the world has no necessary relation to the welfare of the men that raise the crops." He pointed out that what was wise when the nation was younger might be unjust and foolish when it had attained a certain development. Speaking specifically of the effects of national irrigation, especially as it would bear upon agriculture, he said: "Every district brought from aridity into cultivation, by irrigation, will for a long time export a considerable surplus of foodstuffs, and thus act to a certain extent in bearing down the market price. A second channel of mischief is the absorption by the new lands of the men and women who ought to supply, and in the normal condition of things would supply, an abundance of labor, at moderate prices, for established farmers. If the Government is going into such [irrigation] business, we can point out thousands of farms east of the Mississippi where we should like to see it tried, and also tens of thousands of farms east of the Mississippi where we should like to see the Government apply the correlative of irrigation—tile drainage—at the public expense. There is no doubt whatever that

the expenditure east of the ninety-eighth meridian of the millions of dollars proposed to be used west of that line, in irrigating and draining farms already in operation, would increase their product by a larger volume than will be raised west of it, for generations to come, under the irrigation scheme."

At this point the children of the Georgia Industrial Home for Unfortunate Children marched upon the stage and sang patriotic songs.

At the afternoon session a paper on How can we best Build up our Merchant Marine, by F. B. Thurber, of New York, was read. It favored ship subsidies. Mr. Thurber opened his paper by saying: "Great Britain is our chief competitor, and she has consistently followed the policy of sustaining new lines until sufficient commerce developed to make them self-sustaining, and then gradually reducing the subsidy. That should be our policy." He said further: "The percentage of American products carried in American ships has dwindled from 90 to 9 per cent. If we are to find a market for American products, they must be distributed by American ships. Steamship-lines work for their own countries precisely as railway-lines work for their terminal points. The original cost of building American ships is greater than is the case abroad; the wages paid to American officers and seamen are very much higher than those paid to the officers and seamen of competing foreign vessels, and the standard of living on our ships is far superior to the standard of living on the ships of our commercial rivals."

Opposition to ship subsidies was expressed in a paper by the Hon. Oliver Wilson, master of the Illinois State Grange. He began by saying that "in treating this important proposition there is but one fair way, and that is in the interest of the mass of citizens"; and he declared that "instead of benefiting the masses, it appears that the proposition for subsidizing our merchant marine is a scheme largely to increase the wealth of the few at the expense of the many." He pointed out that the reports of the Leland and other ocean steamship-lines recently bought by American capitalists showed that they did not need Government aid to be profitable, that the high subsidies of the French Government had not built up the shipping of that nation; that "the latest facts and figures go to prove that ship-building can be done in this country as cheaply as in Great Britain or anywhere else"; and that while our workmen "receive higher wages; they accomplish more in a given time, so that the factor of higher price for labor is eliminated."

At the morning session, Oct. 10, a paper on Farm-Products in the Markets of the World was presented by O. P. Austin, chief of the Bureau of Statistics, Treasury Department. He showed that the American farmer is keeping pace with the world's demand for his products and will retain the market both at home and abroad. He said that "the application of scientific methods has enabled the American farmer not only to prevent the deterioration of the virgin soil which made this country the world's greatest producer, but an intelligent understanding of that soil and its capabilities, coupled with the use of new machinery and new methods, enables him to make its products of more value to him than ever before. The man who in 1867 gave up 1 bushel out of every 6 of his wheat to pay transportation from Chicago to New York, now gets the same transportation for 1 bushel out of every 16."

A paper on A Bird's-Eye View of the Farm-Products of the World, by John Hyde, statistician of the national Department of Agri-

culture, was rendered specially interesting by the use of the stereopticon. Charts that showed at a glance the relative standing of different countries as regards the principal agricultural products showed also the commanding importance of the United States as an agricultural country, and the great importance of our agricultural exports in maintaining a favorable balance of trade. Mr. Hyde also gave incidentally a history of the production of the principal cereals.

At the opening of the afternoon session a paper on The Labor Problem from the Farmer's Standpoint was read by John M. Stahl, editor of the Farmer's Call. He divided his subject into two parts, the first being the labor problem on the farm. He said that of those things the farmer needed, the hardest for him to get is intelligent, conscientious labor. Among the remedies for the scarcity of farm labor he mentioned agricultural education, beginning in the primary school in the country; better appreciation of the advantages of farm life in developing character; better treatment of farm hands; and the trolley-line to farms from the cities. In treating the second division of his subject—the labor problem in the city—he pleaded the cause of the "innocent public" which was often the chief sufferer from strikes or lock-outs; opposed compulsory arbitration as impracticable, but favored conciliation, and, that failing, voluntary arbitration; and closed with a denunciation of both the open and the subtle lawlessness that too often appeared in the conflict between labor and capital, which should be good friends.

The following resolutions were adopted by the congress:

"That we favor the policy of reciprocity when it can be used to enlarge the markets for our agricultural products, and we indorse the words of the late President McKinley that we 'should take from our customers such of their products as we can use without harm to our industries and labor.'

"That we express our sincere regret at the present deplorable conditions of business caused by the conflict between capital and labor, and we declare ourselves strongly in favor of settling all such difficulties either by conference or arbitration.

"That we express our hearty approval of the rural free mail-delivery system, and favor its further extension as rapidly as is consistent with public policy, until the rural population of the entire country receives its mail in this way.

"That we urge upon Congress the need of the early passage of the bill now pending for the establishment of the Appalachian park and forest reserve.

"That we favor the speedy enactment of a law by the Congress of the United States to prevent the adulteration of any article used for human food in any form; and that such laws should carry sufficient penalties to make them effective.

"That we favor the discontinuance of the distribution of seeds, except of new, valuable, or rare seeds, which we recommend shall be distributed under the direct supervision of the Department of Agriculture at Washington.

"That we favor and urge on Congress an increase in the appropriation to each State and Territory for experiments in agriculture by the sum of \$15,000.

"That we respectfully urge our representatives in Congress to make more liberal appropriations for the Agricultural Department, which embraces within its scope of work the largest and most useful of all the industries of the Union.

"That we recognize with pleasure and gratifica-

tion the growing usefulness of the national Department of Agriculture, and the earnest efforts being made by the head of that department, the Hon. James Wilson, to encourage scientific and diversified farming, to gather correct statistical information regarding the annual yield and distribution of all crops, and otherwise to foster and protect the agricultural interests of the whole country.

"That we condemn the use of adulterants in the manufacture of food and clothing as being detrimental and injurious to the business interests of the people; and we respectfully request the Congress of the United States to enact such laws, of uniform application in all the States of the Union, as will compel manufacturers of food and clothing to stamp or label their manufactured goods in such a way as to show the true character and exact percentage of all articles used in their manufacture, before placing their products on the markets of the country, together with proper penalties for violations of these laws.

"That we commend the efforts of the national Department of Agriculture to determine the practicability of establishing silk-culture as an industry in this country.

"That we ask at the hands of the Congress of the United States a wider and more general recognition of the necessity for improvement of our public highways, and that appropriations be made annually from the general funds of the national treasury to broaden the work already undertaken by the Federal Government along that line.

"That we commend the efforts of the present Secretary of Agriculture to extend and increase the value and efficiency of farmers' institutes by cooperation and closer relationship in this line between the States and the national Department of Agriculture through the inauguration of farmers' institute work in a limited way in one of the present divisions of the Department of Agriculture; and we urge upon the Congress of the United States the importance of this work and the desirability of increasing the support for its maintenance, to be used by the Secretary of Agriculture according to plans that he may deem most wise.

"That corresponding supervision and authority in the expenditure of Government funds appropriated to the agricultural colleges of the States should be vested in the national Department of Agriculture in the interest of real agricultural education and the accomplishment of the purposes for which such appropriations were originally made.

"That the early construction of an interoceanic canal is deemed essential and imperative for meeting the objects and purposes above set forth, and we hereby earnestly petition the Congress of the United States to take immediate steps toward the opening of the interoceanic canal; and that said canal shall be built and controlled by the Government of the United States without the aid of any other nation."

The congress adopted an important amendment to its constitution, offered by the Hon. William L. Ames, of Wisconsin, which reads as follows:

"The membership of this congress shall consist of as many members from each State and Territory as shall be equivalent to one from each congressional district, two at large, one for each State agricultural college and experiment station, and one for each national or State society or organization created and maintained to foster any agricultural interest in the United States having headquarters in that State, proof to be produced, if required, of the standing of such organization; and

as many more as to the appointing power may seem wise up to, but not exceeding, 10 from any one congressional district, to be appointed preferably by the Governors of the respective States, but if in case of pressure of other business, lack of interest, or other reason the Governors fail to make liberal appointments, a certificate of appointment by the secretary of the State Board of Agriculture or State agricultural society, or by the State vice-president of this congress, shall be sufficient credentials of appointment as delegate to the Farmers' National Congress.

"And, further, it shall be the duty of such appointing power to appoint delegates recommended by any member of this congress up to the prescribed number.

"All appointments shall be for the term of two years, beginning Aug. 1 of the year in which the appointment is made, regardless of where or when the annual meeting of the congress may be held; and should a delegate so appointed fail to attend the first annual meeting after his appointment, and also fail to render a valid excuse for such neglect to the power that appointed him, another may be appointed in his place the following year. Provided always, however, that any delegate who shall have been properly appointed under the constitution of the Farmers' National Congress and has attended four of its annual meetings shall be a life-member and shall be entitled to every privilege and right of any member of the congress as long as he shall comply with the required annual payment of dues and his conduct continues acceptable to the congress.

"The vote of any State or Territory is not to exceed in any case the number of its congressional districts, plus 2, and 1 for each of its State agricultural institutions and State or national societies or organizations, as prescribed in the first paragraph of this amendment."

The congress was lavishly entertained by Macon and Georgia. At an expense of several thousand dollars a complete display of Southern products had been gathered in large tents near the Academy of Music, where it was convenient for the delegates to the congress to inspect it. A Southern barbecue was enjoyed by more than a thousand delegates and hosts. Receptions and carriage drives were given to the ladies accompanying the delegates. At the close of the congress the Georgia Southern and Florida Railway took the delegates in a special train to Palatka, Fla.; and on their return to Macon the Macon, Dublin and Savannah Railway took them on a special train to Savannah, where they were entertained by a trip down the river to the ocean, a banquet being served on board; by a clambake, rides about the city, etc.

The officers of the congress for 1903 are: President, George L. Flanders, Albany, N. Y.; first vice-president, Harvie Jordan, Monticello, Ga.; second vice-president, B. Cameron, Stagville, N. C.; treasurer, J. H. Reynolds, Adrian, Mich.; secretary, John M. Stahl, Chicago, Ill.; first assistant secretary, Edward A. Callahan, Albany, N. Y.; second assistant secretary, George M. Whitaker, Boston, Mass.; third assistant secretary, Joel M. Roberts, Waco, Neb. The executive committee is composed of Benjamin F. Clayton, Indianola, Iowa, chairman; Edward W. Wickey, Ocean Springs, Miss.; William L. Ames, Oregon, Wis.; and the president and secretary of the congress *ex-officio*.

FEDERATION OF CHURCHES. The second annual conference of the National Federation of Churches and Christian Workers in the United States was held in Washington, D. C.,

Feb. 4 and 5. Seventy-five delegates were enrolled, representing 7 States, 11 denominations, and 15 organized federations of States and cities. In response to an address of welcome by the Rev. J. N. Butler, of Washington, Mr. J. Cleveland Cady, president of the National Federation, said that he believed that great as might be the practical power gained for righteousness by the cooperation of the several branches of Christ's Church, the greatest gain would be the spiritual gain born of "peace and good-will toward men." The report of the secretary, E. B. Sanford, gave a detailed account of the work of the year, mentioning the establishment of federations in a considerable number of cities and towns, and of State federations in New York and Ohio. Different methods of work were taken up in different places according as circumstances might suggest. Among those mentioned in the present report were house-to-house visitation, the general canvass of neighborhoods, efforts to bring various churches into closer fellowship and cooperation, and measures for preventing overlapping and collision. A part of the duty of the general secretary had been to make what might be called missionary tours, in which he would visit a number of cities and towns, meet pastors and laymen of the several churches, and explain to them the principles and methods of organization under the plan of federation. Speaking of The Possible and Impossible in Church Federation, the Rev. L. C. Barnes, of Pittsburg, characterized as the impossible, and indeed, undesirable thing, ecclesiastical union, saying that it concentrated attention on points of difference, and this was sure to result in wider ecclesiastical divergence. The possible and desirable thing was Christian cooperation, which drew mind and heart away from the things in which Christians differ, to those in which they could join heartily as workers together with Christ. In an address on the way in which churches can unite for social work, the Rev. Walpole Warren, of New York, maintained that the denominations were desirable, in that each had its own particular work to do. Other subjects of discussion concerned Home Visitation, Church Federation in the Interest of Social and Civic Righteousness, Why a New England City needs Federation, Federation from a Layman's Point of View, Cooperation in Home and City Mission Work, and Interdenominational Affiliation. In the last paper the suggestion was made by Mr. Benjamin G. Welch that members of the church who move away from home be given letters to the church of their choice as fraternal associates, while they still retain their connection with the home church.

At the meeting of the Executive Board of the National Federation held in New York city Nov. 5, the secretary made report of two trips he had made to the Middle West—one in the spring and one just completed—covering together about 10,000 miles of travel. The way had been prepared by correspondence for meetings which brought together many of the men who had in charge the home mission and church extension interests of denominations representing nine-tenths of the English-speaking church-membership in the States of Michigan, Illinois, Wisconsin, Minnesota, South Dakota, Iowa, Kansas, and Nebraska. With entire and earnest unanimity of action steps were taken in all those States to secure the appointment of representatives from the denominational bodies, to meet in conference and decide the question of organization.

A meeting of delegates appointed by the leading denominations, held in Lincoln, Neb., Oct. 29, by unanimous vote, organized the Nebraska Federa-

tion of Churches, with a constitution similar to those of the New York and Ohio federations. Similar conventions were to be held at Barraboo, Wis., Nov. 11; Lansing, Mich., Dec. 10; and Chicago, Ill., Dec. 15. In Chicago, Milwaukee, Minneapolis, St. Louis, Peoria, Kansas City, Topeka, and Omaha the interests of local federated action and organization had been placed under the care of committees. The General Conference of the Methodist Episcopal Church, South, had provided for the appointment of representatives to attend the meeting of the National Federation in 1905. The General Missionary Convention of the Disciples of Christ had, by resolution, approved the spirit and purpose of the work of the Federation. In a summary of the work of the Federation and what it has done during the term of its operations, published by the national secretary, its work is defined to be to promote the formation of federations in every State and community for the purpose of securing cooperation between churches and Christian workers of all denominations and of making more effective the prosecution of their common interests. During its career it had brought about the organization of State federations in New York, Ohio, Nebraska, Massachusetts, and California; had prepared the way for action in other States—Michigan, Illinois, Wisconsin, Minnesota, Iowa, Missouri, and Kansas; and had aided the work of State organizations in Maine, Rhode Island, and Pennsylvania. Local federations had been organized in 24 cities, having an aggregate population of nearly 6,000,000. Of these 24 federations 13 had sprung from the direct initiative of the National Federation. Several federations had taken effective action for civic, social, and moral righteousness, and by putting a stop to sources of corruption had accomplished results that were possible only by united action. In some cases federations had made their work the elimination of needless and competitive churches and the establishment of churches in destitute places; and it was believed that through mutual understanding and wise counsel a better and more economical use might be made of funds contributed for missions, church extension, and charitable purposes. Federation in no way interfered with denominational belief or practise, but was intended to furnish a means by which churches of different creeds can cooperate for ends which all have at heart, but which none could attain by themselves. Among the advantages of this plan set forth by the federation of Hartford, Conn., are that it is permanent rather than transient, systematic rather than spasmodic; that it draws all the churches together for united effort, bringing all their activities into relation with one another; and that it furnishes a convenient medium for expressing the Christian sentiment of the community in support of officers of the law and other functionaries who desire to do their duty, but are unable to work successfully without a strong moral support. House-to-house visitation by voluntary workers has been carried on in several cities and arrangements are making for it in many others. Its principal purpose is to bring all the people into sympathetic contact with some church; to seek out persons who have become alienated from the Church and restore them to its influence. Work of this kind has been systematically prosecuted in the city of New York, where numerous conditions exist which illustrate the need of it. Among these conditions, as described in a report of the city federation, are the frequent changes of families from one apartment or tenement house to another; the uneven distribution, not correspond-

ing with the distribution of population, of church settlements, and charitable institutions; the high percentage of the foreign population; and frequent changes of nationality which some neighborhoods undergo. For effective work, the city is divided into assembly-district or ward sub-federations, and a parish system is instituted, under which each block is assigned to a church or co-operative organization. These cooperating agencies report yearly through the central federation all families with definite religious preference to congregations of their creed, while families without such preferences are given into the charge of the church supervising the blocks in which they live. Through the same agencies watch is kept upon all vicious institutions in the several districts and blocks in order that the power of the federation may be brought to bear against them through the officers of the law. Through them also interest is fostered in the improvements of schools and the maintenance of playgrounds, parks, and libraries.

Federation in Great Britain.—The Free Church Year-Book for 1902 represents that, according to the latest returns, the Free Churches of England and Wales have an aggregate of 1,946,959 members, while the estimated membership of the Anglican Church is 1,974,829. The figures for the entire English-speaking world indicate that the Free Church membership is more than 18,000,000, and the Anglican membership a little more than 3,000,000.

National Council of Evangelical Free Churches.—The seventh annual meeting of the English National Council of the Evangelical Free Churches was held in Bradford, beginning March 11. The Rev. Dr. W. J. Townsend, of the Methodist New Connection, presided and delivered an opening address on the subject of The Free Church of England: Its Divine Call. In it he suggested the thought as a gladdening and a sobering one that this, the youngest of the great organizations of the land, was yet the greatest, and covered at least 8,000,000 of adherents. The annual report showed that since the meetings of the previous year at Cardiff the number of councils had increased from 720 to 796. There was likely to be a diminishing proportion of new councils, owing to the fact that the entire area of England and Wales was nearly covered already. A few councils since the movement started had dissolved, and others had been merged in larger councils. The fears formerly entertained that the movement would become political had not been realized, and not more than a dozen councils "had struck on this rock." The councils were increasingly doing solid spiritual work. The district federations were perfecting their organizations and readjusting their areas. The three missionaries of the National Council had each held missions in all parts of the country, with crowded services, many conversions, and quickening of the spiritual life of the churches. Cycling mission bands had been very active in the villages during the summer. The Social Purity Crusade carried on by the Central South London Council had led to the closing of 300 disorderly houses. The National Council had taken an active part in defense of progressive and unsectarian education against the attacks of a "clericalizing government." A feature of the year had been the launching of the Free Church Girls' Guild, which had been taken up by 80 councils, while about 40 workers in addition were engaged in the villages. About 3,000 girls had been brought within the shelter of the guilds. Resolutions were adopted proposing that non-conformist churches should be enabled to acquire land compulsorily for

the erection of places of worship when they can not get land by purchase, and to enfranchise on equitable terms places of worship held on leasehold tenure; urging local councils to take action against gambling, and calling for rigorous enforcement of the existing law, with increased municipal and administrative powers for the suppression of betting; welcoming the Government's bill to amend the law relating to the sale of intoxicating liquors and to drunkenness and to provide for the registration of clubs, and appealing to the Government to introduce at the next session a bill dealing radically with the licensing system on the line of the recommendations of the minority report; and reaffirming the resolutions of the previous year respecting secondary education. These resolutions protested against the application of local rates to the establishment or maintenance of denominational schools privately managed, and expressed the opinion that the only solution of the education question was the creation of one local and directly representative authority, in areas of sufficient size, responsible for all grades of education. Among the subjects treated in the addresses and papers delivered and read to the meeting were Housing (Rev. Dr. Clifford); The Attitude of Free Church Councils to Social Problems; The Right Use of Wealth; Free Church Twentieth-Century Funds: the Opportunities they Give Us; How Successfully to Work a Free Church Council; Twentieth-Century Evangelism; The Federation Movement: a Link between the Nations; and the Free Church Boys' Camp Movement.

A national conference of Free Church Councils to consider the education bill pending in Parliament was held in London April 15. The Rev. Dr. W. J. Townsend, president of the National Council of Free Churches, presided. In his opening address the chairman declared that what were said to be concessions to non-conformists in the education bill were found to be "aggravations of the injustice under which they had lived. The bill aimed to destroy the only education authority which had worked well for thirty-two years, and it changed the face of education in the country immeasurably for the worse. The proposals involved a new endowment of what was already the richest church in the world. This would constitute a new church rate which would become a flag of controversy and bitterness throughout the entire land. The bill was objectionable in almost every detail, and they could do nothing less than demand its withdrawal in the name of national righteousness." Resolutions were adopted describing the bill as an entire reversal of the leading principles of the settlement of 1870, and a violation of public justice, seeing that it destroyed the direct popular management and unsectarian character of schools wholly maintained by the ratepayers; protesting against it as compelling non-conformists to pay rates and taxes to schools whose teaching is wholly repugnant to their conscience; perpetuating the subjection of a state-paid teaching profession to sectarian tests, thus closing a large majority of the possible appointments against non-conformist teachers otherwise eligible, and as tending to the multiplication of sectarian schools; protesting against destroying popularly elected school boards, and questioning the equal efficiency of the school boards contemplated in the bill with those specially elected and directly responsible to the ratepayers; and calling upon non-conformists "to oppose the bill at every stage by public meetings, petitions to Parliament, deputations to members, and by every form of legitimate action in their several districts"; and declaring "that Free Churchmen can never agree or submit to the conditions laid

down in the Government bill, which was calculated still further to hinder education, greatly decrease the rates, inflict injustice, and create religious bitterness."

At a meeting of the General Committee of the National Council, June 2, reports were made of activity in all parts of the country in opposing the Education bill by the circulation of documents, the holding of public meetings, and the delivery of addresses by representatives of the Free Churches.

FINANCIAL REVIEW OF 1902. The most important event of the year was the ending of the Boer War in South Africa through the acceptance, on May 31, by the Boer delegates to the peace conference at Pretoria of the terms of surrender imposed by the British Government, through Gen. Kitchener. These terms were, as briefly stated, that the burghers should lay down their arms and recognize the sovereignty of King Edward; the return to South Africa of all Boer prisoners, Great Britain undertaking that they shall not suffer the loss of liberty or of property, and that no action shall be taken against any such prisoners save in cases where they have been guilty of a breach of the laws of war; that the Dutch language will be taught in the schools of the new colonies where the parents desire it, and that this language will be used in the courts of law where necessary; that the burghers will be allowed to retain rifles for self-protection and that military occupation of the colonies will cease as soon as possible and self-government will be substituted.

The total British losses in South Africa, as officially stated, from the beginning of the war, Oct. 10, 1899, to the ending of hostilities, which practically terminated with the capture of Lord Methuen's force by Gen. Delarey March 10, were 1,069 officers and 20,897 men who were either killed in battle or died from wounds or disease, 884 officers and 9,181 men missing and prisoners, and 2,937 officers and 68,311 men sent home as invalids. The British took 37,000 Boer prisoners; of the killed and wounded no statistics were given. The cost of the war to the British, as officially reported by the Chancellor of the Exchequer in presenting the budget on April 1, was £165,034,000 (\$825,170,000). The direct and indirect borrowings on account of the war were estimated by the London Statist at £250,000,000 (\$1,250,000,000). The last loan issued was for £35,000,000 on April 14, and another loan for about £10,000,000 for the restocking of the Boer farms and for other improvements in the Transvaal will soon be emitted. The British forces in the field during the war were about 280,000 men; the Boer force at the beginning was estimated at 50,000.

The effect of the war upon the gold production of South Africa is shown by the fact that from a maximum of 459,709 ounces in August, 1899, it fell to 19,906 in October, and the total for that year was 4,069,166 ounces. In 1900 no record of production appears after March, and the output for that year is stated at 251,891 ounces. In 1901 mining was resumed in May, and the production in that year was 238,901 ounces. For nine months of 1902 the output was estimated at 1,329,573 ounces, and it increased from 81,405 in February to about 190,000 ounces in October.

Another event of the year was the postponement of the ceremonies of the coronation of King Edward and of Queen Alexandra, which were to have taken place on June 24, because of the illness of the King, which necessitated an operation for appendicitis. The ceremonies were finally

held on Aug. 9, after the King's recovery, though they were of a much less imposing character than originally contemplated.

Prince Henry of Germany visited the United States in February, when he was enthusiastically received and entertained by the Federal, State, and municipal governments and by commercial and other bodies. In October the Crown Prince of Siam was a visitor to this country.

When the time arrived for the payment of the interest and of the first instalment of the Chinese indemnity, which were due July 1, the Chinese Government insisted upon such an interpretation of the terms as would permit payment to be made on a silver, instead of a gold basis. The United States Government assented to the change, but other powers refused; later, however, the terms were partially modified by these powers. Largely as a result of the payments of the indemnity, the market price of silver declined, and on Nov. 22 it fell to the lowest price on record, 22½ pence per ounce.

During the first half of the year there was more or less depression in the European markets, and particularly in those on the Continent. In France the Bourse was unfavorably affected in December, 1901, by a decline in copper shares, which fall was also reflected in the London market. Later coal-mining strikes in France caused more or less industrial unrest, which extended to Germany, and the situation in Russia was at times regarded as critical. Consequently French and German capital was largely diverted to London for employment, resulting in an enormous increase in the investments, especially by French bankers, in consols and in other securities and also in sterling bills in the British capital. It was estimated late in October that the investments of France in foreign countries amounted to about £1,200,000,000, and that those investments in England alone were not far from £40,000,000. The plethora of French capital seeking employment greatly facilitated borrowings, through sterling bills, by American bankers, and it was estimated at the end of October that such loans were upward of \$200,000,000. This large indebtedness of Americans will account for the sensitiveness of our markets to the changes in monetary conditions abroad which resulted from the efforts in September of the Bank of England to divert to Paris the drain of gold to New York, which was then threatened by the acute monetary tension at this center. When our money-market grew easier and gold exports hence to Paris became possible, the London discount and the bullion markets promptly responded to the changed conditions here and to those in Paris as indicated by the rate for exchange at the French capital on London.

The following is a tabular survey of the economic conditions and results of the twelve months ending Nov. 29, 1902, contrasted with those of the corresponding period ending Nov. 30, 1901:

ECONOMIC CONDITIONS AND RESULTS.	1901.	1902.
Coin and currency in the United States, Nov. 30 . . .	\$2,589,351,896	\$2,645,558,394
Bank clearings in the United States	\$117,840,582,916	\$118,080,280,363
Business failures	\$118,816,189	\$115,567,058
Imports of merchandise . . .	\$869,187,846	\$954,976,817
Exports of merchandise . . .	\$1,474,324,185	\$1,349,473,682
Gross earnings 74 railroads . .	\$576,882,954	\$623,776,463
Wheat raised, bushels	748,460,218	620,595,000
Corn raised, bushels	1,522,519,891	2,542,516,000
Cotton raised, bales	10,425,141	10,701,453

Money.—As was the case in the previous year, the feature of the monetary situation in 1902 was the continuous and increasing absorption by the Treasury of money from the banks through the fiscal operations of the Government. In December, 1901, the excess of receipts over expenditures was \$9,742,966.53, and in January, 1902, this excess was \$8,033,856.26. In the following month there was a reduction in the surplus revenues to \$2,060,448.37, followed in March by a recovery to \$8,398,976.67. In April the surplus fell off to \$4,416,127.24, recovering in May to \$10,762,651.58, and in June the excess of receipts over expenditures was \$15,839,609.45, though provision had been made by Congress for the abolition of the war-revenue taxes imposed by the act of 1898, the repeal to take effect July 1. After the beginning of the new fiscal year the effect of the repeal of internal-revenue taxes was observable in the excess of expenditures over receipts in July by \$7,507,876.49, for the first time since August, 1900, when the deficiency in the revenues was \$820,244.12. In August, 1902, however, the above-noted deficiency was reduced to \$2,015,674.14, the excess of receipts over expenditures for that month being \$5,492,202.35. Thereafter customs payments were quite large, reflecting increasing imports, and internal-revenue collections were heavy, due to prosperous conditions of such industries as were taxable under those internal imposts which were in effect, and at the end of November the surplus revenues for five months of the fiscal year were \$14,149,179, against \$32,882,941.12 for the corresponding five months in 1901, when the majority of the internal taxes were in force. This absorption of money through the fiscal operations of the Treasury had a direct influence upon the New York banks because of the fact that about 70 per cent. of the Government business is conducted at this center. In addition to the drain upon the banks in New York through fiscal operations there was in December, 1901, a notable movement into the Treasury caused by the action of banks in the interior remitting, through their correspondents in this city, lawful money to the redemption bureau at Washington for the purpose of substituting such lawful money for United States bonds held as security for circulating notes, the bonds so withdrawn being sold in order to realize the high prices for them then ruling. This movement continued with but little interruption until about the middle of March, when Secretary Shaw, who succeeded Secretary Gage at the beginning of the month, suspended the purchases of United States bonds, which had been inaugurated by his predecessor, such suspension being mainly for the purpose of checking the withdrawal for sale of those of these securities which were pledged for circulating notes. With a view to relieve the monetary situation, which had become somewhat tense by reason of withdrawals of gold for export, and the above-noted absorption of money by the Treasury, Secretary Shaw sought to increase deposits of public funds in the depository banks throughout the country, but he was only partially successful, because of the fact that the bonds required as pledge for these deposits commanded such high prices that few of the banks would procure them for the purpose of qualifying for the reception of public funds. Moreover, the tense monetary conditions were, for the reasons above assigned, chiefly confined to this center, and they did not generally prevail in the interior; consequently there was little inducement for country banks to apply for Government deposits. In the early summer months the mone-

tary tension relaxed, but by the middle of August stringent conditions again developed, owing to the concurrent absorption of money from the banks into the Treasury through fiscal operations and a movement of funds to the interior for crop and for business purposes, and also an enormous expansion of bank credits. In the following month the situation became so acute because of the low bank reserves that the Secretary of the Treasury was impelled to resort to expedients for relief. On Sept. 13 he announced a policy of designating as temporary depositories of public funds such banks as had free United States bonds, or those which were not pledged for deposits or for circulation. The Secretary also anticipated the payment of interest upon the public debt due Oct. 1, and on Sept. 20 he announced that he would divert to depository banks the full amount of internal-revenue and miscellaneous receipts, amounting to more than \$500,000 per day for thirty or sixty days, or longer, should such a course be necessary. On Sept. 25 the Secretary directed the prepayment, with a rebate of $\frac{1}{10}$ of 1 per cent. per month, of all interest on the public debt from Oct. 1 to and including July 1, 1903. He also offered to buy at 105 any of the United States 5-per-cent. bonds of 1904 which might be offered on or before Oct. 15; the price offered for these bonds was, however, so low that only \$23,500 out of the \$19,410,350 outstanding were presented for redemption. The above-noted measures of relief having proved entirely ineffective in relieving the monetary tension, which was most severely felt at New York, the Secretary on Sept. 30 announced that he would accept as pledge for public deposits in the banks municipal or such other bonds as were permissible as investments by savings-banks of the various States, these bonds to be substituted for those of the Government on condition that the United States bonds so released be immediately deposited as security for new circulation; the object which the Secretary had in view was an increase in the volume of bank-notes. At the same time Secretary Shaw, as part of his general plan for the relief of the money market, announced that no reserve would be required to be held by depository banks against deposits of those of the public funds which were secured by United States bonds. It was expected that the release of this cash reserve would result in the expansion of bank credits generally throughout the country by four times the sum of such cash. The depository banks in this city did not take advantage of this permission to release the reserve against public deposits and expand their credits, chiefly for the reason that it was deemed prudent to check as much as possible undue speculation in the stock-market, and the surplus reserves of the associated banks continued to be computed upon the basis of net deposits, including those of the Government, as formerly, though the amount of the public funds was separately stated, and the changes in the surplus, on the basis of net deposits, less those of public funds, were noted in the official weekly statements. The above-mentioned measures of Treasury relief to the situation proved only partially effective, there having been up to Oct. 18 only about \$15,500,000 of municipal bonds substituted for those of the Government as pledge for public deposits, releasing \$11,625,000 of United States bonds as security for new circulation. The payments of rebated interest at that date did not exceed \$3,200,000. About \$8,000,000 of gold had been received from Europe, South Africa, and Australia, and \$1,500,-

000 more was in transit, but the condition of the foreign-exchange market was such as to make entirely improbable the importation of further sums. On Oct. 7 Secretary Shaw was offered a block of \$5,000,000 United States 4-per-cent. bonds of 1925 at 138. He declined to accept them, though he expressed a willingness to consider the proposal and take an option upon the bonds, provided the bankers making the tender would offer a larger amount at a concession in the price. These bankers thereupon negotiated with holders of United States 4-per-cent. of 1925 for their exchange for municipal bonds, which had been accumulated in the course of the business of these bankers, and having succeeded in effecting such exchange for about \$10,000,000 of the above-mentioned United States bonds, they offered them to the Secretary. On Oct. 17 Mr. Shaw announced that he had accepted the option on the \$5,000,000 offered on the 7th, and that he would buy at 137½ and interest any United States 4-per-cent. bonds of 1925 that might be offered on that day and until the close of business on Oct. 20. The offerings on the 17th were \$8,253,400, and on the 18th \$865,000; the total amount paid for the bonds on the completion of deliveries was \$21,885,864. The Secretary also directed the payment of the November interest on the public debt, which interest amounted to about \$2,300,000, without rebate. Early in November the Secretary suspended the substitution of State and municipal for United States bonds as security for deposits of public funds; the amount of substitutions then was \$20,488,500. Secretary Shaw also announced that no further increase would be made in deposits of public funds in the banks.

Average cash holdings of the New York associated banks at the beginning of December, 1901, were \$248,581,700. The maximum for the twelve months ending Nov. 29, 1902, was \$270,622,600 Feb. 1. By May 17 the cash had been reduced to \$242,387,000, largely by reason of the suspension, March 15, by Secretary Shaw of bond purchases. There was a recovery by July 26 to \$253,526,700, due, in part, to the return movement of money to this center from the West. This was followed by a gradual reduction in the cash, caused, at first, by absorption by the Treasury and later by the movement of currency to the interior, and by Oct. 11 the cash was reduced to \$219,612,500, the minimum of the year. The liberal purchases of bonds by the Treasury on the 17th caused a recovery in the cash to \$238,452,800 by Oct. 25, and at the end of November it was \$236,745,500. At the beginning of December, 1901, the average loans of the associated banks were \$876,169,200. After Dec. 21, when the minimum of the twelve months, \$857,005,400, was recorded, loans rapidly expanded to \$938,191,200 by March 1; this was not only the maximum of the year, but the highest on record. Then came contraction, influenced by a reduction in bank reserves, and by April 26 the loans had been reduced to \$893,394,100. After a recovery to \$904,162,500 in the following week, loans were again reduced, reaching \$881,070,400 by June 14. They were thereafter more or less rapidly expanded to \$929,148,000 by Aug. 16 in anticipation of the effects of the abolition of the war-taxes, and then followed gradual reduction, owing to calling of loans and liquidations, to \$865,450,800 by Oct. 18; at the end of November they were \$879,826,000. Average deposits of the associated banks at the beginning of December, 1901, were \$940,668,500. They fell to \$904,096,300 by Dec. 21, and thereafter there was a rapid rise to \$1,019,

474,200, the highest of the year and on record, by Feb. 21. After irregularly declining to \$931,751,000 by May 24 there was an advance to \$960,246,000 by Aug. 16, followed by a decline to \$863,125,800, the lowest of the year, Oct. 18; at the end of November the deposits were \$883,836,800. It should be noted that, beginning with Oct. 4, the amount of public deposits in the banks was separately reported; these, on that date, were \$40,769,300, and by the close of November they were \$40,169,900. The surplus reserve of the banks at the beginning of December, 1901, was \$13,414,575. This was reduced to \$5,455,025 by Dec. 14, recovering to \$26,623,350, the maximum of the year, by Feb. 1, 1902. There was a fall to \$3,112,900 by March 15, a recovery to \$6,965,575 on the 29th, a decline to \$2,649,525 April 5, and then came an irregular recovery to \$15,709,275 by July 19. The effects of the drain of cash into the Treasury and to the interior and also of the expansion of loans and the consequent increase of deposits were observable in the decrease in the reserve to \$1,642,050 deficiency by Sept. 20, for the first time since Nov. 18, 1899. There was a recovery in the reserve in the following week and an improvement in bank conditions thereafter; the surplus reserve at the end of November was \$15,786,300. Computations of reserve based upon net deposits, less those of the Government, showed a surplus at the close of November of \$25,828,775. One feature of the totals of the weekly bank statements, observable in October until the 25th was the increasing excess of loans over deposits beginning with the 4th. This was due to the practical transfer of deposits to the capital and net-profit account, and this occurred for the first time since 1896; on and after Oct. 25 deposits were in excess of loans. Previous to October this year individual banks having large capital loaned in excess of their deposits, but in the above-named month from 20 to 22 banks pursued this course.

The extreme rates for money on call at the New York Stock Exchange during the twelve months under review were 35 per cent. and 2 per cent. The tone of the money market was firm in December, 1901, the rate gradually advancing after the middle of the month to 15 per cent. on the 31st, influenced by the low bank reserves. In January, 1902, the market grew easier as the result of the return flow of money from the interior, the purchases of bonds for the sinking-fund, and the restoration of bank reserves, and in the following month, 2 per cent., the minimum of the year, was recorded. The tone became firmer in March, influenced by gold exports and by the suspension of bond purchases by the Treasury, and in April low bank reserves and continued gold exports kept rates comparatively high until the close of the month, when the tone became easier, influenced by increased deposits of public funds in depository banks. In May, during the derangement incident to failures of Stock-Exchange houses, money on call advanced to 25 per cent. After the excitement subsided, however, normal conditions were restored, and the market was easy in June and until the middle of August, when the rate on call rose to 6 per cent., subsequently declining to 3 per cent. In September monetary tension developed as the result of a concurrent drain of money to the interior, absorptions by the Treasury through fiscal operations and the expansion of loans, and 35 per cent. was recorded by the end of the month; this rate was the highest of the year. In October tense monetary conditions prevailed until they were relieved through the purchase of \$15,584,050

4-per-cent. bonds by the Treasury, when rates declined, and thereafter to the close of November the range for money on call was from 6 per cent. to 2 per cent.

Time loans were 6 per cent. for thirty to sixty days, and $4\frac{1}{2}$ to 5 per cent. for four to six months on stock collateral in December, 1901, and until after the middle of January, 1902, when the rates fell to 4 per cent. for all periods, and from February to April, inclusive, quotations were $3\frac{1}{2}$ to $4\frac{1}{2}$ per cent. for short and long dates respectively. In May there was an advance to 6 per

The clearings of the New York associated banks during the clearing-house year ending Sept. 30, 1902, were \$74,753,189,436, against \$77,020,672,494 in the previous year. For twelve months ending Nov. 29, 1902, the clearings were \$76,477,924,342, against \$79,059,126,079 for the same time in 1900-'01.

The condition of the New York Clearing-House banks, the rates of interest, exchange, and silver, and the prices of United States bonds on Nov. 30, 1902, compared with the same items for the previous two years, are as follow:

ITEMS.	Nov. 30, 1900.	Nov. 30, 1901.	Nov. 29, 1902.
NEW YORK CITY BANKS:			
Loans and discounts.....	\$904,489,100	\$876,169,300	\$879,826,000
Specie.....	166,896,000	176,186,500	168,840,300
Circulation.....	30,670,000	31,975,000	45,432,800
Net deposits.....	864,410,900	960,668,500	888,836,300
Legal tenders.....	60,073,400	72,865,300	67,905,300
Required reserve.....	216,108,735	225,167,125	220,959,200
Reserve held.....	226,968,400	248,581,700	236,745,500
Surplus reserve.....	\$10,865,675	\$13,414,575	\$15,786,300
MONEY, EXCHANGE, SILVER:			
Call loans.....	3 to $4\frac{1}{2}$	4	6
Prime paper, 60 days.....	4 to $4\frac{1}{2}$	$4\frac{1}{2}$ to 5	6
Silver in London, per ounce.....	29 $\frac{1}{2}$ d.	25 $\frac{1}{2}$ d.	21 $\frac{1}{2}$ d.
Prime sterling, 60 days.....	\$4 8 $\frac{1}{2}$ to \$4 82	\$4 84 $\frac{1}{2}$ to \$4 84 $\frac{1}{2}$	\$4 88 $\frac{1}{2}$ to \$4 88 $\frac{1}{2}$
UNITED STATES BONDS:			
4s coupon, 1907.....	116 bid	112 $\frac{1}{2}$ bid	109 $\frac{1}{2}$ to 110
4s coupon, 1925.....	138 $\frac{1}{2}$ bid	139 $\frac{1}{2}$ bid	135 $\frac{1}{2}$ to 136 $\frac{1}{2}$
3s coupon, 1908.....	110 bid	108 $\frac{1}{2}$ bid	108 to 108 $\frac{1}{2}$
5s coupon, 1904.....	113 $\frac{1}{2}$ bid	107 $\frac{1}{2}$ bid	108 $\frac{1}{2}$ to 104 $\frac{1}{2}$
2s coupon, 1930.....	106 $\frac{1}{2}$ bid	108 $\frac{1}{2}$ bid	106 $\frac{1}{2}$ to 109

cent. for short, followed in June by a decline to $4\frac{1}{2}$ to 5 for all periods, and these rates remained practically unchanged until September. Then they rose to 6 per cent., plus a commission of from $\frac{1}{4}$ of 1 to 1 per cent., equal to 7 and 8 per

The following is a statement of the average loans, specie, circulation, deposits, and legal tenders of the New York associated banks at the beginning of each quarter and at the end of November, 1902:

DATE.	Loans.	Specie.	Circulation.	Deposits.	Legal tenders.
January 4.....	\$869,546,600	\$164,806,800	\$31,874,200	\$926,904,100	\$74,257,800
April 5.....	907,323,400	173,254,300	31,059,900	964,618,300	70,549,900
July 5.....	910,868,300	173,116,300	31,633,800	958,647,500	76,629,800
October 4.....	872,303,700	151,269,900	35,660,900	873,176,000	68,568,800
November 29.....	879,826,000	168,840,300	45,432,800	888,836,300	67,905,300

cent. per annum, in consequence of the monetary derangement which then prevailed. In the latter part of this month and in October banks refrained from offering time loans, having so little money to lend that they preferred to employ it on call, and the few time contracts recorded were made with trust companies at the above-named rates. After the monetary tension was relieved, through bond purchases, rates declined to 6 per cent., without a commission. The market for time money was, however, firm in November, when the demand was greatest for short periods at 6 to 7 per cent.

Commercial paper of first class was $4\frac{1}{2}$ to $5\frac{1}{2}$ per cent. in December, 1901, so remaining until February, 1902, when it fell to 4 to $4\frac{1}{2}$ per cent., recovering to the above-quoted rates in April, and declining to 4 to $4\frac{1}{2}$ per cent. in June. In the following month there was a rise to $4\frac{1}{2}$ to 5 per cent., in August to $4\frac{1}{2}$ to $5\frac{1}{2}$ per cent., and in September and October rates were nominal at 6 per cent. for all periods. No local business was then transacted in paper, the banks being out of the market as buyers, and merchants desiring accommodation resorted to their banks for discounts. Mercantile requirements were, however, small, collections being generally good and sufficient to meet current needs. It is noteworthy that at no time during the monetary derangement were merchants in the least incommoded by the high rates, these being confined to the Stock Exchange.

Stocks.—The stock-market was more or less unsettled during the greater part of December, 1901, by active money, and also by important declines in the price of some of the industrial properties, notably Amalgamated Copper and American Sugar Refining, the former falling to 60 $\frac{1}{2}$, compared with 130 six months previously, and the latter to 103 $\frac{1}{2}$ from 126 $\frac{1}{2}$ at the beginning of the month and 153 early in June. Toward the last week there was a decided recovery in the market, led by the anthracite-coal shares, the rise in which was influenced by the very satisfactory condition of the trade as indicated by the unprecedentedly large production for the year and by the maintenance of firm prices. Central New Jersey sold at 196 $\frac{1}{2}$ as against 145 $\frac{1}{2}$ Jan. 4, and Lackawanna was 258 Dec. 31 compared with 188 $\frac{1}{2}$ Jan. 3. The Reading stocks, Manhattan, St. Louis and San Francisco, and Chicago, Indianapolis and Louisville common also recorded notable advances. Among the exceptionally large transactions during the month were those in Amalgamated Copper of 2,555,000, and in American Sugar Refining of 1,050,000 shares. In January, 1902, the dealings in stocks were smaller, and though there was apparently inherent strength in the market, prices fell off on light offerings. There seemed to be a disposition on the part of speculators to await developments of an encouraging character before venturing in the market. The movement by the State of Minnesota for the institution of a suit in the United

States Supreme Court against the Northern Securities Company attracted attention, and one depressing influence was the embarrassment of a Western syndicate which had undertaken to consolidate a group of trolley and telephone lines, while another event of a somewhat discouraging character was the failure of the Crude Rubber Company. The floating of \$30,000,000 debenture bonds by the Atchison, Topeka and Santa Fé Railroad Company was unfavorably construed, and there were rumors of a large bond issue by the Erie. The deplorable Park Avenue Tunnel accident had an adverse influence upon the stock of the New York Central Company. This was followed by the announcement of an issue of \$35,000,000 of new stock, through which shareholders would have valuable rights, and the market price of the stock thereupon recovered. The dividend on the Central New Jersey was increased during the month from 5 per cent. to 8 per cent. per annum, and that of the New York, Chicago and St. Louis second preferred from 2 per cent. to 3 per cent. Amalgamated Copper stock recovered because of the improvement in the copper situation, and the annual report of the United States Steel Corporation was so favorable that it stimulated active buying of the shares. The London security markets were strong on rumors of peace negotiations, indicating a speedy ending of the war in South Africa, and this news had some influence on the speculation in American securities at the British capital, more or less contributing to a better tone here toward the close of the month. Among the important advances were Lackawanna to 281½, in Rock Island to 165, Chicago and North-western to 16, and Metropolitan Street Railway to 173. In February the depressing influences on the market were the phenomenally bad weather conditions between the 17th and the 28th, and also, the effort of the Commissioner of Internal Revenue to enforce a ruling taxing collateral deposited as security for loans. The United States Supreme Court adjourned on the 3d, having failed to announce a decision in the matter of the application of the State of Minnesota for leave to file a bill of complaint against the Northern Securities Company, and therefore it was felt that the intended suit would not be pressed. Interest in the matter was revived, however, by the action of President Roosevelt, who, on the 19th, directed the Attorney-General to bring suit against the company on the ground that it existed in defiance of the antitrust law of 1890. Though the Supreme Court on the 24th rendered a decision denying the application of the State of Minnesota, the above-noted action by the President had an unsettling effect, because it was seen that if the Northern Securities Company had violated the provisions of the act of 1890 there were other concerns which were similarly situated. There was a severe fall in prices of stocks on the exchange on the 20th, but this was followed by an irregular recovery, and the market was generally strong thereafter, though the trading was comparatively small.

Labor troubles were the prominent features in March, and the most serious was the strike of freight-handlers at Boston. A lockout was threatened by the cotton manufacturers at New Bedford, Mass., but the differences with the employees were compromised. The United Mine Workers in the anthracite coal regions of Pennsylvania demanded an eight-hour working day, but through the mediation of the National Civic Federation a strike was averted. The bill of complaint in the action brought by the United

States Government against the Northern Securities Company was filed in the circuit court for the District of Minnesota on the 10th, but this attracted little attention. There was some anxiety felt respecting the prospects for winter wheat, owing to long-continued drought in the Southwest, until copious rains tended to relieve apprehensions. Notwithstanding the above-noted unsettling features the tendency of the stock market was generally upward, and closing prices showed improvements compared with the lowest of the month; one of the notable events was an increase in the dividend on Southern Railway preferred to the basis of 5 per cent. per annum. A prominent feature in April was a partial corner in Louisville and Nashville. This was brought about through the sale by the company of 50,000 shares of new stock, the issue of which had been authorized in 1893. The sale was made, however, before the new stock had been listed on the Stock Exchange, and, taking advantage of this fact, John W. Gates bought largely of the stock, intending to squeeze the short interest, but, in order to effect this purpose, he was obliged to buy more than he could conveniently carry. He had secured control of the property, and if he forced a corner he would place himself in the embarrassing position of being technically short of his own stock. He extricated himself from this position by turning over his control to J. P. Morgan & Co. When it was seen that a corner was threatened the whole market became unsettled, but after the impending danger had been averted there was a decided recovery in the entire list influenced by speculative manipulation on a large scale. Among the notable advances were Chicago and Northwestern common from 232 to 271, Illinois Central 141½ to 153½, Nashville, Chattanooga and St. Louis 89½ to 122, and Michigan Central 150 to 192; Louisville and Nashville rose during Mr. Gates's operations from 105½ to 133. The quarterly dividend on Amalgamated Copper was reduced this month to ¼ of 1 per cent., and that on Calumet and Hecla was also lowered. The United States Steel Corporation announced its intention to issue \$250,000,000 of new bonds for the purpose of retiring with \$200,000,000 of the issue a corresponding amount of preferred stock and converting the remainder of the bond emission into cash. The Rock Island obtained control of the Choctaw, Oklahoma and Gulf Railroad, and the Atlantic Coast Line acquired control of the Savannah, Florida and Western, or the Plant system of roads. One event early in May was the collapse of what were known as the Webb-Meyer securities, involving the failure of three Stock-Exchange firms. There had been wild speculation in these properties, the result of manipulation, and the collapse was brought about through a sharp break on the curb market on the last day in April in International Power stock from 198 to 120. This attracted attention to Dominion Securities, Hackensack Meadow, Storage Power, and North American Lumber and Pulp because of the supposed connection of the Webb-Meyer syndicate with International Power. The market was again unsettled, after it had partially recovered from the effect of the above-noted failures, by the decision of the United Mine Workers on May 15 to strike, they having failed to obtain any concession from the anthracite-coal operators. Gradually, however, the market recovered, influenced in part by the restoration of normal monetary conditions, which had been deranged by the Webb-Meyer troubles, and the tone was steady for the re-

mainder of the month, though prices were generally lower at the end than at the beginning; one important exception was Canadian Pacific, which rose from 122½ to 141½. The anthracite-coal miners' strike continued throughout June, and an attempt at the beginning of the month by the leaders of the organization to induce the engineers, firemen, and pump-men at the mines to join in the strike was partially successful. On the 18th a call was issued by John Mitchell, the president of the United Mine Workers' Association, for a convention to be held July 17 of all the coal-miners in the country, both bituminous and anthracite, to determine whether the former should also strike. Mining of anthracite coal was suspended throughout the month, the operators fearing that those who were willing to work would not be protected, but the washeries at the mines were operated and some coal was supplied to the market. The stock speculation was not greatly influenced by the coal strike, because it was felt that some way would be found for settling the troubles. The tone of the market was generally strong, though the volume of business was not large. One feature was a sharp rise in Chicago and Eastern Illinois from 159½ to 195, and there was also an advance in Illinois Central from 150 to 161½ on the announcement of an increase in the capital from \$79,200,000 to \$95,040,000, stockholders to be given the privilege of taking the additional shares at par. Other noteworthy price movements were sharp advances in Missouri Pacific, Wabash common and preferred, and St. Paul. The granting of a permanent injunction restraining the conversion of \$200,000,000 of the United States Steel preferred stock into bonds caused a fall in the shares of the corporation. Though the Pennsylvania Railroad Company made a contract with the Postal Telegraph Company for the use of the lines of the Pennsylvania system to displace the service of the Western Union, the stock of the latter was not materially affected.

In July the stock-market was generally strong and at intervals buoyant. The efforts of the anthracite miners' organization to induce the bituminous miners to join in a sympathetic strike failed for the reason that the latter considered themselves bound by existing contracts with their employers; this action of the bituminous miners removed a threatening feature in the coal situation. Riotings and other violence by the anthracite miners at Shenandoah, Pa., led to the calling out, by Gov. Stone, of the Pennsylvania militia. Strikes among the freight-handlers at Chicago resulted in a partial suspension of freight traffic until the 16th, when the strikers surrendered; there were labor disturbances in the bituminous-coal regions of Virginia and West Virginia, but these were unimportant. Among the decided advances in stocks during the month were those in Atchison, Missouri Pacific, and other Southwestern properties, St. Paul, Illinois Central, New York Central, Pennsylvania, Rock Island, Chicago and Eastern Illinois, St. Louis and San Francisco, and Colorado Fuel and Iron. Toward the end of the month the stocks which had been most rapidly advanced sharply declined, influenced by liquidation and by realizations. One feature was a contest for the control of the Colorado Fuel and Iron stock, which resulted in litigation. Another feature was the taking over by the St. Louis and San Francisco of the Chicago and Eastern Illinois. Though money rates were firm the stock-market was not unfavorably affected thereby in August, nor was it influenced by the

continuance of the coal strike. The crop conditions were good, railroad earnings large, and the industrial situation was encouraging, and these favorable factors contributed to a confident feeling among stock speculators. The trading on the exchange was large and well distributed, and leading stocks, including low-priced properties, recorded material advances. Among the features of the month was the reduction of the dividend on Reading first preferred stock, the effect of which was to continue the voting trust. The declaration of the dividend on Southern Railway preferred was postponed pending the action of the stockholders as to the extension of the voting trust. The Central of Georgia dividend on first preference incomes was reduced from 5 per cent. to 3 per cent. per annum. The Colorado Southern semiannual dividend was increased from 1½ per cent. to 2 per cent. Severe monetary tension led to quite general liquidation in the stock-market in September, and the tone was weak during the greater part of the month, and on the 29th there was a demoralizing fall in prices, which was only partially checked by the announcement by the Secretary of the Treasury of plans for the relief of the monetary situation. The coal strike was a deranging element, and the market was also more or less affected by the news of an operation upon President Roosevelt, necessitated by the injury which was inflicted at the time of the collision with a trolley-car at Pittsfield, Mass., in August. One of the most important declines was in Louisville and Nashville, which broke heavily on the announcement of the merger with the Atlantic Coast Line, owing to the fear of minority holders that they would not be included in the arrangements for the majority stock. There was quite liberal selling of American stocks in London during the greater part of the month, caused by apprehensions of large gold shipments to New York as the result of the high money rates.

The stock-market was irregular and lower in October, influenced early in the month by the activity in money, and later by bearish demonstrations. The ending on the 16th of the anthracite-coal strike, which resulted from the appointment by President Roosevelt, with the concurrence of the coal operators, of a commission to investigate the causes of the trouble, had only a temporary influence upon the market, and the tendency was generally downward throughout the month, though there were occasional rallies due to rebuying to cover short contracts. The market was heavy early in November, and on the 14th there was an unsettling fall due to disquieting rumors, which carried prices of some of the leading stocks to about the lowest of the year. This was followed in the third week by an exceptional rise in Manhattan influenced by reports of a practical merger with the Metropolitan and the Interborough companies. The market was active and generally strong to the end of the month. The announcement on Nov. 22 that the anthracite strike commission had adjourned to Dec. 3 for the purpose of affording opportunity for a compromise of the differences between the operators and the miners had a stimulating effect upon the coal stocks.

Total sales of stocks on the New York Stock Exchange during the twelve months ending Nov. 29 were 189,535,721 shares, against 272,605,303 for the same time in the previous year.

The following shows the highest prices of a few of the leading speculative stocks in 1901, and the highest and lowest prices to Nov. 30, 1902:

STOCKS.	1901.	1902.	
	Highest.	Highest.	Lowest.
American Sugar Refining Co.....	153	135½	113
Brooklyn Rapid Transit.....	88½	72½	54½
Central New Jersey.....	185	198	170
Consolidated Gas.....	238	230½	211
General Electric.....	281½	334	170½
Louisville and Nashville.....	111½	159½	102½
Manhattan Elevated.....	138½	158	128
Missouri Pacific.....	124½	125½	96½
Omaha.....	146½	170½	140
Pacific Mail.....	49½	49½	37½
Reading.....	52	76½	52½
Rock Island.....	175½	206	152
St. Paul.....	188	198½	160½
Southern, preferred.....	94½	98½	91½
Tennessee Coal and Iron.....	76½	74½	60½
Union Pacific.....	133	113½	98½
Western Union.....	100½	97½	84½

The Crops.—Crop conditions were unfavorable early in the year, owing to drought in the winter-wheat States, and reports of serious damage from this cause were numerous. The general average of this grain reported on April 1 by the Bureau of Agriculture was only 78.7 per cent., against 91.7 per cent. at the corresponding date in the previous year. Midsummer heat was experienced in some sections on the 18th and the 20th, and much injury resulted. This term of heat was, however, not prolonged, and it was followed by rains and cooler weather, and in the succeeding month conditions were more favorable. The report of the Bureau of Agriculture showing the state of the crops on June 1 was generally satisfactory, though not so good as had been expected, the average of winter wheat being about equal to that on May 1; at the same time there was a decrease of about 5,000,000 in the acreage planted. The condition of spring wheat was, however, very high, it being 95.4 per cent. on June 1 against 92 at the same date in 1901. There were general rains during the month, and at the close these rains were excessive in some sections, causing much damage. The crop situation in July was in marked contrast with that of the year before; instead of drought and continued impairment there were abundant rains. The percentage of condition shown by the official reports on July 1 was quite favorable, and an increase of about 3,500,000 in the acreage was shown in corn. At the end of the month estimates were made that the yield of this cereal would be not far from 2,500,000,000 bushels. One feature in the following month was a corner in July deliveries of corn, the speculators taking advantage of the short crop of the previous year and of the small stocks in the market to advance the price. This was sharply moved upward to 85 cents in Chicago and 90 cents in New York by July 8. Attracted by these high prices, large supplies of corn were sent to Chicago from those sections where reserves were fairly abundant, and some of the cereal was reshipped from Eastern ports, where it was awaiting export to Europe. The price sharply broke, under the pressure of these unexpected offerings, to 65½ cents at Chicago, and by the close of the month it fell to 55 cents. The speculators in corn, after the above-noted break, manipulated an advance in oats, forcing the price to 72 cents by the 25th, against 53 at the beginning of the month. Wheat values were not greatly affected by these corners, and the tendency was downward on reports of large crops abroad and favorable prospects at home. The condition of all grains was very satisfactory in August. The general average of corn was reported on the 1st at 86.5 per cent. against 54 at the same time last year, and the indications

then pointed to a yield of fully 2,600,000,000 bushels. In Kansas the condition was 103 against 19 in 1901, in Missouri 100 against 29, and in Nebraska 101 against 36. The harvest began under favorable conditions, and as it progressed the reports of actual yield seemed generally to confirm previous estimates. Not only was the corn-crop almost unprecedented in volume, but the yield of wheat was enormous, far exceeding the most sanguine expectations, and in some States it was the largest ever recorded. When the crops began to move freely a serious shortage of railroad transportation facilities was experienced, but this difficulty was soon remedied. As was the case in the previous year, ocean freights were low, chiefly because the steamers which brought coal from Europe in the fall were in active competition with the regular lines for return cargoes, thus forcing rates downward to almost unprecedentedly low figures.

Estimates in November of the probable yield of cereals indicated a crop of 2,542,516,000 bushels of corn, of 620,895,000 of wheat, of 988,632,000 of oats, of 33,626,000 of rye, and of 135,169,000 of barley.

While the grain-crops were abundant the yield of cotton was irregular, and considerable damage was caused in Texas and in other States by drought. The Agricultural Department reported the general condition Sept. 4 at only 64 per cent. There was a slight improvement during that month, but the outlook was not regarded as favorable, and fears were entertained of an early frost; this encouraged a bull speculation, to which the Liverpool market responded. The official report of Oct. 1 placed the general condition at 58.3 per cent., and this gave a further impetus to the rise in prices, which did not appear to be checked by subsequent more favorable reports indicating a good growth of the late crop; it was then estimated by a prominent member of the trade that the yield for the current season would be about 11,300,000 bales. Toward the end of October killing frosts appeared in some sections, especially west of the Mississippi, checking the growth of late cotton; this news, however, did not materially advance the price, for traders were disposed to realize.

Foreign Exchange.—The exports of domestic and foreign merchandise for twelve months ending Nov. 30, 1902, were \$124,850,554 below those to the same date in 1901, and the imports of merchandise were \$85,788,971 greater. The excess of merchandise exports over imports for the twelve months was \$394,496,815, against \$605,136,340 for the corresponding period in 1901. The excess of exports over imports of merchandise and gold and silver coin and bullion for twelve months was \$411,720,929, against \$630,026,929 for the same time in 1901. Gold imports were \$4,736,581 in excess of exports for twelve months in 1902, against \$1,906,620 imports over exports for the corresponding period in 1901.

The dominating influence in the foreign-exchange market during this year was the almost continuous borrowing by our bankers from those of Europe, which operations began to be important in June of the previous year. Late in January the Bank of England rate of discount was reduced from 4 per cent. to 3½ per cent., and there was a further reduction in the first week in February to 3 per cent. Discounts at Continental centers were easy, and money ruled at such low rates at Paris that French bankers largely increased their investments in sterling and in other securities in London, and otherwise sought employment for their funds. At the same time

rates for money in New York, especially for fixed periods, were comparatively firm and higher than those ruling abroad. In consequence of these conditions those of our bankers who were largely interested in railroad and other enterprises which required considerable sums of money for financing became even greater borrowers of foreign capital than they were in the previous year. These loans were negotiated through the medium of sixty- to ninety-day bankers' bills on London which were borrowed on stock or bond collateral. As these bills approached the period when they would become sight drafts they were covered with demand bills, thus repaying the loan, or the loan was extended through further borrowings for a sixty- or ninety-day period. These operations resulted in continuous offerings of long sterling, called loan bills, which were drawn either against the foreign credits of the bankers through whom they were negotiated or against capital abroad which was seeking employment. The credits and the capital so drawn against were reimbursed by the sight drafts which were procured for the purpose of the settlement of the loan or for its extension. These sight drafts were drawn against credits resulting from the discounting or the maturing of commercial bills of exchange made against exports hence of commodities, thus causing a steady absorption of such commercial bills the prices of which were maintained at figures quite close to those of bankers' long sterling. The almost uninterrupted demand for sight bills to remit in settlement of maturing loans caused these drafts to rule at firm rates, and whenever the inquiry for them was in excess of the supply and they were not procurable at prices less than the gold export point this metal became the cheapest form of remittance and it was shipped abroad. There were occasions during the year, as was the case in November, 1901, when through remittances from London to Paris for settlements, the rate of exchange at Paris on the British capital fell to such low figures as to draw gold from London. Then bankers here having remittances to make resorted to arbitration operations, drawing exchange on London and shipping gold to Paris with which to procure French exchange for the reimbursement of the credit against which the draft on London was made. This will account for the movement of gold hence when the rate for exchange at New York on London was fractionally below the gold-exporting point. The imports of gold from Europe in September resulted from the urgency in the demand for money at this center, the high rates for loans on call and on time practically lowering the gold-importing point to such a figure as to make such imports profitable. After the monetary tension was relieved exchange advanced more or less sharply in response to a demand for remittance, and also because of dearer discounts abroad, a higher price in London for gold, and low rates for exchange at Paris on the British capital, and toward the end of October gold exports as an arbitration operation seemed probable.

So great were the above-mentioned borrowings by our bankers from those in Europe, not only in London, but at Continental centers through London, that it was estimated early in the current year that the merchandise balance in favor of this country had been so largely offset by the indebtedness of American borrowers to those abroad that there remained an amount of debt so large that it would require for its cancellation nearly, if not quite, all of the credits resulting from the exports during the current

season of our commodities. Not only was our indebtedness to Europe thus increased through borrowings of foreign capital, but it was augmented by subscriptions to European loans, notably the British consol loan of £32,000,000 emitted in April, quite large amounts of which were taken by prominent New York bankers; remittances for instalments on this loan, as they fell due, added to the demand for exchange. Other important requirements for remittance of an unusual character were those for the shipping deal, for American industrial enterprises in London and elsewhere in England, and for importations of steel, and during October of coal from Great Britain; the expenditures of tourists in Europe incident to King Edward's coronation ceremonies were also large.

Imports of merchandise in March were \$84,227,082, or greater by \$8,340,248 than in the same month in 1901, and though there was a decline to \$73,115,054 in June, there was an increase to \$79,147,874 in July. August imports were \$78,923,281, September \$87,736,346, October \$87,419,138, and November \$85,478,765. Merchandise exports fell from \$136,941,539 in December, 1901, to \$88,790,627 in July. In August they were \$94,942,310, in September \$121,232,384, in October \$144,327,428, and in November \$125,043,181.

The market for foreign exchange was strong in December, 1901, and though rates declined when money on call was firm, they advanced in response to easier monetary conditions. During the early part of the month gold was exported to Europe in comparatively large amounts, \$2,417,273 going forward on the 3d and \$1,115,869 on the 11th. Then, however, higher rates for money caused a decline in exchange below the gold-exporting point, but with the relaxation in monetary tension exchange advanced. Rates for bankers' long sterling fell from \$4.84½ to \$4.83½, and bankers' sight bills were \$4.86½ on the 31st against \$4.88 on the 1st; while the gold exports were in progress sight exchange was above \$4.87. The market kept so close to the gold-exporting point in January, 1902, that moderate amounts of the metal were shipped at intervals, though these exports were the result of arbitration operations, which were facilitated by low rates for exchange at Paris on London. Sight bills fluctuated during the month between \$4.86½ and \$4.87½, and long bills between \$4.83½ and \$4.84½. In February the market was strong and \$4,265,283 gold was exported on the 6th and \$3,513,823 on the 27th. These shipments were, however, made on arbitration operations, while sight exchange was no higher than \$4.87½; long bills ranged from \$4.84½ to \$4.85½. The market closed firm, with sight bills at \$4.87½, and it was strong early in March, when sight exchange was \$4.88, and then moderate amounts of gold were exported; long bills were \$4.85½. After the 8th rates declined fractionally, and gold shipments were checked, but by the close of the month there was a recovery in sight bills to the opening figures of \$4.87½. In April the tone of the market was strong throughout the month, and on the 7th \$2,518,689 gold was shipped to Paris. Then came a decline in rates for sight bills below the gold-export point, caused by dearer money, but later in the month there was a recovery due to a demand to remit for Louisville and Nashville stock, and also in settlement for American subscriptions to the new British loan, and the market closed firm at \$4.88 for sight, the best figures of the month; no further gold exports were made, however. Sixty-day bills sold at \$4.85½. In May high money rates caused a de-

cline in exchange, and the tone was weak during the first half of the month at a decline of $1\frac{1}{2}$ cent per pound sterling for sight to \$4.86 $\frac{1}{2}$. There was a partial recovery by the close, due to easier money; long bills sold during the month at \$4.85 $\frac{1}{2}$ and at \$4.84. In June the tone was strong and rates steadily advanced, though they were not sufficiently high to justify exports of gold, and sight exchange did not rise above \$4.87 $\frac{1}{2}$; sixty-day bills were \$4.85 $\frac{1}{2}$. The market continued strong in July, and gold began to be shipped through arbitration operations on the 22d, \$7,459,506, the largest single shipment on record, going forward by the end of the month. While the movement was in progress sight exchange ranged from \$4.87 $\frac{1}{2}$ to \$4.88, while long bills moved between \$4.85 $\frac{1}{2}$ and \$4.85 $\frac{1}{2}$. The tone was firm early in August, and \$519,445 gold was shipped to Germany on the 7th. Then, however, dearer rates for money and a pressure of commercial drafts caused a decline in exchange, and by the close of the month sight bills were \$4.86 $\frac{1}{2}$, or about $1\frac{1}{2}$ cent per pound below those at the opening; sixty-day drafts fell from \$4.85 $\frac{1}{2}$ to \$4.83 $\frac{1}{2}$. In September the market was weak, influenced by dear money, and with a view to the relief of the stringent monetary conditions, gold to the amount of \$4,250,000 was engaged in Europe for import hither, and included in this sum was \$2,500,000, which was procured in South Africa. At the same time about \$4,000,000 was imported from Australia. The movement of gold hither from Europe was checked after the early engagements by an advance in the foreign discount rates, and also by a rise in the price of gold in the London market. Sight bills declined from \$4.86 $\frac{1}{2}$ to 4.85 $\frac{1}{2}$, and sixty-days drafts fell from \$4.84 to \$4.82 $\frac{1}{2}$; the weak tone for these bills was caused by dear money, which induced their sale, and there were also large offerings of loan drafts against stock collateral. The market was firm throughout October, influenced by a demand for remittance and also by a scarcity of bankers' bills, and though commercial drafts were freely offered, they were promptly absorbed. Toward the end of the month sight bills sold at \$4.86 $\frac{1}{2}$, and in the second week in November they advanced to \$4.87 $\frac{1}{2}$. Then a concurrent fall in exchange at Paris on London to 25 francs 11 $\frac{1}{2}$ centimes made possible an export of gold as an arbitration operation; none was sent at that time, however, because of the prevailing firm tone for money, which caused a decline in sight bills to \$4.86 $\frac{1}{2}$. In the last week there was a recovery to \$4.87 $\frac{1}{2}$, in response to a demand to remit for December settlements, and the tone was strong to the close.

Railroads.—Combinations of prominent railroad lines, as was the case in the previous year, made considerable progress, though some important consolidations were held in check by the litigious proceedings instituted to prevent the consummation of the Northern Securities scheme. In December, 1901, the Lake Shore acquired control of the Indiana, Illinois and Iowa road and the Norfolk and Western obtained control of the Pocahontas Coal and Coke Company, issuing thereon \$30,000,000 of 4-per-cent. bonds. The gross and net earnings of the 157 roads reporting for the calendar year 1901 made the most remarkable showing of increases of \$138,973,621 in gross and of \$64,800,530 in net income compared with the previous year, following successive increases in each twelve months as far back as 1897. Early in March the Pennsylvania Railroad Company announced an issue of \$50,000,000 of bonds, \$24,000,000 of which were to provide new equipment

and \$20,000,000 to cover expenditures for the tunnel extension of the system into New York city. The bonds had the right of conversion into stock of the road at 140 on and after May 1, 1904. Late in March it was announced that interests identified with the Minneapolis and St. Louis Railroad Company had acquired control of the Colorado and Southern. A short time previously these interests obtained possession of the Iowa Central, which enabled them to control the Fort Worth and Denver City. In April the Plant system of roads was acquired by the Atlantic Coast Line system and the Choctaw, Oklahoma and Gulf Railroad was bought by a syndicate of bankers in the interest of the Chicago, Rock Island and Pacific. In May the last-named company acquired the St. Louis, Kansas City and Colorado, enabling an extension to be made to an important section in the Southwest. In June the directors of the Illinois Central recommended an increase of \$15,840,000 in its stock to be offered to its shareholders at par. About the middle of July there was a sharp rise in the market price of the stock of the Chicago, Rock Island and Pacific company to 200, against about 152 in January. This was explained by the announcement on July 25 that the property would be reorganized and its securities rearranged. The plan provided for the absorption of the companies embraced in the Rock Island system by a holding company, the stockholders of the Rock Island receiving for each 100 shares of their stock \$10,000 in new bonds, 75 shares of new preferred and 100 shares of new common stock; the majority of the stockholders of the Rock Island promptly gave their assent to the plan. At the end of July it was announced that arrangements had been perfected for the taking over by the St. Louis and San Francisco of the Chicago and Eastern Illinois, thus giving the former a terminal at Chicago. With the completion of the extension of the St. Louis, Memphis and Southeastern to Memphis, in the interest of the St. Louis and San Francisco, this would make an entirely new route between Chicago and Memphis, greatly to the advantage of the San Francisco line. With the previous acquisition of the Kansas City, Fort Scott and Memphis and of the Kansas City, Memphis and Birmingham, the St. Louis and San Francisco would have a line into the center of the South at Birmingham and, with other combinations, extensions to the Gulf of Mexico in one direction and to El Paso in the other. Compilations of gross and net earning of 154 roads for the six months ending June 30 showed a gain, compared with the same time in the previous year, or \$38,904,639 in gross and \$7,722,906 in net revenue. The decrease of \$19,000,000 in the latter, compared with the first six months of 1901, was largely due to the unfavorable weather in February and to the coal strike, which began in May. It was announced in October that the shareholders of the Atlantic Coast Line would be asked in the following month to vote upon a proposition for the increase in the capital by \$15,000,000 and in the bonded debt by \$35,000,000, the proceeds to be applied toward the payment for 306,000 shares of the capital stock of the Louisville and Nashville Railroad Company, which were purchased by J. P. Morgan & Co. from the parties who earlier in the year obtained control of the road through speculative manipulation, as elsewhere noted. Late in October the Stock Exchange authorized the listing of \$42,316,900 additional stock of the Baltimore and Ohio Railroad Company, making the total of the

stock \$124,146,100, which new issue was taken by stockholders at par in the previous month. In November the principal lines of railroads voluntarily advanced wages 10 per cent. in anticipation of demands from their employees for such advance.

Gross earnings of 74 railroads for twelve months ending Nov. 30 were \$623,776,463, against \$575,882,954 for the corresponding period in the previous year.

Manufacturing Industries.—The depression in copper, which was a notable feature in the previous year, had more or less effect upon that industry until March, when there was a recovery. In that month labor troubles at the Massachusetts cotton-mills threatened a lockout, but the mill owners finally yielded to the demands of the operators and advanced wages. The prolonged strike of anthracite-coal miners caused a serious deficiency in the supply of coke and other fuel and a materially decreased output of pig iron. Steel manufacturing was also affected, and the mills were unable to supply the current demands, necessitating large importations of finished products in Europe. At the same time these mills had contracts of such magnitude for future deliveries as were expected to keep them fully employed at least until the middle of the ensuing year. One feature was the development of petroleum-oil fields on an extensive scale in Texas, but owing to the cost of transportation this product could not be made available for fuel at the East during the anthracite-coal famine; the consumption of bituminous coal was, however, largely increased.

While exports of manufactures showed some augmentation during the year the gain was small compared with previous periods, largely owing to the inability of our steel-mills to meet foreign orders because of the greater demand for the home consumption of their products. Exports of manufactured articles for twelve months ending Oct. 31 were \$410,260,314, against \$397,836,062 for the same time in the previous year. There was a large gain in importations of articles in a crude condition which enter into the various processes of domestic industry, these amounting for the twelve months to \$341,011,525, against \$290,600,786 for the corresponding period in 1901.

FINE ARTS IN 1902. Under this title are treated the principal art events of the year ending with December, 1902, including especially the great exhibitions in Europe and the United States, sales and acquisitions of works of art, and erection of public statues and monuments.

Paris.—The exhibitions of the rival Salons were held contemporaneously (May 1 to June 30) in the Grand Palais des Champs Élysées, the building constructed originally for the Art Exhibition of the Centennial Exposition of 1900, and now under the administration of the Beaux-Arts.

Paris: Salon of the Artistes Français.—The officers of the Société des Artistes Français for the year are: Honorary Presidents, Léon Bonnat, Édouard Detaille, Jean Paul Laurens; President, William Bouguereau; Vice-Presidents, A. Bartholdi, Louis Seillier de Gisors; Secretaries, A. de Richemont, G. Lemaire, J. L. Pascal, A. Mongin; Corresponding Secretary, Albert Maignan; Secretary-Treasurer, E. A. Boisseau.

The annual exhibition comprised 4,268 numbers, classified as follow: Paintings, 1,680; cartoons, water-colors, pastels, miniatures, enamels, porcelain pictures, etc., 518; sculptures, 750; engraving on medals and precious stones, 95; decorative art, 463; architecture, 278; engraving and lithography, 484.

The honorary awards for 1902 are as follow: Section of Painting: The medal of honor was awarded to Joseph Bail for his *Les Dentellières*. First-class medal: No medal awarded. Second-class medals: Paul Michel Dupuy, for his *Au Luxembourg*; Arthur Stockdale Cope, *Portrait of Lady Hickman*; Clémentine Hélène Dufau, *Automne*; Georges Jules Moteley, *Village de la Faverie—Normandy*; Léon Dambeza, *Le Passeur*; Henry Émilien Rousseau, *Les Oliviers—Sahel Tunisien*; Emmanuel Fougerat, *Ma Maisonnée* and *Portrait du Supérieur du Petit Séminaire de Vitré*; Pierre Jacques Dierckx, *Fileuses Flamandes*; Mary Shepard Greene (New York), *Une Petite Histoire*; Edmond Richter, *Salambô*; Alexandre Jacques Chantron, *Feuilles Mortes*; Jules Gustave Besson, *Le Moissonneur de Lauriers—triptyque*; Henry Grosjean, *Au Couchant du Soleil*; Louis Alexandre Cabié, *L'Approche de l'Orage*; François Charles Cachoud, *L'Heure du Grillon à Bouvans*. Third-class medals: Tom Mostyn, Louis François Cabanes, Antoine Marie Raynolt, Eugène Jules Delahogue, Lawton Parker (United States), Félix Augustin Édouard Planquette, Paul Ivanovitch, Victor Octave Guétin, Albert François Lartean, Georges Frédéric Rotig, Henry Brémond, Charlotte Chauchet, Nanny Adam, Jules Cayron, Théodore Duchateau, M. E. Dickson (St. Louis), Honoré Victor Louvet, Pauline Marie Louise Dubron, Mme. Sudmilla Flesch de Bruningen, Many Emmanuel Michel Benner, Eugène Benjamin Selmy, Fernand Stievenart, Charles Joseph Watelet, Jean Louis Lefort. Among the honorable mentions are: Sidney Gorham (United States), Edward Dufner (Buffalo, N. Y.), and Coggeshall Wilson (New York).

Section of Sculpture: Medal of honor to Hippolyte Lefebvre for his marble group *Jeunes Aveugles*. First-class medals: Jean Baptiste Antoine Champeil, *Le Printemps de la Vie* (marble group); Auguste Henri Carli, *Le Christ et Sainte Véronique* (marble group) and *Lutte de Jacob avec l'Ange* (marble group); Prosper Lecourtier, *Chienne Danoise allaitant ses Petits* (bought by the state) and *Face à l'Ennemi—Lion* (plaster group); Michel Léonard Béguine, *La Première Parure* (marble statue). Second-class medals: Louis Baralis, *Naufragés* (group); Gabriel Zimmermann, *Appel Suprême* (plaster); Alphonse Terroir, *Seul dans la Vie* (plaster bas-relief); Julien Lorieux, *La Chute des Feuilles* (plaster group); Raymond Sudré (plaster portrait and statue); Paul Darbefeuille, *Danseuse* (marble) and *Le Berger Daphnis* (plaster); Jules Louis Rispal, *Nymphé de Diane* (marble); Constant Roux, *L'Automne* and *L'Hiver* (bas-reliefs for Chamber of Deputies). Third-class medals: Charles Paillet, Alphonse Muscat, Raphael Charles Peyre, Charles Louis Malric, Georges Colin, Carl Johan Eldh, Philippe Perrotte, Jean Cézard-Bru, Léon Ernest Drivier, Arthur George Walker.

Section of Architecture: Medal of honor to Henri Eustache, for his plan showing the actual state and a restoration of the *Via Sacra, Rome*. First-class medals: Alexandre Bruel, *Rome, sud-ouest du Mont Palatin* and *Le Domain du Culte de Cybèle*; Paul Guadet, *Restauration de la Salle de Spectacle, bâtie en 1790*; Charles Henri Prudent, do. (in collaboration). Second-class medals: Malgras-Delmas, Louis Charles Guinot, Georges Gromort, Émile Brunet. Third-class medals: Ferdinand Marie Chanut, Léon Jausseley, André Félix Narjoux, Henri Parmentier, Félix Ollivier, Prosper Jean Santerre.

Section of Engraving and Lithography: No medal of honor awarded. First-class medal:

Louis Jean Muller, *The Squire's Song* (etching after Dendy Sadler). Second-class medals: Émile Ferdinand Crosbie, *Portrait d'une Princesse Bonaparte* (wood, after Ingres); Arthur Jules Mayeur, *L'Amateur de Peinture* (burin, after Meissonnier); Léon Salles, *L'Abreuvoir* (etching, after Detaille); Louis Huvey, *Les Bébés* (original lithograph); Jules Lerendu, *Portrait de Vieillard* (lithograph). Third-class medals: Marius Bernard Labat, Victor Mathieu, Rose Maireau, Edmond Jules Pennequin, Théodore Auguste Truphème, Georges Fouquet-Dorval, Georges Garen, Pierre Frédéric Barré, Louis Trinquier.

Among the noteworthy exhibits was Jean Léon Gérôme's *La Rentrée des Félines dans le Cirque*, representing the return to their dens, after a human feast in the amphitheater, of the lions and tigers. A few spectators still linger in the seats above, though most of the ranges are empty. In the arena are scattered human corpses, and attendants armed with whips driving the gorged wild beasts into their den, the mouth of which opens in the background. In the foreground one maned lion seems disposed to dispute the keeper, who has his whip raised in the attitude of striking.

Edmond Detaille's two contributions, large decorative canvases for the Hotel de Ville, Paris, represent, the one *Les Enrôlements Volontaires sur le Terre-plein du Pont-Neuf, en Septembre, 1792*, and the other *Reception, par la Municipalité de Paris, des Troupes revenant de Pologne—1806-07*.

Edmond Richter's *Salammbô* represents the sister of Hannibal standing before a mirror, with Taanach kneeling with clasped hands beside her, a scene from the famous romance of Gustave Flaubert.

Alphonse Lalauze's *Marengo—14 June, 1800*, represents the cavalry of the Consular Guard, under Gen. Bessières, charging impetuously the Austrian dragoons. Bessières, in the foreground, with saber uplifted and shouting, is leading the grenadiers upon the enemy, seen at left.

Cléopâtre à Tarse, the principal contribution of Adolphe Lalire, is a scene from Plutarch, where the author describes the arrival of the Egyptian queen at Tarsus, on the Cydnus, in her magnificent galley with silken sails and silver oars, surrounded by her women clad as Nereids and Graces.

Pandore, by Charles Amable Lenoir, represents the mischief-maker at full length in flowing robes, holding the fatal box in her hand. This picture belongs in New York.

Maurice Henri Orange's *Boulogne—1804* represents Napoleon, mounted, talking with another mounted officer and looking out upon the arm of the sea that separates him from "perfidious Albion." Behind the two are other mounted men, soldiers, artisans, etc., and a long row of vessels nearly ready to be launched for the conquest of England.

Gustave Wertheimer's *Le Rival* represents a desert country with a stream winding through it. On the bank, in the foreground, are a lion and two lionesses looking across the water, on the other side of which is another lion, the rival, looking jealously across at the favored one.

Le Colonel Roosevelt à Cuba; Prize des Hauts de San Juan is the long title of a picture by Ernest Jean Delahaye, which tells its own story. The future President is standing calmly on the heights, a target for the Spanish sharpshooters, pointing with his right arm at the entrenchments of the enemy. He is almost isolated, being nearer the Spanish line than are his men to him.

Bouguereau's chief exhibit, *Les Oreades*, illustrates a passage from F. Humbert. As the shadows are dissipating and Aurora tints the mountain tops the troop of joyous wood-nymphs who have spent the night on earth return in long procession to the ethereal regions where dwell the gods. A confused mass of nude and wingless Oreads are passing upward out of the shadows of a wood, while fauns and satyrs, gathered in the foreground, gaze in astonishment at the spectacle.

Louis Beroud's *Le Martyr de Saint-Antoine* represents the good saint, bearded and in monastic robes, with a cross in his hand, pulled hither and thither on a flowery hillside by a laughing bevy of shameless nude nymphs, who appear to enjoy the martyrdom more than the martyr does.

American exhibitors in the Salon of 1902 were: Inez Abernethy (Arkansas), George C. Aid (St. Louis), Carroll Beckwith (New York), Henry S. Bisbing (Philadelphia), Lu Blackstone-Freeman (New York), Frank M. Boggs (New York), Benjamin J. Bowen (Boston), Theodore A. Brewer (Cincinnati), Frederick Arthur Bridgman (Tuskegee), Edwin D. Connell (New York), Cacharme Critcher (Virginia), M. E. Dickson (St. Louis), William Dodge (Virginia), Gaines Ruger Donoho (Mississippi), Mattie Dubé, Edward Dufner (Buffalo), Frederick M. Du Mond (Rochester), Ferdinand Earle (New York), David Ericson, Mary Franklin, Edward Fulde, Della Garretson (Ohio), Sidney Gorham, Frank Russell Green (Chicago), Mary Shepard Greene (New York), Peter Alfred Gross (Allentown, Pa.), Mary Gulliver (Norwich, Conn.), Eliza Voorhies Haigh (New York), Howard Morton Hartshorne (New York), Nina Rose Hartwell, Herman Hartwich (New York), Elizabeth Case Harwood, Chester C. Hayes, Laura Healy (Chicago), Louis C. Herreshoff (Providence), Felix Hidalgo (Manila), George Hitchcock (Providence), William S. Horton, Henry S. Hubbell, Margaret Kemiston (Boston), Anna Elizabeth Klumpke (San Francisco), Daniel Ridgway Knight (Philadelphia), Elsa Koenig (Philadelphia), Elizabeth Kruseman Van Elten (New York), Charles Lasar (Pennsylvania), Ossip L. Linde (Chicago), William Cushing Loring (Massachusetts), Walter McEwen (Chicago), Frederick Macmonnies (New York), Ruth Moore (New York), Gustave Henri Mosler (New York), Mme. Willy Betty Newman (Nashville), Adeline Oppenheim (New York), Mabel Packard, Jules Pagès (San Francisco), Lawton Parker, Charles Sprague Pearce (Boston), Mary Smyth Perkins, William Sherman Potts, Isabel Ross (Buffalo), Albert H. Seymour, Freeman W. Simmons (Cleveland), Henry O. Tanner, David A. Tanzky (Cincinnati), S. Seymour Thomas, Mme. Harry Ellen K. B. Thompson (New York), Lionel Walden, Bertha Mary Waters (Connecticut), Susan Watkins (California), Edwin Weeks (New York), Coggeshall Wilson (New York).

Paris: Salon of the Société Nationale.—The officers of the Société Nationale des Beaux-Arts for the year are: President, Carolus-Duran; Vice-Presidents—Section of Painting, Alfred Philippe Roll; Section of Sculpture, Auguste Rodin; Section of Engraving, Charles Albert Waltner. President of Section of Objects of Art, Mme. Charlotte Besnard. Secretaries, René Billotte, Jean Béraud; Treasurer, G. Dubufe.

The thirteenth annual exhibition, opened April 20, comprised 2,443 numbers, of which 1,203 were paintings, 557 designs, drawings, etc., 156 engravings, 223 sculptures, 224 art objects, and 80 architecture.

The president of the society, Carolus-Duran,

had but one exhibit, entitled *En Famille*, a picture containing 15 or 16 human figures and a hound. The happy father in this *At Home* stands at the right, smiling and looking toward the mother, a matronly woman seated at the left with her children gathered around her.

Roll, the Vice-President, exhibited 6 canvases, of which *Vielle au Fagot* represents an old woman carrying a large bundle of fagots on her head descending a hill, with a house and trees in the background.

José Frappa contributed 5 portraits, among them a full-length of Cardinal Gibbons, of Baltimore, in his episcopal robes, holding a book in his left hand.

Jean Veber had a half-dozen exhibits, among them two, entitled respectively *La Machine* and *Le Monstre*, which prove him to be the possessor of a very fervid Gallic imagination. The first represents a nude woman seated astride of what may be intended to be the boiler of the machine, from which apparently proceeds the power that turns an immense wheel, whose revolutions grind to death many diminutive human beings. The second picture, *The Monster*, represents a nude woman asleep on a bank, with wild men and animals gazing on her from a little distance with gestures indicative of astonishment.

Auguste Hagborg's *Dalecarlienne* represents a Swedish lady, seen at three-quarters length, leaning on a table, on which are scissors, a work-basket, and sewing materials, and bending forward to look out of a small window.

Alexander Harrison, of Philadelphia, contributed 6 canvases, and J. McNeill Whistler and Julius L. Stewart 5 each. Other American exhibitors were: Lucien Abrams, Albert Jean Adolphe, Frederick Baker, J. Hoxie Bartlett, Cecilia Beaux, Charles Bittinger, Kate Carl, Mlle. L. Crapo-Smith, Herbert W. Faulkner, Frederic Carl Friesseke, Walter Gay, Walter L. Green, Harvey Hall, John McLure Hamilton, Childe Hassam, John Humphreys-Johnston, Bradford Johnson, Rebecca Jones, Mme. Lucy Lee-Robbins, Mme. Mary Louise Macmonnies, Gari Melchers, Eleanor Norcross, Elizabeth Nourse, Galen Joseph Perrett, John H. Recknagel, Julius Rolshoven, William Sartain, William Émile Schumacher, Winnaretta Singer, Harry Van Der Weyden.

Paris: Miscellaneous.—The Humbert collection, which attracted more attention, perhaps, than was justified by its actual worth on account of the connection of the name with the most gigantic swindle of modern times, was sold in Paris, June 20 and 21, and produced a total of 1,187,000 francs. Some of the best prices obtained were: Paul Baudry, *L'Amour et Psyche*, 25,000 francs, and *La Fortune et L'Amour*, 26,000; Boudin, *L'Avant-port*, 16,200; Jules Breton, *Le Retour des Moissonneuses*, 25,200; Corot, *Le Pêcheur*, 49,000, and *La Ferté-sous-Jouarre*, 26,100; Daubigny, *Les Laveuses*, 50,500; Eugène Fromentin, *Le Passage du Gué*, 30,000; Isabey, *La Bénédiction*, 47,000, and *Le Marchand d'Étoffes*, 23,000; Charles Jacque, *L'Abreuvoir*, 34,000; Gustave Moreau, *Le Roi David*, 51,000, and *St. Sébastien*, 39,500; J. F. Millet, *La Porte de Barbizon*, 26,500; Roybet, *La Main Chaude*, 36,100, and *Les Comédiens au Château*, 34,500; Van Marcke, *Rentrée à la Ferme*, 36,500. Angelo Asti's portrait of Mme. Humbert herself brought only 450 francs, and that of Frédéric Humbert by the same artist, only 145 francs.

A statue of Balzac was unveiled in Paris, Nov. 22, in the presence of many persons prominent in the literary world. The statue, at the intersection of Rue de Balzac and the Avenue de Fried-

land, is of heroic proportions and represents the author seated, in a meditative mood. Bas-reliefs show scenes from the *Comédie Humaine*. Addresses were made by M. Hermant, president of the Society of Men of Letters, and M. Chaumie, Minister of Instruction, and a poem was read by Albert Lambert. M. Chaumie paid an eloquent tribute to the memory of Balzac, whose fame, he said, is now fully established, after a hundred years' perspective, as that of one of the foremost figures in literature.

Benjamin Constant's famous picture *La Justice du Chérif*, exhibited several years ago at the Salon, and which the artist always refused to sell, has been purchased by the state since his decease, and will go to the Luxembourg Museum.

Rembrandt's *Portrait of Admiral van Tromp*, lately the property of M. Floriet, Paris, has been purchased for 300,000 francs, it is reported, by Charles Schwab, president of the United States Steel Company. This picture, which is painted on wood and measures about 33 by 27 inches, was sold in the Erard sale in Paris, 1832, for 17,100 francs. There are several other Rembrandt portraits of Van Tromp.

London: Royal Academy.—The winter exhibition, devoted to the old masters from English private collections, was an amazing revelation of the wealth of art hidden in galleries the owners of which have seldom before permitted the public to view their treasures. Among these were some pictures seen probably for the last time in an English exhibition, lament the English journals, because they have fallen a prey to the inevitable American. "America has become the financial center of the world," says the *Athenæum*, and has begun to absorb our priceless heirlooms, and it suggests the formation of a society similar to the *Société des Amis du Louvre* to raise subscriptions to "retain permanently in English galleries a few at least of the masterpieces which are so rapidly disappearing."

The one hundred and thirty-fourth summer exhibition was marked by a reduction in the number of works exhibited, only 1,726 pictures and sculptures being given a place as compared with 1,823 in 1901. In the 11 galleries devoted to oil-paintings, only 795 examples were hung, as against 923 last year and 1,090 in 1900.

The place of honor was given to the state portrait of King Edward VII, by Luke Fildes, which, isolated by cloth-of-gold draperies, was hung where last year was exhibited Benjamin Constant's portrait of Queen Victoria. The King is represented life-size, standing almost full-face, in field-marshal's uniform, scarlet jacket studded with orders, top boots, and white breeches. From the shoulder depends the deep crimson cloak, lined with ermine, worn at the opening of Parliament. The crown and orb lie on a red cushion on a marble-topped *baroque* table and the scepter, which rests on the table, is grasped in the King's right hand. It is a faithful portrait treated in a kingly way.

A second picture exhibited "by command of the King" was Seymour Lucas's *Reception by King Edward VII of the Moorish Ambassador*, June 10, 1901. His Majesty, with Queen Alexandra by his side, is seated on a canopied dais at left, in St. James's Palace, receiving the Moorish ambassador, Kaid el Mehidi el Mehebbi, and his suite. The ambassador, a white-robed, hooded central figure, stands before the throne reading from a manuscript in his hand greetings from his master to the new sovereigns. The simple grandeur of his robes and of those of his suite standing in the background are in striking con-

trast to the gorgeous uniforms of the Western court.

The Victors of Paardeberg, by James P. Beadle, is one of a few pictures dealing with the Boer War. It illustrates the first noteworthy triumph of the British arms, the surrender of Gen. Cronje on the anniversary of Majuba day, in the spring of 1900. The trench dug during the night by the Canadians and a company of royal engineers has rendered untenable the Boers' position, and they have succumbed to the inevitable. They are seen at the left straggling forward, unarmed, and many carrying their portable possessions, while the victors in front, emerging from their trench, are greeting them, some shouting with caps in air, some standing in silence.

A portrait of Major-Gen. Baden-Powell, a bust picture in khaki and slouched hat, is the sole contribution of George F. Watts. A full-length of Lord Milner, standing, with a bust of the King in the background, by P. Tennyson Cole, represents another figure prominent in South African affairs.

A Tanagraean Pastoral, by George H. Boughton, aims to revitalize some of the beautiful figurines exhumed in the neighborhood of Tanagra, where they have lain buried from a time long anterior to the Christian era. At the left Pan presides over a fountain, at the base of which are three musicians crowned with bays and playing on pipe, lyre, and tambourine. At the right, in the foreground, several dancers, in swirling draperies, keep measure to the music on the grass, against a background of poplars and of purple hills.

Mr. Sargent was represented by 8 life-size portraits and groups. One of the latter, The Ladies Alexandra, Mary, and Theo Acheson, Daughters of Lord Gosford, an essay in the grand style, has been compared, though not very justly, with Sir Joshua Reynolds's Three Irish Graces, in the National Gallery. It is a picture full of grace and sentiment, but the grace is of the present and not of the eighteenth century. The most masterly portrait of the exhibition was Mr. Sargent's Lord Ribblesdale, standing, in a long riding-coat and top hat, against a fluted marble pilaster.

La Belle Dame sans Merci, by Frank Dicksee, represents the lady of the "wild sad eyes" who holds in thrall the dreamer of Keats's poem. The mailed knight has dismounted and placed her on his charger, beside which he walks, blind to all else but her faerie song as she looks down on him unpitifully as they move onward through a blossoming country to her "elfin grot."

Opposite it hung the Aphrodite of Briton Riviere, which illustrates the potency of love, a canvas suggested by lines in the Homeric hymn telling how the laughter-loving goddess, gloriously clad, hastened down many-rilled Ida, attended by the gray wolf, the bear, the lion, and the pard, each under her potent spell.

London: New Gallery.—The winter exhibition was devoted to royal portraits, a collection, says one of its critics, that does not give a very high idea of the artistic patronage of English royalty. One of the best exhibits was the picture of Richard II from Wilton House, a diptych representing the monarch in company with St. John the Baptist, a pure tempera painting on a patterned gold ground that would have done credit to the finest technicians of Italy, Fra Angelico, or the Siennese. It is probably of French origin. There was a good portrait of Richard III and one of Henry VII, but it was not until Henry VIII secured the services of Holbein that royalty was worthily depicted. Among other exhibits were

the portrait of Queen Mary, by Lucas de Heere, many of Elizabeth, mostly attributed to Zuechero, and a number of Stuart portraits attributed to Van Dyck.

The fifteenth summer exhibition contained only 309 numbers, as compared with 469 of last year. If this diminution meant a higher standard there would be cause for congratulation, but it seems to indicate rather that the New Gallery has reached a critical point in its career, for ever since the death of Sir Edward Burne-Jones its exhibitions have decreased both in number and importance. Among the best of the exhibits were:

Love steering the Boat of Humanity, by G. F. Watts, which, like many of that painter's works, is an allegory. On relentless waters, under a stormy sky, Love steers the boat, in the bow of which is Humanity, apparently in the teeth of a strong wind, the sail having collapsed. The picture is a marvel for a man of Mr. Watts's years, but it will scarcely rank as one of his great works.

Of Mr. Sargent's three contributions, The Children of Asher Wertheimer is a decorative triumph. It contains three figures, two girls on a draped couch with a black poodle between them, and a boy posed on the floor in front. It is a well-balanced picture both in pose and in its color scheme, and marked by absolute sincerity.

Sir W. B. Richmond's Last Watch of Hero for Leander represents her seated on a balcony at evening by cypresses, tragically silhouetted against the sky, as if conscious that her lover is to come no more.

Places of honor were given to three sequent works, by C. E. Hallé: In Infancy, the Mother's Care, shows a child on the daisied bank of a river giving to the kneeling mother a daffodil; In Manhood, the Help and Playmate, a young man and a girl, lovers probably, are beneath an apple-tree; and In Old Age, the Daughter's Song, the patriarch, with gray locks and sunken cheeks, is solaced by his daughter, who sings to the accompaniment of a harp.

London: Picture Sales.—While the art-sale season of 1902 was not a very remarkable one, a few pictures brought good prices. The number of paintings which have reached a limit of 1,400 guineas during the past eight years is as follows: 1894, 20; 1895, 45; 1896, 28; 1897, 32; 1898, 15; 1899, 30; 1900, 23; 1901, 21. Taking this as a standard, the sales of the present year have been small, for only 19 have reached the limit of 1,400 guineas, as is shown in the following table:

	Guineas.
G. Romney, Portrait of Miss Rodbard.....	10,500
M. Hobbema, Peasants shaking Hands.....	9,200
J. Hoppner, Portrait of Lady Mary Arundel.....	7,800
C. Troyon, Cattle and Sheep.....	7,000
Sir H. Raeburn, Sons of D. M. Binning.....	6,500
T. Gainsborough, Portrait of his Daughters.....	5,600
Rembrandt, Portrait of Old Woman.....	5,500
G. Romney, Portrait of Lady Morshead.....	4,100
F. Hals, Portrait of Gentleman.....	3,780
Sir H. Raeburn, George and Maria Stewart.....	3,600
Velasquez, The Grape-Seller.....	2,500
Sir H. Raeburn, John Campbell when a Child.....	2,300
J. van der Heyden, View of a Dutch Chateau.....	2,200
Sir T. Lawrence, Charles Binney and Two Daughters.....	1,950
J. Hoppner, Portrait of a Lady.....	1,700
Botticelli, Madonna and Child.....	1,680
Portrait of Edward VI.....	1,600
Cecil Lawson, Valley of Doon.....	1,500
Sir J. Reynolds, Maria, Countess of Waldegrave.....	1,500

The Gainsborough, the sixth in the above list, a portrait of the artist's own daughters, Mrs. Lane and Miss Gainsborough, was once in the collection of J. W. W. Brett, and was bought from him in 1864 for £117. In 1887 it was sold

from the collection of Henry Wilkinson for £221. The name of the purchaser, who in 1902 paid 5,600 guineas for it, was not disclosed.

The following brought £1,000 and more:

P. de Hooghe, Interior with Figures.....	£1,350
Sir H. Raeburn, Portrait of Lady.....	1,300
" Portrait of Miss Graham.....	1,250
" Child with Basket of Cherries.....	1,250
R. P. Bonington, Fisher Boys on Beach.....	1,250
C. Fielding, Bolton Abbey.....	1,300
Sir E. Burne-Jones, Wheel of Fortune.....	1,155
J. Constable, Gillingham Mill.....	1,150
T. Gainsborough, Portrait of Squire Rowe.....	1,150
J. Crome, Norfolk Landscape.....	1,150
G. Morland, Carrier's Stable.....	1,100
Rembrandt, Portrait of Lady.....	1,050
F. Francia, Madonna and Child.....	1,000

New York: National Academy of Design.—

The officers-elect for the year are: President, Frederick Dielman; Vice-President, J. G. Brown; Corresponding Secretary, Harry W. Watrous; Recording Secretary, Will H. Low; Treasurer, Lockwood De Forest. The Council consists of Francis C. Jones, Irving R. Wiles, A. C. Howland, George H. Yewell, Herbert Adams, and R. Swain Gifford.

The following new academicians and associates were chosen: Academicians: Edwin A. Abbey, Cecilia Beaux, J. W. Alexander, Henry O. Walker, and Thomas Eakins. Associates: Birge Harrison, Wilton Lockwood, George Grey Barnard, Joseph De Camp, Charles Niehaus, Elliott Daingerfield, Henry B. Snell, Albert Ryder, and William Gedney Bunce. This brings the list of academicians up to 100 and of associates to 91.

The seventy-seventh annual exhibition (Jan. 3 to Jan. 31) was held, like that of last year, in the galleries of the Fine Arts Society. The annual prizes awarded were: The Thomas B. Clarke prize of \$300, for the best American figure composition, to Elliott Daingerfield, for his *Story of the Madonna*; the first Julius Hallgarten prize (\$300) to E. Irving Couse's *Indian picture The Peace Pipe*; the second Hallgarten prize (\$200) to Louis Loeb, for his picture *The Mother*; and the third Hallgarten prize (\$100) to Will Howe Foote, for *The Blue Vase*. The Inness gold medal was awarded to Walter Clarke, for his *Gloucester Harbor*, a charming view of the harbor at low tide. The Norman W. Dodge prize (\$300) for the best picture painted by a woman was not awarded, and is said to have been discontinued.

Among the most noteworthy pictures in the exhibition were Irving R. Wiles's portrait of Julia Marlowe, representing the actress seated on a sofa looking straight out of the canvas, and J. W. Alexander's *The Piano*, an interior with a young matron seated at the instrument and in the background the husband with his head resting upon his hand, a picture with a story-telling quality which appeals to every one. Other pictures deserving of mention are J. G. Brown's *An Old Vermonter*, W. C. Fittler's *Meadows in June*, Bruce Crane's *November Morn*, Charles Schreyvogel's *Going for Reinforcements*, Henry Mosler's *Sans Souci*, F. A. Bridgman's *The Secluded Wood*, Charles C. Curran's *A Mountain Vista*, Edward Gay's *Black Creek*, Will H. Low's *The Elysian Lawn*, Gustave H. Mosler's *Fidelity*, Dwight F. Boyden's *Moonrise—Holland*, and Carleton Wiggins's *Crossing the Moors*.

New York: Society of American Artists.—

The Board of Control for the year consists of: President, John La Farge; Vice-President, Kenyon Cox; Secretary, Bruce Crane; Treasurer, Samuel Isham; and Bolton Jones. The society consists of 112 members.

The twenty-fourth annual exhibition was held

in the Fine Arts Society Building from March 28 to May 4. The annual prize of \$300, instituted in 1887 by Dr. W. Seward Webb, for the best landscape by an American artist under forty years of age, was awarded to H. Bolton Jones, for his picture *Early Spring*. The Julia A. Shaw memorial prize (\$300), founded by Samuel T. Shaw in place of the fund instituted by him in 1892, for the best figure composition painted in oil by an American woman, was awarded to Miss Mary F. Macmonnies, for her *Blossom Time in Normandy*. The Carnegie prize (\$500), founded by Andrew Carnegie for the most meritorious oil-painting in the exhibition by an American artist, was awarded to J. Francis Murphy, for his *October Fog*.

The exhibition consisted of 318 numbers, of which 295 were paintings. Among the exhibitors were J. McNeill Whistler, L'Andalousienne; William M. Chase, *Portrait of Louis Windmüller*; Cecilia Beaux, *Portrait*; John W. Alexander, *A Mother*; Winslow Homer, *Northeaster*; Kenyon Cox, *Portrait*; Thomas Eakins, *Cardinal Martinelli*; Augustus St. Gaudens, *Medallion Portraits*; and Rhoda Holmes Nicholls, *My Daughter*.

New York: Metropolitan Museum.—The annual rearrangement of collections in May was attended with the usual loan exhibitions, the most important of which was the collection of George W. Vanderbilt, consisting of most of the foreign pictures acquired by the late William H. Vanderbilt. Among these are some of the best works of the modern French school, including fine examples of Meissonier, Rousseau, Millet, Dupré, Diaz, Cabanel, Fromentin, Gérôme, Bonnat, and others. Among the gifts to the museum is the famous *Holy Family* by Rubens, portions of which are attributed to his celebrated pupil Van Dyck, presented by James Henry Smith, and a portrait of the artist Vanderlin, bequeathed by C. V. Sidell. The Rubens was bought at the Matthiessen sale for \$50,000.

On Dec. 22 was formally opened the new wing of the museum, which includes the splendid façade on Fifth Avenue, the work of the late Richard M. Hunt. The exercises consisted of brief addresses of delivery and acceptance by the president of the Department of Parks and the president of the trustees of the museum, and an address by Mayor Low. The new wing is to be devoted principally to sculpture.

New York: Picture Sales.—The collection of paintings of Mrs. P. C. Hanford, sold by the American Art Association, Jan. 30, brought in the aggregate \$124,135. The principal picture sold, Rembrandt's portrait of a scrivener, entitled *The Accountant*, was bought by a dealer for \$23,000, a low price as Rembrandts go. Though several of the master's portraits have changed hands at private sales, this is the first one to appear in a public sale since The Gilder of the Schaus sale several years ago. Other pictures brought good prices, as Rousseau's *Marsh in Spring*, \$11,000; Troyon's *Landscape with Cattle*, \$10,000; De Neuville's *Trumpeter*, \$4,600; Jacques's *Watering the Sheep*, \$3,500; Diaz's *In the Harem*, \$4,400; Holbein the Younger's *Portrait of an Ecclesiastic*, \$4,000; and Cuypp's *Cavaliers in Holland*, \$4,600. A Murillo, *The Immaculate Conception*, which is said to have cost its owner \$20,000, brought only \$8,700.

Mr. E. F. Milliken's collection, sold Feb. 14, brought in total receipts \$128,325. The two most notable pictures were Titian's portrait of Giorgio Cornaro, bought by Durand-Ruel for \$42,000, and Corot's *St. Sebastian*, bought by Cottier & Co. for

\$20,000. Other fair prices were realized, as for Millet's Landscape, \$8,250; Manet's Sortie du Port de Boulogne, \$7,050; Degas's Les Coulisseries, \$6,100; Daubigny's Cliff at Villerville, \$5,500; Homer Martin's Westchester Hills, \$5,300; and Puvis de Chavannes's L'Espérance, \$4,100.

The sale of the collection of oil-paintings, water-colors, bronzes, etc., of the Paris firm of Bousso, Valadon & Co., who have discontinued their branch shop in New York, occupied the last three evenings in February. The amount realized on the first evening was \$36,542, on the second \$76,475, and on the third \$156,093, or a total of about \$269,000. The picture that brought the highest price was Regnault's well-known Automédon and the Horses of Achilles, which was sold for \$12,500. This large work (10.4 high by 10.9), painted in Rome in 1867, was bought by L. P. Morton, of New York, and sold in 1882 to S. A. Coale, Jr., of St. Louis, for \$5,900. Two years later it was placed on exhibition in the Boston Museum of Fine Arts, where it was supposed it would remain permanently. The only other picture that sold for more than \$10,000 was Corot's La Ferté, which brought \$11,500. Another Corot, Twilight, brought \$7,100. A Rousseau, La Rivière, brought \$9,500, and a Jacque, Shepherd and Flock, \$8,100. Diaz's Sandy Road sold for \$7,800, and Dupré's Frog Pool for \$6,850. Sir Joshua Reynolds's Portrait of Sacchini brought only \$2,450.

The sale of the F. O. Matthiessen collection, on April 1 and 2, realized \$348,780, of which \$112,505 was obtained for 81 pictures, and the remainder for 64 pictures sold on the last evening. The highest price was obtained for Rubens's The Holy Family, which was bought in by George P. Blow for \$50,000. The picture that brought the next highest price was Jules Breton's Harvesting the Poppies, which sold for \$36,500. Other good prices were: Landscape and Cattle, Troyon, \$16,500; Portrait of an Old Man, Rembrandt, \$16,000; Portrait of Antonio Grimani, Doge of Venice, Titian, \$13,000; Mary Magdalen at Prayer, Murillo, \$13,200; Arabs Crossing a Stream, Schreyer, \$13,000; The Awakening of Love, Diaz, \$10,000; Gipsy Mother, Ludwig Knaus, \$7,200; Normandy Horse, Rosa Bonheur, \$7,200; The Philosopher, Meissonier, \$8,300; Summer, Daubigny, \$6,600; Avenue of Trees, Corot, \$6,950; Sunset after Rain, Rousseau, \$5,300; Fontainebleau Forest, Diaz, \$4,500; and Officer ordering an Advance, Detaille, \$7,100.

The Blakeslee collection of early English, Dutch, and Flemish masters, sold on the evenings of April 10 and 11, 163 paintings in all, realized \$168,940, of which \$85,220 was obtained at the first sale for 82 pictures. The highest price received was for Sir Thomas Lawrence's famous portrait of Mrs. Siddons, which sold for \$17,000. Van Dyck's Portrait of the Duke of Portland, a full-length, life-size canvas, brought \$16,000. Constable's Opening the Lock was sold for \$13,000. Other good prices obtained were: Les Deux Sœurs, Bouguereau, \$4,400; Allant au Pâturage, Corot, \$3,000; The Butcher Boy, Knaus, \$3,850; Portrait of Fanny Kemble, Sir Thomas Lawrence, \$2,850; and Nell Gwynne, Sir Peter Lely, \$2,600.

Philadelphia: Pennsylvania Academy of Fine Arts.—The seventy-first annual exhibition, which opened with the usual reception on Jan. 18, was the most notable art show held in Philadelphia in the past five years, even exceeding that of last year. The collection, which included many of the prize pictures from the Buffalo Exposition, comprised 745 numbers, of which 439

were paintings in oil, 60 pieces of sculpture, and 312 water-colors, black and whites, etc., including 66 etchings by Whistler. The place of honor was given to George De Forest Brush's portrait group of Mrs. Goodwin and her Sister. To the right of it was Edwin A. Abbey's Penance of Eleanor, Duchess of Gloucester, from the Carnegie Institute, Pittsburg, and to the left a fine landscape, with twilight effect, by Charles H. Davis. Dagnan-Bouveret's large figure piece Consolatrix Afflictorum was loaned by Henry C. Frick. An attractive figure study, entitled Une Parisienne, was contributed by Albert Lynch, the Parisian artist, his first appearance here as an exhibitor. Among notable portraits were Whistler's L'Andalousienne, Sargent's G. M. Williamson, Eastman Johnson's John D. Rockefeller, Cecilia Beaux's Mrs. Phelps Stokes, Alexander's Newbold Morris, and Anna E. Klumpke's Rosa Bonheur. Milton Lockwood contributed five portraits and Horace Walker five pastoral scenes. Winslow Homer was represented by an interesting study of Wild Geese, and Edward Simmons by a fine marine, The High Sea. The sculpture exhibition was confined principally to portraits, but St. Gaudens was represented by his Stevenson memorial bronze, Karl Heber by a figure of a resting boy, entitled Pastoral, and Herman A. Macneil by an Indian group, The Sun Vow.

The honors and prizes connected with the exhibition were awarded as follow: Walter Lippincott prize of \$300, to Walter McEwen, for his picture An Ancestor; Temple gold medal, Winslow Homer, for his picture Northeaster; Mary Smith prize of \$100, Eleanor Earle, for her picture entitled Fire Light.

Miscellaneous.—Memorial Day was observed in New York by the dedication in the Riverside Park, at the foot of Eighty-ninth Street, of the Soldiers' and Sailors' Memorial Monument, one of the most beautiful structures of the city. Before the unveiling of the monument there was an imposing parade by Government troops, sailors from the battle-ships, regiments of the National Guard, Grand Army posts, and other organizations, reviewed by Acting-Gov. Nixon, Mayor Low, Gen. Miles, Gen. Horace Porter, and Gen. O. O. Howard. The oration was delivered by Gen. Howard. The battle-ship Alabama took part in the celebration by firing salutes. The monument, a circular Corinthian temple whose design suggests the Choric Monument of Lysicrates at Athens, but which is much larger and is embellished with symbolic ornaments belonging to its national character, is of pure white marble on a circular basement surrounded by terraces and approached by grand staircases on each side.

The unveiling of the Rochambeau statue in Washington, on May 24, was an event of almost international importance, and was marked by the presence of a large special French embassy, including the present Count and Countess de Rochambeau, descendants of the marshal's brother, Gen. Brugère, commander-in-chief of the French army, the Count de Lafayette, the Marquis de Chambrun, great-grandson of Lafayette, and other prominent representatives of the French Government. The occasion was made notable also by a military parade, a speech by Ambassador Horace Porter, and an oration by Senator Lodge. The statue, the work of Ferdinand Harrier, of Paris, stands in the southwest corner of Lafayette Square, a short distance from the White House. Rochambeau, in bronze, in the uniform of his rank, stands on an ornate pedestal, with a scroll in the left hand and pointing with the

right to some object in the distance. At the base of the pedestal is Victory bearing an unfurled flag in her left hand and a naked sword in the other, with an eagle at her feet.

Indiana has just dedicated at Indianapolis an enormous monument to her dead soldiers and sailors. The shaft, including a bronze figure of Victory, is 284 feet high, and has a balcony 228 feet above ground, to which ascent is made by elevator. The design is by Bruno Schmitz, of Berlin.

A Holy Family, attributed to Palma Vecchio, has been discovered in a very dirty and dilapidated condition by Prof. Cantalamessa, the director of the gallery of the Venice Academy, and now, in its restored condition, occupies a place in one of the principal rooms of the Academy. The picture is a *Sacra Conversazione*, representing the Virgin seated holding the Child, who looks toward St. Joseph, seated at the right. At the left is St. Catherine pointing with her right hand to St. John, kneeling on one knee. The picture is a remarkable one, exceedingly beautiful in color and composition, and challenges comparison with some of the finest easel pictures produced in Venice during the later Renaissance. It is assigned to Palma on the strength of internal evidence, and is placed by Prof. Cantalamessa among the very latest of his pictures.

A memorial to Lord Leighton, late president of the Royal Academy, was unveiled on Feb. 19, in St. Paul's Cathedral, London, by his successor, Sir E. J. Poynter. The monument, the work of Thomas Brock, R. A., consists of a recumbent figure in bronze upon a sarcophagus on which are inscriptions on bronze tablets. At the head and feet respectively are bronze figures symbolical of painting and sculpture.

A portrait of John Bunyan, painted in 1685 by Thomas Sadler, has been added to the National Portrait Gallery, London. Its authenticity is said to be established by an unimpeachable record. It is interesting to note, in this connection, that a copy of the first edition of *The Pilgrim's Progress* was lately sold at Sotheby's for £1,475.

An irreparable loss to Venice and a distinct loss to art is the fall of the famous Campanile of St. Mark's, which collapsed and sank into a ruined mass on July 14. Even if the building be reconstructed on the ancient site, it will be only a modern tower, and will never excite the interest of art lovers as did the original.

The age to which Titian lived is the subject of an article in the Nineteenth Century by H. F. Cook, the result of the inquiry being to make it probable that Titian was not born until 1489-'90, twelve years later than the date usually assigned for his birth, so that he was only eighty-eight years old instead of ninety-nine at the time of his death. The only source of the idea that he was born in 1477 is a begging letter written by him to Philip II of Spain in 1571, in which he says he is ninety-five years old. The explanation is that this was an exaggeration to heighten the appeal to the royal pity.

One of the best works of Perugino, a triptych, has lately been found concealed behind an indifferent canvas of the seventeenth century in the Church of Santa Maria Assunta, in the village of Castelnovo di Porto, Italy. The principal figure, that of the Saviour, with the right hand raised in the act of blessing and the left holding the book of the Gospels, a work of extraordinary beauty, is by the hand of Perugino himself. The Virgin, St. Sebastian, St. John Baptist, and a fourth unknown saint, painted on the shutters, are the work of one of his pupils, probably of Berto di Giovanni. The triptych was

executed in 1501 as a commission from the four brothers Degli Effetti, a distinguished local family. The tradition concerning this picture had never died out, but its whereabouts was unknown previous to this discovery.

Sir Thomas Lawrence's portrait of John Philpot Curran, which Williams, in his *Life of Lawrence*, calls "the most extraordinary likeness of the most extraordinary face within the memory of man," has been presented by Lord Iveagh to the National Gallery of Ireland. It was in the Royal Academy in 1800, and was bought for 850 guineas at the sale of the Peel heirlooms in 1900.

A recent "find" in Egypt seems to throw new light on *The Dance of Death* in art, hitherto regarded as a peculiarity of the Renaissance period. A richly painted earthen drinking-cup exhumed near Alexandria is ornamented with seven dancing and grinning skeletons, each of whom is whirling with drunken joviality a bacchic thyrsus. The figures seem to be saying to the drinkers who used the cup: "Eat, drink, and be merry, for to-morrow you will be one of us." This, the true Alexandrian philosophy of life, is of great interest from the point of art. The cup has been acquired by the Louvre.

FLORIDA. (See under UNITED STATES.)

FRANCE, a republic in western Europe, proclaimed Sept. 4, 1870, after the surrender of the Emperor Napoleon III to the Germans at Sedan. The legislative power is vested in the Senate and the Chamber of Deputies, the executive power in the President of the republic and the Council of Ministers. The Chamber and Senate, meeting in joint session, form the National Assembly, which elects the President for seven years and has power to revise the Constitution. The Senate has 300 members, elected for nine years by electoral bodies in the departments composed of the members of the departmental councils, delegates from the communal councils, and the Senators and Deputies of the department. The Chamber of Deputies in 1901 had 581 members, elected for four years, one member for each *arrondissement* when the population is below, and two members when it is above 100,000. Every Frenchman of the age of twenty-one years or over, not a soldier in active service, is entitled to vote, if a resident of his district for six months, and any Frenchman who has fulfilled his military duties may become a candidate for either House unless he holds an office under the state. The ministers are responsible severally and collectively to the Chamber, and either resign or dissolve the Chamber when defeated on a Cabinet question. When a Cabinet resigns the President of the republic selects a new Prime Minister who is able to command a majority, and the latter, in consultation with the President, selects his colleagues. The President of the republic for the term ending Feb. 18, 1906, is Émile Loubet, born Dec. 31, 1838, who was elected to succeed Félix Faure in 1899. The ministry, constituted on June 22, 1899, was composed in the beginning of 1902 as follows: President of the Council and Minister of the Interior and of Public Worship, M. Waldeck-Rousseau; Minister of Finance, M. Caillaux; Minister of Justice, M. Monis; Minister of Foreign Affairs, M. Delcassé; Minister of War, Gen. André; Minister of Marine, M. de Lanessan; Minister of Public Instruction, Georges Leygues; Minister of Public Works, Pierre Baudin; Minister of Agriculture, Jean Dupuy; Minister of Commerce, Industry, Posts, and Telegraphs, M. Millerand; Minister of the Colonies, Albert Decrais.

Area and Population.—The area and the population of the 87 departments of France at the

census of March 24, 1901, compared with the population on March 29, 1896, are shown in the following table:

DEPARTMENTS.	Square miles.	POPULATION.	
		1896.	1901.
Ain.....			249,906
Aisne.....			384,904
Allier.....			421,074
Alpes.....			119,763
Alpes (Basses).....			108,867
Alpes-Maritimes.....			230,829
Ardèche.....			249,961
Ardennes.....			314,056
Ariège.....			203,284
Aube.....			245,596
Aude.....			311,386
Aveyron.....			277,559
Bouches-du-Rhône.....			737,113
Calvados.....			407,639
Cantal.....			216,941
Charente.....			344,876
Charente-Inférieure.....			446,394
Cher.....			342,680
Corrèze.....			304,718
Corse.....			276,839
Côte-d'Or.....			358,708
Côtes-du-Nord.....			507,098
Creuse.....			260,188
Dordogne.....			448,545
Doubs.....			266,967
Drôme.....			394,704
Eure.....			331,184
Eure-et-Loir.....			373,684
Finistère.....			763,198
Gard.....			418,470
Garonne (Haute).....			430,790
Gers.....			286,304
Gironde.....			690,791
Hérault.....			488,385
Ile-et-Vilaine.....			611,477
Indre.....			286,961
Indre-et-Loire.....			384,078
Isère.....			563,813
Jura.....			260,312
Landes.....			291,687
Loir-et-Cher.....			274,886
Loire.....			544,532
Loire (Haute).....			308,671
Loire-Inférieure.....			656,996
Loiret.....			368,812
Lot.....			293,736
Lot-et-Garonne.....			276,607
Lozère.....			194,049
Maine-et-Loire.....			513,308
Manche.....			468,361
Marne.....			439,850
Marne (Haute).....			224,888
Mayenne.....			311,307
Meurthe-et-Moselle.....			484,092
Meuse.....			258,186
Morbihan.....			567,384
Nièvre.....			319,506
Nord.....			1,877,647
Oise.....			405,942
Orne.....			326,445
Pas-de-Calais.....			949,968
Puy-de-Dôme.....			522,161
Pyrénées (Basses).....			426,164
Pyrénées (Hautes).....			213,173
Pyrénées-Orientales.....			200,447
Rhin (Haut) (Belfort).....			61,785
Rhône.....	1,077	836,465	826,157
Rhône (Haute).....	2,068	271,763	266,179
Saône-et-Loire.....	2,302	619,096	616,839
Sarthe.....	2,396	421,590	422,944
Savoie.....	2,224	265,809	249,450
Savoie (Haute).....	1,667	268,142	259,395
Seine.....	183.6	2,310,308	2,509,870
Seine-Inférieure.....	2,330	137,718	648,288
Seine-et-Marne.....	2,915	357,690	355,688
Seine-et-Oise.....	2,164	667,542	700,405
Sèvres (Deux).....	2,317	344,698	339,340
Somme.....	2,379	540,418	534,101
Tarn.....	2,217	264,372	286,396
Tarn-et-Garonne.....	1,436	199,789	194,458
Var.....	2,849	304,874	326,490
Vaucluse.....	1,370	235,088	235,457
Vendée.....	2,568	441,639	439,687
Vienne.....	2,601	396,063	339,896
Vienne (Haute).....	2,180	366,972	374,212
Vosges.....	2,266	419,675	419,794
Yonne.....	2,608	380,996	316,047
Total.....	204,092	28,228,060	26,596,500

The French soldiers in China and French sailors abroad being added to the population present in France raises the total to 38,641,333, which shows an increase of 412,364 since 1896. Although the death-rate is generally low in France, the increase in population is slower than in neighboring countries. This is because of the exceedingly low birth-rate. The number of births per marriage declined in ten years from 3 in 1891 to 2.1 in 1891, and has not since increased.

The legal population of France in 1901 was 38,961,945, compared with 38,517,332 in 1896. The increase was 444,613, compared with 175,027 in the previous five years. The number of foreigners residing in France in 1901 was 1,037,778, compared with 1,027,491 in 1896. The number of marriages in 1900 was 299,084; of births, 827,297; of deaths, 853,285; excess of deaths, 25,988. It was the fifth year in which there was an excess of deaths, births having declined and deaths increased since the previous year, in which births exceeded deaths by 31,394. The number of divorces in 1900 was 7,157, making a total of 94,426 since divorce was made legal in 1884. The annual rate of increase in the population has declined in seventy-five years from 61.4 per thousand to less than 21.4, although the death-rate has been lowered from 25.3 to 21.1 per thousand.

Finances.—The estimates adopted for 1901 make the revenue 3,554,602,892 francs, of which 483,069,335 francs are direct contributions, 39,527,279 francs taxes assimilated to direct contributions, 553,244,978 francs from registration, 173,563,400 francs from stamps, 6,883,500 francs from the tax on bourse operations, 74,707,666 francs the tax on income from personal property, 438,374,800 francs from customs, 649,022,550 francs indirect contributions, 199,800,000 francs from the sugar tax, 413,261,000 francs from the tobacco monopoly, 43,200,000 francs from matches and gunpowder, 255,278,400 francs from the post-office, telegraphs, and telephones, 17,261,930 francs from railroads, mint, etc., 55,485,300 francs from domains and forests, 71,893,808 francs from various sources, 77,829,108 francs *recettes d'ordre*, and 2,199,808 francs revenue collected in Algeria. The total from direct contributions and taxes assimilated to direct contributions was 522,596,614 francs; from indirect taxes, 2,095,596,894 francs; from monopolies, 729,001,330 francs. The total authorized expenditure for 1901 was 3,554,354,212 francs, of which 1,245,644,464 francs were for the public debt, 13,287,100 francs for the President, the Chamber, and the Senate, 19,593,880 francs for general service, 209,409,966 francs for collection of taxes and *répôt*, 32,313,000 francs for repayments, 35,253,133 francs for justice, 16,382,710 francs for foreign affairs, 79,092,225 francs for the interior, 42,922,553 francs for worship, 632,400,171 francs for French troops, 60,708,150 francs for extraordinary military expenses, 327,892,530 francs for the navy, 206,966,483 francs for public instruction, 14,901,240 francs for fine arts, 36,863,891 francs for commerce and industry, 2,432,989 francs for the general service of posts and telegraphs, 196,977,439 francs for working expenses of posts and telegraphs, 6,467,000 francs for repayments in the postal and telegraph service, 111,866,511 francs for the colonies, 44,797,262 francs for agriculture, and 218,581,515 francs for public works. The budget for 1902 made the total general revenue 3,597,164,082 francs and the expenditure 3,597,072,199 francs. An amended estimate made the revenue 3,604,561,268 francs and the expenditure 3,604,415,197 francs. The revenue from direct taxation was estimated at 533,500,000 francs; from registration, 577,799,000 francs; from stamps, 171,246,

900 francs; from the bourse tax, 6,809,000 francs; from the personality income tax, 79,493,000 francs; from customs, 470,266,000 francs, 25,000,000 francs having been added by the new duty on grain; from indirect taxes, 612,000,000 francs; from sugar, 175,622,000 francs; from tobacco, 414,898,000 francs; from matches and gunpowder, 44,066,000 francs; from posts and telegraphs, 269,438,000 francs; from railroads and mint, 18,106,000 francs; from domains and forests, 55,283,200 francs; from various sources, 56,784,000 francs; *recettes d'ordre*, 71,499,550 francs; revenue of Algeria, 1,846,390 francs; raised on short bonds, 40,000,000 francs. The increase in estimated expenditure was caused by the payment of 18,000,000 francs additional interest to guaranteed railroads and an addition of 2,578,722 francs to the army budget, offset by reductions in various departments, so that the net increase in the estimates was 7,342,993 francs. The capital of the French national debt on Jan. 1, 1901, amounted to 30,096,632,622 francs, consisting of 22,001,445,642 francs of 3- and 3½-per-cent. *rentes*, 3,811,918,500 francs of 3-per-cent. *rentes* repayable by annuities, 179,454,766 francs of the Morgan annuity loan, 2,085,724,767 francs of railroad annuities and guarantees, 536,442,132 francs of debts for roads and school-buildings, 151,020,000 francs of short-date treasury bonds, 184,960,215 francs of miscellaneous debts, and the floating debt of 1,145,666,600 francs. The budget for 1902 gives the sum to be paid on the perpetual debt as 675,643,059 francs; interest and amortization of redeemable debt, 324,387,377 francs; on floating debt, 243,395,310 francs; total debt charge, 1,243,425,746 francs. To meet the cost of the China expedition and pay indemnities to French victims of the Boxer outbreak the Government, in December, 1901, raised 265,000,000 francs on 3-per-cent. bonds.

The revenues of the departments in 1897 amounted to 285,879,082 francs, and expenditures to 288,703,089 francs; the ordinary revenues of communes for 1900 to 794,120,672 francs, and expenditures to 761,164,105 francs; the debts of communes to 3,881,352,204 francs; the estimated revenue and expenditure of the city of Paris for 1901 to 348,338,216 francs, 166,000,000 francs being obtained from *octrois* and 113,000,000 francs of the expenditure being the charge of the debt, which amounted to 2,387,216,295 francs.

The Army.—All young men who are not exempt are liable to serve in the active army for three years from the age of twenty, but after one year with the colors those who have learned their duties and are able to read and write may go on unlimited leave of absence. The peace strength of the army in 1902, including soldiers on furlough, was 510,305, including 26,762 officers, in France; 58,979, including 2,335 officers, in Algeria; and 20,160, including 745 officers, in Tunis; total, 589,444 men, of whom 29,842 were officers, with 142,847 horses. There were 4,421 in France, of whom 3,719 were officers, on the general staff; 385, of whom 291 were officers, in Algeria; and 115, of whom 90 were officers, in Tunis. In military schools there were 3,673, of whom 391 were officers. Unclassed among the troops were 1,995, of whom 1,745 were officers, in France; 728, of whom 540 were officers, in Algeria; and 162, of whom 117 were officers, in Tunis. The army corps comprised 316,947 infantry, including 12,149 officers, in France; 40,946 infantry, including 1,015 officers, in Algeria; 14,428 infantry, including 377 officers, in Tunis, 10,027 administrative troops in France, 3,537 in Algeria, and 616 in Tunis; 59,988 cavalry, including 3,461 officers, in France; 7,677 cavalry,

including 367 officers, in Algeria; and 1,849 cavalry, including 86 officers, in Tunis; 69,497 artillery, including 3,725 officers in France; 2,529, including 61 officers, in Algeria; 1,710 artillery, including 50 officers, in Tunis; 11,693 engineers, including 504 officers, in France; 1,076 engineers, including 22 officers, in Algeria; 435 engineers, including 8 officers, in Tunis; 7,469 train, including 360 officers, in France; 2,101 train, including 39 officers, in Algeria; 712 train, including 13 officers, in Tunis. The strength of the army corps was 475,621 men, of whom 20,199 were officers, in France; 57,866, of whom 1,504 were officers, in Algeria; and 19,750, of whom 534 were officers, in Tunis; total, 553,237 men, of whom 22,237 were officers. The total strength of the active army was 564,766 men, of whom 29,130 were officers: 485,710, including 26,064 officers, in France 58,979, including 2,335 officers, in Algeria; and 20,017, including 741 officers, in Tunis. The gendarmerie in France numbered 21,602 men, of whom 625 were officers; and 143, of whom 4 were officers, in Tunis; total, 21,745, of whom 629 were officers, the Algerian gendarmerie being provided for in the Algerian budget. The Garde Républicaine numbered 2,993, of whom 83 were officers. The effective strength of the active army, deducting sick and absent, was 520,280; that of the gendarmerie and Garde Républicaine was 24,487. The total number of men between twenty and thirty-three years of age who are liable for service in the active army and its reserve is estimated at 2,350,000; the number between the ages of thirty-three and thirty-nine who are inscribed in the territorial army is about 900,000; and in the territorial army reserve, composed of those between thirty-nine and forty-five years of age, 1,100,000 are enrolled, making a total war strength of 4,350,000 men, of whom about 2,500,000 are counted upon as efficient.

The Navy.—The French navy, including vessels not yet ready for service, consisted in the beginning of 1902 of 5 first-class, 7 second-class, and 13 third-class battle-ships, 17 armored cruisers, 18 coast-defense ironclads, 1 old battle-ship, 40 protected cruisers, 15 protected cruisers, 15 destroyers, 40 first-class and 122 smaller torpedo-boats, and 14 submarine boats. There were in process of construction 2 first-class battle-ships, 4 armored cruisers, 15 destroyers, 8 first-class and 10 smaller torpedo-boats, and 20 submarine boats. Nearly every vessel on the list is efficient, as it is the practise to destroy all that become obsolete and are not worth rebuilding and fitting out with modern equipment. In 1900 the Chambers voted for the construction of 6 battle-ships of an aggregate displacement of 148,650 tons, 5 armored cruisers of 12,600 tons each, 28 destroyers of 350 tons each, and a number, not determined, of submarine torpedo-boats. Submarine boats have been made the special feature of the French navy, both the type which navigates freely below water and the submersible boat which steams on the surface except when it dives for an attack. In 1902 the Chambers voted to begin the building of 1 battle-ship and 2 ironclad cruisers, and 3 battle-ships in 1903. The *Patrie*, begun in 1901, will be ready in 1905. The *République* was laid down in 1900. Of the cruisers of the new program the *Léon Gambetta* and *Jules Ferry* were begun in 1900 and the *Victor Hugo* in 1901. The navy estimates for 1902 also provided for the construction of 13 submarine vessels.

In the newest development of the French battle-ship, exemplified in the *République* and *Patrie*, the gun emplacements and all parts below them are fully protected. This type was adopted in the

Suffren, of 12,052 tons, launched in 1899, which has 13½-inch annealed armor over the vital parts, a speed of 18 knots with engines of 15,500 horsepower, and an armament of 4 12-inch guns coupled in barbette turrets fore and aft and a quick-firing battery, placed high, of 8 6.4-inch, 8 3.9-inch, and 34 small guns. The Jena, launched in 1898, is identical in design and armament, but the quick-firing battery is unprotected underneath, as is the case with the Charlemagne, Saint Louis, and Gaulois, of 11,097 tons, launched in 1895 and 1896. In the Charles Martel, Jauréguiberry, Carnot, Masséna, and Bouvet, built between 1893 and 1896, there are 2 12-inch and 2 10.8-inch guns placed singly in lozenge disposition, while 8 5.5-inch quick-firing guns are mounted in small turrets and they have from 26 to 34 smaller quick-firers. The Brennus, launched in 1891, of 11,215 tons, has 3 13.4-inch guns in fore and aft turrets, and a heavy quick-firing battery of 10 6.5-inch and 31 smaller guns well protected amidships. The Bouvines, Valmy, Jemmapes, and Trehouart, third-class battle-ships of about 6,500 tons, carry 12-inch guns singly in barbette turrets and have 4-inch and smaller quick-firers amidships without protective armor. The earlier type of French battle-ship, of which the Marceau and Magenta, of 10,680 tons, are the latest examples, has a high freeboard, a complete belt of armor at the water-line, and 4 large guns disposed in a lozenge arrangement, with a very strong quick-firing armament. These two vessels, launched in 1887 and 1890, carry 4 13.4-inch guns in their barbettes, and the quick-firing battery consists of 17 5.5-inch and 25 smaller guns in the Marceau and 16 5.5-inch and 34 others in the Magenta. The République and Patrie, having a displacement of 15,000 tons, are designed to steam 18½ knots, and their armament will consist of 4 12-inch breech-loaders and 18 6.4-inch and numerous smaller quick-firing guns. The French armored cruisers are long and narrow, with 7.6-inch guns mounted singly in turrets so as to obtain a free command and quick adjustment, with less regard to protection. The Montcalm, launched in 1899, and Dupetit-Thouars and Gueydon, launched in 1900, of 9,517 tons, and the Gloire and Conde, launched in 1901, of 10,000 tons, and the newer Sully carry besides the 7.6-inch guns 8 6.4-inch, 4 4-inch, and 24 smaller quick-firers. The Marseillaise, of 10,014 tons, has 6 4-inch quick-firers. The Desaix, Kléber, and Duplex, of 7,700 tons, are armed with quick-firers only, 10 6.4-inch and 16 small ones. The Jurien de la Gravière, launched in 1900, has deck protection only, a displacement of 5,500 tons, and an armament of 8 6.4-inch and 12 1.8-inch quick-firers. The latest type of armored cruiser, represented by the Léon Gambetta, Jules Ferry, and Victor Hugo, of 12,416 tons, have 4 7.6-inch quick-firers coupled in turrets, with better protection for their bases, and a secondary armament of 16 6.4-inch quick-firers. These vessels, with engines of 24,000 horse-power, are intended to make 21 knots—the speed of the 10,000-ton and 9,517-ton cruisers, with engines of 20,000 horse-power. The Jurien de la Gravière, with engines of 17,000 horse-power, has a nominal speed of 23 knots, and so have the Guichen, of 8,277 tons, and the Chateaurenault, of 8,018 tons, launched in 1897 and 1898, with engines of 24,000 horse-power and 23,000 horse-power, carrying 2 6.4-inch, 6 5.5-inch, and 10 small quick-firing guns; and also the armored cruiser Jeanne d'Arc, launched in 1899, which has engines of 28,000 horse-power, with 2 7.6-inch guns in turrets and a quick-firing armament of 12 5.5-inch and 26 small guns.

The French navy is under the direction of the

Minister of Marine, but since 1898 naval matters proper, the technical and military responsibilities pertaining to construction, maintenance, commissioning, mobilization, and every preparation for war, are confided to the chief of staff, an officer of the highest rank, Vice-Admiral Bienaimé in 1902. The navy is manned partly by conscription and partly by voluntary enlistment. The entire seafaring population between the ages of eighteen and fifty have been since the time of Colbert registered in the Inscription Maritime, and such serve in the navy instead of the army. Since 1872 it has been open to a limited number of conscripts called for service in the active army to choose the naval service instead, if they are fit for its duties. Of about 114,000 men in the Inscription Maritime, 25,500 are in active service in the navy, and the rest form a reserve which would provide a surplus of 50,000 men or more over the number required to man the whole fleet in case of mobilization. The *personnel* of the navy in 1901 consisted of 15 vice-admirals, 30 rear-admirals, 125 captains, 215 commandants, 754 lieutenants, 502 ensigns, 146 aspirants of the first and 78 of the second class, 1,426 mechanicians, engineers, hydrographers, paymasters, surgeons, instructors, etc., 50,496 petty officers and seamen, and in the reserve 15 vice-admirals, 15 rear-admirals, 202 other officers, 345 commissaries, surgeons, and other superior employees, and 5,471 petty officers and seamen; total effective, 59,835 officers and men.

Commerce and Production.—The yield of wheat in 1900 was 114,710,880 hectoliters, from 6,864,070 hectares; of barley, 14,394,320 hectoliters, from 757,193 hectares; of oats, 88,309,920 hectoliters, from 3,941,420 hectares; of rye, 20,889,000 hectoliters, from 1,419,780 hectares; of buckwheat, 8,163,027 hectoliters, from 602,581 hectares; of corn, 7,834,660 hectoliters, from 541,191 hectares; of mixed grain, 3,212,150 hectoliters, from 200,560 hectares; of potatoes, 122,541,230 hectoliters, from 1,509,898 hectares; of sugar-beets, 85,861,510 quintals, from 329,617 hectares; of other beets, 110,288,160 quintals, from 492,013 hectares; of colza, 425,310 quintals, from 38,715 hectares; of flax, 88,988 quintals of fiber and 194,155 quintals of seed, from 21,260 hectares; of hemp, 185,125 quintals, from 26,790 hectares; of wine, 68,514,906 hectoliters, from 1,609,353 hectares; of tobacco, 227,598 quintals, from 17,673 hectares; of clover, 35,016,275 quintals, from 1,022,422 hectares; of hay and grass, 160,743,459 quintals, from 5,566,258 hectares. The area of vineyards in 1901 was 1,735,345 hectares, producing 57,964,000 hectoliters of wine. The exportation of wine was 1,654,000 hectoliters, and the importation 3,149,000 hectoliters. The production of cider in 1901 was 12,734,000 hectoliters. The crops of walnuts, chestnuts, olives, cider-apples, prunes, and mulberry-leaves in 1900 was valued at 229,475,369 francs; the orange and lemon crops, at 1,092,435 francs. The numbers of domestic animals in France on Dec. 31, 1900, were 2,903,063 horses, 205,002 mules, 356,239 asses, 14,520,832 cattle, 20,179,561 sheep, 6,740,405 hogs, and 1,557,925 goats. The production of alcohol in 1900 was 2,656,268 hectoliters. The silk-growing industry, which is encouraged by premiums from the Government, amounting for the year to 5,569,187 francs, employed 136,214 persons in 1900, who raised 9,180,404 kilograms of cocoons, from which 4,086,630 kilograms of raw silk, valued at 139,523,661 francs, were produced, 107,098 kilograms of cocoons, valued at 1,167,357 francs, being exported. The number of mines in operation in 1899 was 529, employing 156,504 persons. The product

of minerals was 39,884,702 tons, valued at 460,366,671 francs. The production of coal and lignite was 32,862,712 tons; of iron ore, 4,985,702 tons; of pig iron, 2,578,000 tons; of manufactured iron, 834,000 tons; of steel, 1,240,000 tons; of steel rails, 1,253,700 tons; of gold, 270 kilograms; of silver, 82,105 kilograms; of lead, 15,981 tons; of zinc, 39,274 tons; of antimony and regulus, 1,499 tons; of salt, 1,193,532 tons; of building-stone, slate, cement, phosphates, and other quarry products, the value of 243,428,986 francs. There were 334 sugar factories in 1901, employing 48,097 persons regularly and 8,370 occasionally. The production in 1901 was 1,040,294 tons of refined sugar. The value of codfish landed in 1898 was 15,075,368 francs; of the catch of the home fisheries, 87,116,546 francs. The catch of herring in 1900 was 376,316 quintals; of cod, 639,010 quintals; exports of dried codfish, 225,774 quintals. The Government gave 5,538,929 francs in premiums for the catch and exportation of fish.

The foreign commerce of France has been gradually increasing for several years. The total value of the special commerce was 7,893,000,000 francs in 1898, 8,671,000,000 francs in 1899, 8,807,000,000 francs in 1900, and 8,880,000,000 francs in 1901. The increase in imports in this period has been 242,000,000 francs; in exports, 756,000,000 francs. The total value of the general imports in 1900 was 5,988,600,000 francs, and of the general exports 5,521,600,000 francs; that of the special imports was 4,697,800,000 francs, and of the special exports 4,108,700,000 francs. In 1901 the special imports amounted to 4,714,500,000 francs and the special exports to 4,166,200,000 francs. The imports of food substances in 1901 were 802,000,000 francs in value, and the exports 778,000,000 francs; the imports of raw materials were 3,124,000,000 francs, and the exports 1,091,000,000 francs; the imports of manufactured goods were 789,000,000 francs, and the exports 2,297,000,000 francs. The special imports of wool in 1900 were 426,400,000 francs in value; of coal and coke, 406,900,000 francs; of raw silk, 248,000,000 francs; of raw cotton, 248,000,000 francs; of oil-seed, 188,600,000 francs; of lumber and wood, 177,000,000 francs; of hides and furs, 161,000,000 francs; of wine, 155,300,000 francs; of cereals, 127,300,000 francs; of coffee, 91,800,000 francs; of flax, 82,600,000 francs; of ores 80,500,000 francs; of silk manufactures, 62,000,000 francs; of cotton manufactures, 48,400,000 francs; of woollen manufactures, 42,000,000 francs; of colonial sugar, 28,000,000 francs; of cattle, 26,400,000 francs. The exports of silk manufactures were 258,100,000 francs in value; of wine, 227,900,000 francs; of woollen manufactures, 227,200,000 francs; of woollen yarn and raw wool, 201,700,000 francs; of articles of Paris, 185,000,000 francs; of cotton manufactures, 174,400,000 francs; of linen goods and garments, 136,100,000 francs; of raw silk and silk yarn, 135,700,000 francs; of skins and furs, 109,700,000 francs; of chemical products, 88,300,000 francs; of hardware and tools, 87,200,000 francs; of cheese and butter, 73,800,000 francs; of leather goods, 70,800,000 francs; of refined sugar, 57,700,000 francs; of spirits, 52,800,000 francs. Of the total imports 4,073,000,000 francs came by sea, 1,673,000,000 francs of this value in French and 2,405,000,000 francs in foreign vessels, and by land the value of 1,911,000,000 francs was imported. Of the exports 3,631,000,000 francs in value were shipped by sea, 1,822,000,000 francs of this value in French and 1,809,000,000 in foreign ships, and 1,890,000,000 francs went in land vehicles. The transit trade in 1900 amounted to 958,000,000 francs. The imports of gold coin and bullion

in 1900 amounted to 459,110,799 francs, and exports to 125,567,614 francs; imports of silver coin and bullion were 145,839,396 francs; and exports 206,785,529 francs; imports of bronze coins were 62,460 francs in amount, and exports 334,780 francs; total imports of specie, 605,012,655 francs; total exports of specie, 332,687,923 francs. The values in francs of merchandise imported from and exported to the principal countries in the special commerce of 1900 are given in the following table:

COUNTRIES.	Imports.	Exports.
Great Britain.....	675,000,000	1,228,000,000
Belgium.....	422,000,000	598,000,000
Germany.....	427,000,000	468,000,000
United States.....	510,000,000	265,000,000
Spain.....	220,000,000	135,000,000
Argentine Republic.....	285,000,000	50,000,000
Italy.....	149,000,000	156,000,000
Algeria.....	166,000,000	260,000,000

The value of 231,000,000 francs was imported from Russia and 154,000,000 francs from British India; and of the exports of domestic produce and manufacture 211,000,000 francs went to Switzerland and 38,000,000 francs to Brazil. The value of merchandise imports and exports that passed through Marseilles in the general commerce of 1900 was 2,072,000,000 francs; while Havre had a trade of 1,978,000,000 francs; Paris, 876,000,000 francs; Dunkirk, 773,000,000 francs; Bordeaux, 672,000,000 francs; Boulogne, 430,000,000 francs; Dieppe, 371,000,000 francs; Rouen, 261,000,000 francs; Calais, 247,000,000 francs; Belfort, 221,000,000 francs; Jeumont, 219,000,000 francs; Tourcoing, 204,000,000 francs.

Railroads, Posts, and Telegraphs.—The railroads in 1900 had a total length of 23,760 miles, exclusive of 2,970 miles of local railroads. The Government owned 1,700 miles and has the reversion of the main lines operated by the 6 guaranteed companies. The guarantees of 4 of these expire in 1914, and those of the others in 1934 and 1935. The cost of construction of 23,453 miles completed in 1899 was 16,214,000,000 francs. The gross earnings in 1899 were 14,213,750 francs, and in 1900 they were 15,025,500 francs. The length of street-railroads on Jan. 1, 1901, was 2,319 miles.

The number of letters that passed through the post-office in France and Algeria in 1899 was 846,561,000 in the internal and 167,190,000 in international and transit traffic; registered letters, 48,518,000 internal and 2,806,000 international and transit; postal cards, 55,149,000 internal and 7,545,000 international and transit; newspapers, circulars, samples, etc., 1,218,893,000 internal and 183,213,000 international; receipts in 1899 were 256,943,270 francs in France and 4,988,426 francs in Algeria.

The length of telegraph-lines on Jan. 1, 1900, was 90,170 miles, with 330,100 miles of wire. The number of despatches in 1899 was 48,144,151, of which 39,071,518 were internal, 6,379,182 international, 1,122,180 in transit, and 1,571,271 official. There were 959 telephone systems in 1899, with 10,410 miles of line and 150,510 miles of wire. The number of conversations in 1899 was 164,912,842, and on long-distance lines, having a length of 15,384 miles, with 44,034 miles of wire, the number was 4,774,824 in 1899 and 5,953,543 in 1900.

Last Session before Elections.—The ministry that triumphed over the Nationalist sedition in 1899, obliterated the Dreyfus scandal, suppressed political intrigues in the army, and restored confidence in the republic, was strong

enough to carry through the Chambers important measures, such as the new succession duties, the revised spirit duties, the bill establishing a colonial army, and, as the logical chastisement for the reactionary parties, the associations bill. The army and navy, the colonial empire, and the international position of France waxed under the care of the democratic ministry in a way to rebuke and humiliate Cæsarism. The defenses of the French coasts, the gradual transformation of the navy, the development of submarine torpedo-boats, the construction of the naval port of Biserta, the fortification of Diego Suarez, the occupation of new territories in the Sahara and central Africa, were accompanied by a more energetic defense of French interests in the East and elsewhere. The Russian alliance was not weakened, while a *rapprochement* with Italy removed a source of weakness and danger. When the Chamber met in January, 1902, the Government proved to working men the value to them of ministers like M. Millerand and M. Baudin, which the Guesdist Socialists denied, by adopting the bill of M. Basby, the representative of the miners, fixing eight hours as the maximum day's work in French mines. To enable the companies to double the number of pits, broaden the galleries, and make other preparations, nine hours will be a day for two years, then for two years eight hours and a half, and after that eight hours. A bill decreeing that workmen and workwomen, whether in public or private service, including employees in shops, restaurants, and hotels, shall not be employed more than six complete days in the week, but must have one whole day or two half-days of rest, was opposed by only 10 Deputies. A Socialist motion to amnesty strikers was carried on March 21, in spite of the opposition of the Government, by 368 votes to 62. The Guesdist Socialists and some anarchist agitators led a demonstration of the unemployed at the Labor Exchange and a conflict with the police on March 3. Even the Parliamentary Socialists who have defended M. Millerand considered it inexpedient for a Socialist again to enter a French Cabinet for some time.

A new law on shipping bounties is intended to indemnify ship owners who purchase vessels built abroad for the extra expenses entailed by the restrictions placed upon them by the French shipping laws, though its opponents described it as a bill to give 40,000,000 francs a year in premiums to British ship-builders. Its purpose is to enable the steam mercantile marine of France to keep pace with that of other countries. The act of 1881 allows half the navigation premium to vessels of foreign construction sailing under the French flag. The act of 1893 restricted bounties to French-built vessels. The present act grants an outfit indemnity equivalent to less than a third of the navigation premium to foreign-built steamers registered in France. The navigation bounties for French-built vessels are at the same time increased, except for large sailing vessels, which were so favored by the act of 1893 that they have been built in excess. Notwithstanding the protection given by the law of 1893, French owners have continued to buy over two-thirds of the new steam tonnage abroad. A part of the increased bounty is reserved as a superannuation and accident insurance fund for mariners and fishermen. The construction bounty remains 65 francs per ton and 15 francs on every 100 kilograms of engines and boilers. The French builder of a steam-vessel receives also 70 per cent. of the navigation bounty. French vessels in colonial waters may hereafter have foreign

crews under French officers, it having been found that the law requiring three-quarters of all French crews to be Frenchmen was detrimental to the coasting-trade under the French flag in tropical seas. The act of 1893, under which bounties will continue to be paid out until 1913, will have cost the taxpayers 221,000,000 francs. The cost of the new statute, which was passed for ten years, with payment of bounties for twelve years longer, is limited to 200,000,000 francs. The Chamber sanctioned by a practically unanimous vote a vast project of canalization that has been long studied, involving the expenditure of 665,000,000 francs, of which 443,500,000 francs will be spent on new canals, 60,000,000 francs on widening and deepening existing canals, and 162,000,000 francs on improving Dunkirk, Havre, Nantes, St.-Nazaire, Bordeaux, and other harbors. Of the new canals, one to connect the Pas de Calais with Lorraine, giving a cheaper and more certain supply of coal and of iron ore to a great manufacturing district, will cost 130,000,000 francs. The projected northern canal will cost 60,000,000 francs. The canal from the Loire to the lower Rhone, estimated to cost 123,000,000 francs, will link the extensive canal system of which Paris is the center with the southeastern parts of France. The canal from Marseilles to the Rhone will cost 91,500,000 francs, and in connection with this the navigable channel of the Rhone will be improved, and also the Cete Canal. For works of minor importance and local value the districts interested are expected to pay half the cost; for works of national importance the local contribution will be less; for military ports the whole cost falls on the national treasury. The question of shortening the term of military service was not decided. Under the present law about 50,000 of the annual recruits serve only one year, after which they are called out for four or two weeks annually; 15,000 serve two years; and 160,000 are compelled to serve three years. Young men of the wealthier classes, on the ground that they are needed for the support of their families or have a certain amount of instruction, are released, while the poor have to serve for the full term. The Government proposed to make the period of obligatory service two years for all if a sufficient number of suitable men can be induced to remain with the colors voluntarily from one to five years longer. A bill before the Senate offered to those who would enlist for the additional terms not only higher pay, but future employment in certain Government and communal offices and in societies receiving state aid to be reserved for soldiers who have served three years in the national or the colonial army. Sons who support widowed mothers or younger children would also have to serve two years, during which the Government would provide for the support of the bereft families. The Government favored this plan and was desirous of suppressing all exemptions and inequalities, but not until the preliminary measures were taken to insure the efficiency of the military organization when the short term is introduced. As the matter could not be brought to a conclusion before the dissolution of the Chamber, the Deputies, by 553 votes to 2, declared their adhesion to the principle of two years' service to be effected by the suppression of all exemptions and by reenlistments, with compensation for families deprived of their normal support. Military service has weighed very heavily in France because the annual number of available conscripts has declined since 1871 from 293,000 to 225,000, half the num-

ber there are now in Germany, where they have increased in that time 120,000 and reductions are made in the annual drawings, whereas in France there are not enough to fill the battalions. The bill proposed to enroll in the army all those who, physically incapable of marching and fighting, could perform administrative or clerical duties or assist in the ambulance corps or the commissariat. For students postponement of service would be allowed. There are 6,000 men employed as orderlies and as shoemakers, tailors, etc., who would be incorporated in the army. At present 58 per cent. of the infantry and a part of the cavalry really serve only ten months. The available effective is reduced by exemptions and dispensations by a third. The abolition of these is expected to yield 489,000 conscripts serving two years. The reduction of the limit of stature and the reenlistment of more non-commissioned officers and of 7,000 privates, with the addition of the Algerian contingent, would supply the deficiency of 50,000 men that the change from three to two years would entail, so that the army would be kept up to its required strength of 539,000 men. The cost of the change in bounties for reenlistment and relief to families deprived of breadwinners was estimated at 70,000,000 francs a year. The total strain on the people would be greater, but it would be equal, and the classes now called upon to pay the main part of the blood tax would be relieved of a part of their burden. The military training of the army as a whole would be improved, since the three years' system does not secure two years' training for a great part of the military population, including the most intelligent classes. The duration of military service under the bill is two years in the active army, eleven years in its reserve, six years in the territorial army, and six years in its reserve, making twenty-five years altogether.

The final session of the Chamber elected in 1898 ended on March 30. The Senate refused to make the duration of the next Chamber six instead of four years, postponing the question for riper consideration in the new Parliament. The Government supported the measure, on the ground that the first session of every Chamber is devoted to preliminary discussions and the last is agitated by electoral considerations, leaving but two sessions for practical work, and in spite of the opposition of the Socialists under M. Viviani and of M. Rouvier and M. Pelletan the bill passed the Chamber by 298 votes to 237. The Prime Minister defended the measure in the Senate because it would give the Government opportunities to dissolve the Chamber, a power that has never been used except in consequence of Marshal Macmahon's *coup d'état* in May, 1877. Of various new regulations against fraud in elections the Senate adopted only one, invalidating elections to the Chamber procured by falsification. The issue of short-term bonds for 70,000,000 francs to meet the deficit the Chamber tried to cut down, believing the budget could be balanced with 44,000,000 francs. When the Chamber voted 10,000,000 francs to give the soldiers better meat and wine rations the Senate allowed only 1,000,000 francs, but the training of the territorial army for two weeks which the Chamber deemed useless the Senate insisted on continuing for nine days at least every year.

The Elections.—The new Chamber consisted of 591 instead of 581 members. In the reapportionment of seats on the basis of the last census 3 arrondissements lost a Deputy each and 13 gained one. The Radical Republicans in their

electoral manifesto called for reform of the direct taxes, an income tax, two years' military service, insurance against labor accidents, a working men's superannuation fund, and agricultural credit societies. Like other sections of the Republican party, they denounced the Nationalists and the Congregations on the one hand and Collectivism on the other. The Catholic bishops generally warned the clergy against endeavoring to influence votes. The *Patrie Française* League and other organizations of Nationalists electioneered energetically and vituperated the ministers. The Legitimists, Orleanists, and Bonapartists of other days were merged in one Conservative party, ready to accept any monarchical form of government, and this party was feeble in numbers and energy compared with the Nationalists, now the chief Opposition party, willing to advocate any change, reactionary or even revolutionary, by which they could come into power. They are a combination of former royalists and Bonapartists still looking for a revival of their cause, others ready to accept any cause that would open a career for them, Clericals anxious to revive the political influence of the Church, Rallied Republicans who had already given up monarchism as a lost cause, Anti-Semites, and adventurous, ambitious, and eccentric deserters of the Republican, Radical, and Socialist parties. The Plebiscitarians did not openly reject the republic, but would attach themselves to the fortunes of any dictator who would destroy it amid the acclamations of the multitude. The Progressives, led by M. Méline and M. Ribot, would purge the republic of Socialists and Socialist Radicals, hoping to reconcile Clericals and Conservatives to a republican Government ruled by moderation and respect for property. The Radical Republicans, the aggressive and dominant section of the Ministerial party, are the men who since Gambetta led them have carried out the principal reforms that have marked French legislation for twenty years, and who of late have had a majority in the Senate as well as in the Chamber. The Socialist Radicals would proceed more precipitately in social legislation than the Radicals. The Parliamentary Socialists, represented by M. Millerand in the Cabinet and by M. Jaurès and M. Viviani in the Chamber, adhere theoretically to Collectivist ideals, but will cooperate with other parties in effecting social reforms and labor legislation gradually. The anti-Parliamentary Socialists, led by Jules Guesde, reprobate alliances with capitalistic parties. The Revolutionary Socialists, like the anarchists, generally refrain from voting and political activity and would sweep away the existing Government by revolution and terrorism. The Nationalists, who had already won the municipality of Paris from the Socialists, made a great struggle to gain the constituencies in the capital, and with a profuse use of money opposed Ministerialist candidates in all parts of France. The women of the aristocracy, angered by the antiassociations law, took a public part in electioneering, as women in France had never done before. There were about 2,500 candidates, an average of more than 4 for every seat, 6 in Paris. The Duke of Orleans instructed the remaining adherents of the Bourbon monarchy to set up Royalist candidates where they had a chance of success, and where not to vote for some other anti-Republican candidate, or, if there was none likely to win, to vote with any party opposed to the Government. In many departments the clergy did actively intervene in the elections, drawing from M. Waldeck-Rousseau when the elections were past a threat

to punish all who had abused their ecclesiastical functions.

The elections took place on April 27. The Nationalists, for all their violent campaign, gained but a few seats in Paris and polled only two-fifths of the total vote of the metropolis, whereas Gen. Boulanger in 1889 received three-quarters of the Parisian suffrages. Out of 412 elected on the first ballot 88 were Ministerial Republicans, 95 Radicals, 41 Socialist Radicals, and 22 Socialists, making 246 supporters of the Government, against 32 Nationalists, 66 Conservatives, 66 Anti-Ministerial Republicans, and 2 Anti-Ministerial Socialists, a total of 166 Opposition Deputies. Second ballots were necessary for 179 seats. The Government made a net gain of 11 seats in the elections decided in the first ballot. Of 8,863,000 votes polled out of 11,216,000 on the register, 5,198,000 were cast for the Government. Of 3,352,000 Anti-Ministerial votes, Guesdist Socialists cast 144,000, Progressive Republicans 1,103,000, Nationalists 1,160,000, and Reactionaries 943,000. Of the Ministerialist voters, 717,000 were Socialists, 715,000 Socialist Radicals, 1,734,000 Radicals, and 2,029,000 Ministerial Republicans. Although the Progressists in many places combined with Nationalists to displace Ministerialists, the second ballots on May 11 were as favorable to the Government as the first. The new Chamber consisted of 111 Ministerial Republicans, 128 Radicals, 94 Socialist Radicals, 53 Socialists, 6 Guesdist Socialists, 115 Progressist Republicans, 43 Nationalists, and 41 Conservatives. This gave the ministry a majority of over 100 against any hostile combination, the Republicans a majority of 400 against the foes of the existing republic. The Socialists, having been 57 in the Chamber of 1898, were losers, though not to such an extent as the Conservatives, and the Progressists lost 35 seats, while the Radicals increased from 104 in the last Chamber and the Socialist Radicals from 74. Of the Conservatives elected only 10 were Legitimists, the rest Bonapartists. There were 20 Anti-Semites and 8 Plebiscitarians.

Change of Ministry.—The ministry formed on June 22, 1899, for the defense of the republic and the reestablishment of order, having achieved its task, deserted though it was at the outset by stanch Republicans of the stamp of M. Ribot and M. Poincaré, M. Waldeck-Rousseau on May 28 announced his resignation. The new Chamber met on June 1 and elected Léon Bourgeois provisional president over Paul Deschanel. After the credentials of members were confirmed, M. Bourgeois was definitively elected president. M. Loubet was at this time in St. Petersburg, returning the visit made by the Czar in September, 1901. The Emperor Nicholas invited the President of the French Republic to visit him so as to note the proofs of the warm and sincere sentiments uniting Russia and friendly and allied France. In asking a credit of 500,000 francs for the presidential journey the Government, in consequence of the recent Franco-Russian note, instead of speaking of a fresh consolidation of the alliance according to the old formula, described the visit as a demonstration of the growing strength of the bonds uniting France and Russia for the development of their prosperity and the maintenance of the peace of the world. M. Loubet, on his return to France, received a letter in which M. Waldeck-Rousseau offered the resignation of the Cabinet. The President sent for Henri Brisson, and when this eminent Radical declined, commissioned M. Combes to form a ministry. Whether a progressive income tax

should be placed before exclusive state education, two years' service, superannuation allowances to workmen, or judicial reforms, and whether *scrutin de liste* should be reintroduced, were questions that divided Radicals who were asked to join the Cabinet, which was finally constituted on June 6 as follows: Prime Minister, Minister of the Interior, and Minister of Public Worship, M. Combes; Minister of Justice, M. Vallé; Minister of Foreign Affairs, M. Delcassé; Minister of Finance, Maurice Rouvier; Minister of War, Gen. André; Minister of Marine, Camille Pelletan; Minister of Education, M. Chaumié; Minister of Commerce, M. Trouillot; Minister of Public Works, M. Maruéjouls; Minister of Agriculture, M. Mougeot; Minister of the Colonies, M. Doumergue; Minister of Posts and Telegraphs, M. Bérard. The selection of M. Combes, reporter of the associations bill in the Senate and Minister of Education in the Bourgeois Cabinet of 1895, to be the head of the new Radical ministry indicated a purpose to apply that law with vigor. The first legislative proposal in the ministerial program was the abrogation of the Falloux education law of 1850, which placed on an equal footing secular education given by Church institutions and the university and school education of the state. Rigid economy and an intelligible and sincere budget were the financial principles set forth, and the extrication of the Government from graver financial difficulties fifteen years before was recalled to prove that similar efforts would restore the balance between normal receipts and expenditures. A general income tax, which by taxing each person according to his powers would introduce greater equity and a fuller democratic spirit into the fiscal system, was given a foremost place in the promised legislation, and next the reduction of military service to two years without compromising the solidity of the army, a consummation to be effected by the bill already before the Senate. The disciplinary corps and penal establishments of the army were to be brought into harmony with the principles of modern justice, as the proceedings before military tribunals already had been. The transfer of railroads to the state was to be studied and a beginning made in their acquisition and management by the Government, as had been resolved by the last Chamber. The workmen's superannuation bill, which the late Cabinet had left, was to be pushed forward. All details of the administration would be governed by secular liberty and Republican principles, and the associations law would be enforced in its letter and its spirit. The Chamber, after hearing the ministerial declaration, passed by 329 votes to 124 an order of the day expressing confidence in the Government and its purpose to apply a vigorous policy of unsectarianism, of fiscal reform, and of social solidarity. The deficit for the year was estimated at 170,000,000 francs. The Progressist Jules Roche proposed to debar private Deputies from proposing any measure entailing expenditure of money, as is the English constitutional practise. M. Rouvier carried a bill for the conversion of 3½-per-cent. French rentes into 3 per cents., affecting nearly one-third of the funded debt and saving the treasury 32,000,000 francs a year, the period during which the conversion was forbidden by the law of 1894 having expired. The holders of the old and the new 3 per cents., amounting to 21,450,000,000 francs, are guaranteed against any further conversion for eight years. The holders of the 3½ per cents. who exchange their bonds receive 1 per cent. bonus in the shape of new bonds of 101

per cent. of the face value of the old ones or in cash. The conversion was expected by the holders, since the price of the $3\frac{1}{2}$ per cents. has receded from nearly 109 almost down to par, and the impending operation depressed the price of the perpetual 3 per cents. The bonus represents an interest of $3\frac{1}{2}$ per cent. for the first four years. After 1910 a conversion of French rentes into $2\frac{1}{2}$ - or $2\frac{1}{4}$ -per-cent. stock at par may be possible, but at present these rates are not sufficiently acclimatized in France. The conversion bill contains a clause allowing treasury bonds to reach a limit of 500,000,000 francs, 100,000,000 francs above the existing legal maximum. The session ended on July 12.

Enforcement of the Associations Law.—Before the close of the session M. Combes first ordered 135 Roman Catholic schools closed, some of them conducted by 130 newly constituted religious associations which unsoundly contended that the associations law did not require new schools or societies to apply for authorization, others by members of unauthorized communities who claimed exemption as salaried teachers employed by lay school proprietors. Since the associations law of July 1, 1901, went into force 64 male and 685 female communities had applied for authorization. Authorization has been required by law since 1825, but before the new act was passed many establishments were founded that neglected to conform to the law. The Premier's speech defending the forcible closing of schools and declaring that the first act would be followed by others, since Republican France had elected a majority of representatives resolved on securing the victory of lay society over monastic disobedience, was by 309 votes to 218 ordered to be placarded throughout the country. There were 3,000 schools, mostly for girls and conducted by nuns, which still defied the law. Three days before the close of the session a decree was issued ordering all these to close on a week's notice, otherwise they would be closed by the police. If they obeyed they could apply for authorization and be reopened as new establishments. Asylums and hospitals were left undisturbed until accommodation could be found for their inmates. M. Combes was denounced in the Chamber as a proscriber, and Deputies of the Right threatened the President and nearly came to blows with friends of the Government. After the close of the session 450 religious communities applied for authorization. On July 16 notices were served on 76 schools in Paris, and some of the schools in the provinces received their warning. The schools were those of the unauthorized religious communities, taught by the same teachers and occupying the same buildings, the only change having been that the property was now in the name of laymen. This device was regarded by its authors as sufficient to get around the law. The Government, however, was resolved to treat the pretext that these alleged proprietors and employers of the teachers had opened new schools, when they were in all respects the same conventual schools as before, as a quibble not worthy of consideration. The Council of State decided on Jan. 23, 1902, that the law did apply to the conventual schools, old and new. There were two months in which the schools could be either converted into secular schools or legalized as religious schools of authorized orders before the compulsory education law would require the parents to send their children to school; but they could not be legalized without a new act of the Legislature, which would not meet before Oct. 15, and in case these

schools were not reopened before the new school year there would not be room for so many children in the public schools; most of the parents, moreover, would endure penalties rather than let their children attend the secular schools. After secular education was enacted in 1882 and monastic teachers were excluded from the common schools, Catholics throughout the country contributed and sent their children to the schools founded by the monastic orders in which religious instruction was continued. There were 160,000 children in these Church schools in Paris; in the provinces they were more numerous attended. Thousands of teachers were trained in the convents. To provide education for the pupils of these schools would add greatly to the public expenses. The bishops declared that they would defend the liberty of Christian families to determine how their children should be educated, and nearly all of them sent protests against the decrees, although they have had constant difficulties with these teaching orders in exercising their hierarchical authority. The circular of M. Combes came as a surprise because it was now too late for the orders to apply for authorization. The law gave them only three months, which expired on Oct. 1, 1901. M. Waldeck-Rousseau decreed an extension till Jan. 15, 1902, and when he said that elementary schools came under the education law of 1886 it was assumed or argued by some of the Clericals that his language emptied the Church schools. It was contended, moreover, that since he threatened to close them after a final summons his successor was bound to allow an opportunity to obtain authorization. The Progressives and Moderate Republicans condemned the policy of suppressing the sisters' schools, and Protestants as well as Clericals and Reactionaries called it an attack on liberty and a manifestation of hatred and intolerance. Even Radicals, like ex-Premier Goblet, deprecated violence in combating clericalism, though others called for the total suppression of the recalcitrant orders or advocated the denunciation of the concordat. When the police began to carry out the decree, first in the departments of the Seine and the Rhône, the Clerical politicians and the clergy led demonstrations. In Paris the Nationalists sought conflicts with the police, and some of the agitators were arrested. In provincial towns and villages, where the action of the Government produced real hardship and profoundly exasperated the people, serious conflicts occurred, notwithstanding the endeavors of the authorities to avoid encounters. Many of the officials carried out the expulsions with extreme repugnance; some would not enforce the decree; none treated the sisters with harshness. Departmental and municipal councils in Catholic sections passed resolutions condemning the Government, and the municipal councils of the industrial cities resorted with resolutions of commendation. Clerical leaders appealed to M. Loubet, who forwarded their communications to the ministers. Ladies of society sought the intercession of Mme. Loubet, but propriety forbade her to receive them. Leaving a message that women's blood would be shed in the streets if the women of the poor were denied the privilege of giving a Christian education to their children, some days later, at the head of a demonstration of mothers of France, they attempted to present a petition to the Prime Minister, but found the avenues leading to the ministry blocked by the police. Some of the notifications in the provinces were withdrawn for the reason that the establishments affected were virtually authorized by having been allowed to

buy lands and buildings or to receive legacies. It was decided to leave orphanages and charity schools undisturbed. In 48 of the departments the schools that received notices closed voluntarily; in 5 there were no religious schools; in 34 decrees were enforced. In many cases where there was resistance or a show of resistance, the heads of the order commanded the nuns to leave, and the nuns desired to leave, but were restrained by the lay managers and by Clerical partisans. There were 6,000 monastic educational establishments that had not applied for authorization. About half of these the ministers decided to leave unmolested because they had acted in good faith, believing that no application was necessary. The number of schools thus exonerated was about 1,100. Of the others, over 1,500 closed voluntarily. Decrees were enforced against 28 schools in Paris and 61 in the Rhône department, and on Aug. 1 decrees of closure were issued against 237 establishments in 32 other departments. There were 12,000 applications for authorization, which the Council of State would pass upon as expeditiously as possible. The 324 recusant schools must secure lay teachers if they desired to reopen in October. When the gendarmes went to close them they found the doors locked, and some of them surrounded by defenders—peasants who stood guard with pitchforks or youths who stoned them as they approached. In many villages the inhabitants mounted guard or the mayors summoned them by sounding the tocsin, and in some the gendarmes were compelled to retire. In various towns citizens of the two parties fought in the streets. The political leaders of the demonstrations counseled only legal resistance, not violence. Some of them suggested and inaugurated a general refusal to pay taxes. The boycotting of Republicans was begun in many places, and in some a run on the savings-banks was started. The agitation was more intense and general in Brittany than in any other part of France, and there the decrees were carried out last. There the doors of the schools had to be opened by locksmiths or breaches had to be made in the walls. Women knelt or lay down at the entrances to prevent the passage of the police. Prominent Clericals braved a criminal charge by breaking the official seals placed on the buildings. Priests sometimes headed the resistance. In one instance the nuns armed themselves with scythes to fight the police. Wherever the people were so excited that the schools could not be closed without a serious conflict the execution of the decrees was delayed, while the ecclesiastical authorities counseled submission. The superior of the largest order twice directed the Breton nuns to submit, but the lay owners of the schools and the inhabitants prevented their departure. Royalism as well as Catholic sentiment inspired a revolt which only the military could deal with in this old province, now almost the only part of France that elects royalist Deputies. Court proceedings against the legality of the decrees were instituted in very many places, the course generally recommended by the Church dignitaries and their political friends. One of the bishops advocated the separation of Church and state, since the majority of Frenchmen preferred apparently an atheistic republic. In some of the more troubled districts detachments of soldiers were sent to protect the civil officials in their task. In the department of Morbihan Lieut.-Col. Gaudin de Saint-Rémy, when ordered to send a squadron to aid in closing a school at Lanouen, refused to obey his general's orders, saying that as a Christian

he would not share in an act contrary to his faith and religious feelings. He was immediately relieved of his command and ordered to a fortress. It was only by means of military operations that the decrees could be executed in Brittany. The peasants and fishermen were united in their resistance in the districts where loyalty to the Bourbon kings and feudal attachment to the nobility were still a part of their religion. Barricades, earthworks, and ditches closed the roads. When the soldiers broke through or turned the barriers and reached the school-buildings, where they had to batter down the doors, they were greeted with cheers for the army, but the commissaries were assaulted, and sometimes the priests had to rescue their lives. Intrenchments and obstacles protected the buildings, and these were filled with people who threw filth and burning oil-soaked sticks into the faces of the gendarmes who attempted to enter. When an entrance was at length effected, the nuns marched arm in arm with the aristocratic ladies of the neighborhood to the church, preceded by trumpets and flags and cheered by the populace, who strewed their path with flowers. Some of the local courts upheld the lay owners, or nominal owners, of the edifices where, after the sisters had left, they removed the seals from the doors and resumed possession. In the departments where the public sentiment sustained the Government, though many persons were arrested, priests and nuns among them, and ladies of the old aristocracy, the sentences inflicted were the lightest, and these were remitted under the law allowing first offenses to go unpunished. The strength of the Clerical and Reactionary movement which made Paris Nationalist and revived royalism and imperialism in the provinces, contrary to the admonitions of the Pope, was not derived from the dwindling and impoverished ancient aristocracy, but from the commercial, manufacturing, and professional classes. The *bourgeoisie* that accomplished the French Revolution had become enamored of the *ancien régime*. The spirit was strong in the army and navy and among the official classes, and when officials refrained from insubordinate acts, which invariably led to dismissal, the women of their families flaunted their anti-Republican sentiments in the view of the public. The Government, representative of a new social stratum, of the working classes and the bulk of the peasantry, attributed this to the monopoly of middle-class education by the clergy. Hence the ministers, who found themselves in the awkward position of waging war on women, persisted in enforcing the associations law, in appearance at least, to betoken their determination to introduce secular education and bring up the youth of France as Republicans. The Government was sustained by 65 departmental councils on its policy of closing the schools, and censured by 3, while 15 recommended authorization and restitution of the schools. The belated execution of the decrees in Brittany was finally carried out by Aug. 20, in Finistère last of all, where Abbé Gayraud, the Deputy, could not dissuade the peasants, who left their harvest fields to champion the nuns, from fighting the police and soldiers. The orders after the struggle was over applied for authorization. Since the act of 1886 lay teachers had been substituted for nuns in 4,500 religious schools and 6,000 were still taught by sisters. For most of the closed schools lay teachers, often volunteers, were found, although there was a scarcity of available teachers possessing the necessary certificates. The laicization of communal schools was obligatory

and was carried out wherever they were still taught by nuns. When Col. de Saint-Rémy was tried the military court virtually upheld his conduct by sentencing him to one day's imprisonment. Gen. André, the first Minister of War chosen from the army who had made political speeches tinctured with Radicalism, in accordance with a decision of the Cabinet, placed Col. de Saint-Rémy, whose previous military career was unimpeachable, on the retired list. The Socialists and Radicals called for the abolition of courts-martial, although in this case the offending officer had clearly acted from conscientious motives after a mental struggle and with no political or self-seeking object, and was technically not insubordinate toward his superior officer, but had only failed to act on the requisition of the prefect transmitted irregularly by the general, whose subsequent personal order was legally void. The soldier had merely disobeyed the civil power, a minor military offense, and the civil power asserted its authority over the army by retiring him from active service. The Pope sent a message of condolence with French Catholics in a brief to the Archbishop of Paris, which contained no suggestion of a controversy. When the Chambers reassembled in October a Socialist Deputy proposed the abolition of the concordat, the pact made by Napoleon I with the Vatican which makes the hierarchy and secular clergy of the Roman Catholic Church officials of the state, recipients at present of annual stipends and subventions amounting to 40,000,000 francs. The question was indefinitely postponed by being referred, with the approval of the Government, to a committee by 294 votes to 254.

Dependencies.—The colonies and dependencies of France have an aggregate area of over 5,000,000 square miles and over 50,000,000 inhabitants. The Minister of the Colonies directs the administration of the colonies, all of which enjoy a large measure of self-government. *Algeria* is not treated as a colony, but its departments are assimilated to the departments of France and the Governor-General receives instructions from the ministers of the French Cabinet, except the Minister of the Colonies and the Ministers of Finance, Justice, and Public Instruction and Worship, having advisers of his own for these matters. The Chambers make special laws for *Algeria*, and political and administrative questions not covered by legislation are decided by the President and Council of Ministers. *Tunis* is under the control of the Minister of Foreign Affairs. The Minister of the Colonies is advised by the Superior Colonial Council, composed of the Senators and Deputies of the colonies which have representation in the French Chambers, delegates from the others, and individuals appointed by the Government on account of their official relations or special knowledge of colonial affairs. The Chambers vote large sums every year to supplement the revenues collected in the colonies. The total amount of colonial expenditure for 1902 was set down in the budget as 120,598,455 francs, while 15,212,947 francs were returned to the French treasury, 10,941,794 francs of this sum being a reimbursement of military expenses from Indo-China. Of the estimated expenditure 3,166,750 francs were the expenses of the Ministry of the Colonies, 8,999,000 francs were subventions to cover colonial deficits, 99,541,905 francs were for military expenses, and 8,890,800 francs were for the maintenance of penal settlements. The services of the French army and navy in the colonies are defrayed, not from the colonial budget, but from the budgets of the Ministries of War and

Marine. In 1901 free passages were given to 361 men, 154 women, and 114 children, who emigrated to the colonies, taking out a combined capital of 721,000 francs.

The republic of *Andorra* in the Pyrenees, having an area of only 175 square miles and 6,000 inhabitants, bears a feudal relation to France and to the Bishop of Urgel in Spain, each nominating the judicial magistrates in turn. Otherwise it is self-governing.

Algeria is divided into the departments of Algiers, Oran, and Constantine, each of which sends a Senator and two Deputies to the French Chambers. Paul Revoil was appointed Governor-General in 1901. The colonial budget is voted by a Superior Council consisting of delegates of the general councils of the departments. The military territory consists of a part of the Algerian Sahara, which is governed by the military authorities, but they are controlled by the Governor-General. The area and population of the departments, according to the census of March 24, 1901, are given in the following table:

DEPARTMENTS.	Square miles.	POPULATION.		
		Civil territory.	Military territory.	Total.
Algiers.....	65,929	1,413,508	217,968	1,631,476
Oran.....	44,616	955,587	147,571	1,103,158
Constantine....	73,929	1,818,137	221,331	2,039,468
Total.....	184,474	4,186,172	586,870	4,774,042

The total population in 1896 was 4,429,421, including 318,137 French and 446,343 foreigners. Of the native population, about 75 per cent. are Kabyles, or Berbers, 15 per cent. Arabs, and 10 per cent. Moors, Jews, Turks, negroes, etc. The number of marriages registered in 1899 was 42,816; of births, 132,676; of deaths, 90,557. These figures are very imperfect, as the native Mohammedans generally avoid making reports.

The estimated revenue for 1902 was 56,470,047 francs, of which 13,066,907 francs came from direct taxation, 8,396,200 francs from registration and stamps, 14,627,180 francs from customs, 5,179,300 francs from monopolies, 3,723,820 francs from domains and forests, 8,273,905 francs from various sources, and 3,203,635 francs were *recettes d'ordre*. The total estimated expenditure was 54,384,662 francs, of which 7,200,134 francs were for administrative expenses, 8,282,664 francs for finance, 2,728,850 francs for justice, 8,451,913 francs for instruction and worship, 8,450,750 francs for public works, 4,813,774 francs for agriculture and forests, 6,528,025 francs for commerce and the post-office, and 7,928,552 francs for colonization and charities. The appropriations for religious worship in 1900 were 829,700 francs for Catholics, 307,430 francs for Mussulmans, 97,600 francs for Protestants, and 28,970 francs for Jews; total, 1,263,700 francs. The combined revenues of Algerian communes, of which there are 352, were 26,567,267 francs, their expenditures 23,210,977 francs, their debts 69,811,978 francs. The military force in *Algeria*, the Nineteenth Corps of the French army, numbered 57,292 men, of whom 2,255 were officers, in 1901, with 13,434 horses.

The agricultural population in 1897 numbered 3,644,614, of whom 207,310 were Europeans, to whom the greater part of the public lands have been sold or granted. The native tribes hold a large proportion of the soil in common. The agricultural area is about 20,000,000 hectares. The production of hard wheat in 1900, from 2,767,630 acres, was 734,943 tons; of soft wheat,

from 525,920 acres, 163,777 tons; of barley, from 3,635,995 acres, 1,189,557 tons; of beans, from 80,180 acres, 16,534 tons; of oats, from 231,800 acres, 97,836 tons; of dari, from 70,335 acres, 20,190 tons. There are about 30,000 wine-growers, 17,000 of whom are Europeans. Wine-growing is the largest industry, but the abnormal yield of France in 1900 and 1901 depressed prices so that exports were unprofitable and fell from 1,000,000 gallons in 1899 to 500,000 gallons in 1900. The vineyards, covering 151,877 hectares, produced 5,563,032 hectoliters of wine in 1901. The crop of tobacco, covering about 7,000 hectares, was 49,207 quintals. There are 6,500,000 olive-trees. Ramie, colza, and other oil-seeds, alfalfa, dates, flax, and vegetables are grown. Alfalfa covers 12,000,000 acres, producing 4 quintals per acre of dried hay. The quantity of cocoons produced in 1899 was 116,500 quintals. There was 90,000 hundredweight of cork cut in 1900 from the state cork forests, which have an area of 281,400 hectares. The total forest area is 3,247,692 hectares, of which about 75 per cent. is utilized, 1,759,495 hectares belonging to the Government, 76,919 hectares to communes, and 468,395 hectares to individuals. There were 23 mines in operation in 1899, producing 173,749 metric tons of iron ore, valued at 1,287,069 francs, besides 377,192 tons not included in concessions, value 3,374,562 francs; 389 tons of silver-lead ore, valued at 52,412 francs; 42,970 tons of zinc ore, valued at 2,512,895 francs; 200 tons of antimony ore, valued at 52,000 francs. The production of rock salt was 17,378 tons, value 336,500 francs. The production of phosphate of lime was 281,816 tons, mainly from Tebessa. Many other beds have been found in various parts of the country. Petroleum, coal, onyx, copper, and mercury are other mineral products of Algeria. Pottery, tanning, weaving, and the manufacture of esparto are native industries. The total value of the general imports in 1900 was 323,818,000 francs, of which 259,355,000 francs came from France and 64,463,000 francs from foreign countries and French colonies; general exports were valued at 242,317,000 francs, of which 173,467,000 francs went to France and 68,850,000 francs to foreign countries and French colonies. The value of the special imports was 313,330,000 francs, of which 53,975,336 francs came from foreign countries and French colonies; the value of special exports was 229,364,000 francs, of which 55,896,653 francs went to foreign countries and French colonies. The special trade was distributed among the chief countries as follows, values being given in francs:

COUNTRIES.	Imports.	Exports.
France.....	359,355,000	173,467,000
Great Britain.....	10,221,263	12,979,465
Morocco.....	11,370,578	942,076
Tunis.....	4,988,956	4,556,828
Belgium.....	721,814	7,819,097
Spain.....	4,435,294	3,269,454
Germany.....	1,142,398	6,082,666
Italy.....	2,271,300	4,298,229
United States.....	4,088,478	1,160,575
Brazil.....	5,332,282	.....
Austria-Hungary.....	2,337,363	1,205,949
Russia.....	1,288,926	2,151,791

There were imported from foreign countries cattle for 10,088,651 francs, coal for 6,169,497 francs, coffee for 5,417,373 francs, lumber for 4,792,396 francs, tobacco for 2,029,329 francs, machinery for 1,753,355 francs, ships and boats for 1,709,500 francs, and hides for 1,622,540 francs, and exported to foreign countries alfalfa for 7,049,536 francs, tobacco for 6,825,031 francs, iron ore

for 4,702,042 francs, hides for 4,926,920 francs, cork for 3,786,227 francs, vegetable fibers for 2,360,992 francs, and cereals for 1,780,367 francs. The value of wine imported from Algeria into France was 50,433,000 francs; of cereals, 37,844,000 francs; of sheep, 19,194,000 francs; of wool, 11,486,000 francs. France exported to Algeria textile fabrics of the value of 85,467,000 francs, skins and furs of the value of 17,281,000 francs, clothing of the value of 16,600,000 francs, and machinery of the value of 9,663,000 francs.

There were entered at Algerian ports during 1900 from French and foreign ports 3,480 vessels, of 2,544,340 tons, of which 2,095, of 1,579,433 tons, were French; cleared, 3,485, of 2,553,139 tons, of which 2,056, of 1,542,420 tons, were French. There were entered and cleared coast-wise 9,635, of 1,782,531 tons, in 1899. The length of railroads in operation in 1901 was 1,818 miles, not including an extension of 325 miles in Tunis. The telegraphs had a length of 6,840 miles, with 16,840 miles of wire; number of messages, 2,145,990.

A new railroad is being built into the recently annexed parts of the Sahara along the frontier of Morocco with the consent of the Moorish Sultan. Though the inhabitants of Figig still commit hostile acts against the French on their border, since the boundary has been defined no political question arises from such occasional incidents. The Tuaregs of the desert render the caravan routes unsafe, and troops are constantly employed in punishing the freebooting tribes, which send out parties of 200 or 300 well-armed robbers mounted on dromedaries.

The regency of *Tunis*, though nominally under the suzerainty of Turkey and under the rule of a Mohammedan dynasty, has been a French protectorate since 1882, governed practically by a French Minister Resident General under instructions from the French Minister of Foreign Affairs. The Bey of Tunis, whose authority is now confined to religious matters, at the beginning of 1902 was Sidi Ali, born Oct. 5, 1817. The heir apparent was his son Mohammed, born June 24, 1855. The Resident General in the beginning of 1902 was S. Pichon. The army of occupation numbered 19,460 men, of whom 691 were officers, the cost of which is paid by France. The Bey has a guard of 600 native troops. The area of Tunis is about 51,000 square miles, with a population of about 1,906,000. The French population, exclusive of the army, was 23,692, in the beginning of 1901. The foreigners on Jan. 1, 1901, numbered 82,667, of whom 67,420 were Italians, 12,056 Maltese, and 3,191 of other nationalities. In the capital city of Tunis, which has a population of 170,000, were 12,490 French and about 27,000 other Europeans. The revenue for 1902 was estimated at 54,113,963 francs, of which 7,881,400 francs came from direct taxation, 9,323,300 francs from customs, 7,768,300 francs from monopolies, 1,147,200 francs from domains, 1,035,200 francs from various sources, 2,018,157 from arrears of 1901, 14,500,000 francs from a railroad loan, and 10,440,406 francs from other exceptional sources. The total expenditure for 1902 was estimated at 54,026,154 francs, of which 1,680,000 francs were for the civil list, 12,365,243 francs for finance and debt, 1,452,805 francs for the post-office and telegraphs, 3,734,565 francs for administration, 1,058,940 francs for agriculture and forests, 1,069,911 francs for public instruction, 4,743,500 francs for public works, 962,626 francs for the army, etc., 2,018,157 francs were arrears, and 24,940,407 francs were exceptional expenditures. The debt was consolidated in 1884

into a perpetual 3-per-cent. *rente* of 6,307,520 francs a year, representing a capital of 157,688,000 francs. The population is mainly engaged in agriculture. In 1900 there were 429,238 hectares under wheat, 430,171 under barley, 15,322 under oats, 15,252 under corn, and 11,522 under beans. There were about 800,000 quintals of wheat, 450,000 quintals of barley, 80,000 quintals of oats, 30,000 quintals of beans, and 25,000 quintals of corn sent to Marseilles in 1901. There are 200,000 hectares of olive-groves in central Tunis, yielding 339,983 hectoliters of oil in 1901. In the south are 1,350,000 date-palm trees, and the annual export of dried dates is valued at 800,000 francs. The area planted to vines in 1900 was 11,374 hectares, 9,708 hectares belonging to Europeans, and the production of wine was 225,000 hectoliters. There were 9,930 quintals of cork bark cut in 1900 and 11,882 quintals in 1901. Oranges, lemons, pistachio-nuts, almonds, and henna are other products of the country, and alfalfa is exported. The mines in 1899 produced lead and zinc ores of the value of 2,141,000 francs, and the product of quarries was valued at 1,700,000 francs. The phosphate-mines at Gafsa yielded 150,000 tons in 1900. The fisheries, which are exploited by Italians almost entirely, in 1900 produced 134,350 kilograms of sardines, 28,450 kilograms of anchovies and 1,435,990 kilograms of other fish, the whole valued at 759,832 francs, and 85,826 kilograms of sponges, valued at 59,809 francs. The total value of imports in 1900, including precious metals, was 61,514,242 francs; exports, 42,560,191 francs. The imports in 1899 were 55,778,241 francs in value, of which the principal ones were grain and pulse for 11,972,482 francs, textile fabrics for 8,222,587 francs, colonial produce for 4,564,628 francs, metal manufactures for 4,454,023 francs, animal products for 2,776,211 francs, pottery and stone for 2,621,067 francs, leather and paper manufactures for 2,197,374 francs, lumber for 1,913,220 francs, and beverages for 1,883,584 francs. The total value of exports in 1899 was 49,433,460 francs, the leading ones being olive and other vegetable oils for 14,698,887 francs, grain and pulse for 11,307,024 francs, ores and metals for 4,353,693 francs, animals and animal products for 3,624,997 francs, beverages for 1,813,660 francs, sponges, etc., for 1,791,323 francs, fish for 1,686,004 francs, alfalfa for 1,414,305 francs, and fruits and seeds for 1,225,978 francs. The imports of precious metals were 9,223,500 francs; exports, 8,018,000 francs. The values in francs of the trade in 1899 with various countries are given in the following table:

COUNTRIES.	Imports.	Exports.
France.....	84,263,988	96,714,110
Italy.....	4,506,064	9,386,418
Great Britain.....	5,766,885	3,095,989
Algeria.....	1,650,758	4,245,394
Belgium.....	1,865,795	1,369,662
Russia.....	2,580,856	40,965
Malta.....	294,767	1,842,909

The number of vessels entered at Tunisian ports during 1900 was 11,751, of 2,520,435 tons, of which 1,955, of 1,320,377 tons, were French. The length of railroads in 1901 was 588 miles, of which 417 miles belonged to the Government. The length of telegraph-lines was 2,390 miles, with 5,330 miles of wire. There were 9 telephone systems, with 130 miles of line and 143 miles of wire, and 448 miles of long-distance lines, with 528 miles of wire. The number of conversations in 1899 was 309,000. The number of telegraph

messages in 1899 was 701,690; the number of letters handled in the post-office, 5,656,932 internal and 11,172,752 external. Loans for the construction of four railroads of the total amount of 40,000,000 francs were authorized on May 1, 1902, and the first one for 5,000,000 francs, bearing 3 per cent. interest, was issued at 95 on July 29. Ali Bey died on June 11, 1902, and Prince Mohammed was invested as Bey. He agreed that his civil list and private estates should be placed under a French manager, without whose consent no payments or debts can be made.

The boundaries of Algeria and Tunis are undefined on the south, and beyond them are territories conceded in conventions made with Great Britain to be a French sphere of influence which extend to the French protectorates on the Niger and the Congo (see WEST AFRICA), and will give France the greatest colonial empire in Africa when they shall be under the dominion of the republic. On the other side of Africa France has a new colony with a fine port giving commercial access to the interior of Abyssinia (see EAST AFRICA). Some of the islands off the southeast coast of Africa have been French possessions for centuries. By the conquest of Madagascar the second largest island in the world was definitely added to the colonial dominions of France (see MADAGASCAR). The island of *Réunion*, 420 miles east of Madagascar, has long been the home of French creole planters, who with negro and coolie labor raise sugar-cane, vanilla, cacao, coffee, and spices. The Governor, P. Samary in 1902, is assisted by a Privy Council having 3 official and 4 nominated members and by an elective General Council. The colony sends a Senator and 2 Deputies to the French Chambers. The area of the island is 965 square miles, and its population in 1897 was 173,192, including 15,219 East Indians, 9,848 Africans, 4,496 natives of Madagascar, and 836 Chinese. The town of St. Denis has 32,850 inhabitants; St. Pierre, 27,900; St. Paul, 20,000; St. Louis, 13,300. There is a French garrison of about 800 soldiers. The export of sugar in 1900 was 33,669 tons. The total value of imports in 1900 was 22,025,000 francs, and of exports 17,450,000 francs. The value of sugar exported was 10,125,000 francs; of vanilla, 3,275,000 francs. The imports from France and French colonies were 16,450,000 francs in value, and of exports to France and French colonies 15,836,060 francs. There were 138 vessels, of 189,625 tons, entered in 1900. A railroad, 83 miles in length, runs from Pointe-de-Galets to St. Pierre. It became the property of the Government in 1887. The local revenue in 1901 was 5,033,700 francs, balancing the expenditure, but France in 1902 contributed 4,661,851 francs, of which 2,452,000 francs were for the railroad and harbor. The petty islands of *St. Paul* and *Amsterdam* in the Pacific and the uninhabited isle of *Kerguelen* belong to France. *Mayotte* has an area of 140 square miles. The population in 1898 was 11,640. Sugar is grown for export and for the distillation of rum. Vanilla is being more extensively cultivated. The raising of coffee, cacao, tea, and rubber is in the experimental stage. The value of imports in 1900 was 561,620 francs, of which 292,967 francs came from France and French colonies. The value of exports was 1,309,932 francs. The value of sugar exported was 1,008,296 francs; of vanilla, 155,670 francs. The local revenue in 1900 was 293,807 francs. The expenditure of France in 1902 was 20,000 francs. The debt consists of an advance of 500,000 francs from the French treasury made to repair the damages of the cyclone of 1898 and repayable in twenty years without interest. The

Glorieuse Islands, which have only 14 inhabitants, are attached to Mayotte. The *Comoro Islands*, in the Madagascar Channel, have an area of 620 square miles, with a population of about 47,000, mostly Mohammedans, who cultivate sugar and vanilla and have planted more recently coffee and cloves. The budgets of the different islands amounted in 1900 to 259,711 francs. Grande Comore has a debt of 950,000 francs. There is a large French coal depot there. The resident at the head of the local administration of Grande Comore is appointed by the Governor of Réunion, who appoints another resident for Anjouan and Moheli, the islands having been placed under his direction in 1896.

French India consists of the towns of Pondichéry, Shandernagar, Karikal, Mahé, and Yanam and adjacent districts on the Coromandel coast. The total area is 196 square miles, and the population in 1901 was estimated at 273,185. The Governor, residing at Pondichéry, is P. F. Rodier. There is an elective General Council, and the colony is represented in the French Chambers by a Senator and a Deputy. The local revenue in 1901 was estimated at 1,255,000 francs. The expenditure of France in 1902 was 473,000 francs. The debt consists of a *rente* of 48,955 rupees a year. Cotton and jute are manufactured and oil is expressed from earthnuts at Pondichéry, which exports oil-seeds to France. The value of the imports at this port and Karikal in 1900 was 4,037,937 francs, and of the exports 10,722,234 francs. The number of vessels entered was 373, of 478,846 tons; cleared, 351, of 478,554 tons.

French Indo-China includes the colony of Cochinchina and the protectorates of Cambodia, Annam, Tonquin, with the Laos territory, and the territory of Kwang-Chi-Wan, leased from China in 1898. The Governor-General of Indo-China at the beginning of 1902 was Paul Doumer, residing at Saigon. He returned to France, and was succeeded in October by J. B. P. Beau, French minister to China at the time of his appointment. The military forces consist of 8,860 French troops and 14,935 native soldiers under French officers and non-commissioned officers. The general budget for 1901 makes the revenue \$22,998,000 in silver, of which \$5,940,000 were derived from customs, \$3,700,000 from the spirit monopoly, \$6,400,000 from the opium monopoly, \$2,400,000 from the salt monopoly, \$807,000 from registration, stamps, and domains, and \$3,751,000 from various sources. The expenditures were estimated at \$22,982,000, of which \$4,677,000 were for military expenses, \$4,572,000 for administration of the customs and monopolies, \$1,478,000 for posts and telegraphs, \$3,866,000 for public works, \$3,482,823 for the public debt, and \$4,906,177 for various expenses. There have been heavy deficits, which now are said to have ceased. The taxes which bear heavily on the natives are to be lightened. Obstacles to trade in the customs service will be removed. The completion of the railroad system and its extension into Kwangtung, Kwangsi, and Yunnan are important Government enterprises, and projected irrigation canals for the benefit of the native agricultural interests present another financial problem. The equilibrium of the budget was disturbed once more in 1902 by bad harvests. The revenue for 1902 was estimated at \$27,142,000 in silver, and the expenditure at \$27,128,000. The expenditure of France was 33,574,923 francs. Free passages were given to 238 French emigrants to Indo-China in 1900 and to 237 in 1901. The railroad from Saigon to Mytho, 51 miles, has been in operation many years. A line

in Tonquin from Phulang-Thuong to Langson, 64 miles, was completed in 1894. Loans were authorized in 1898 by the French Chambers for the construction of a system of railroads throughout Indo-China. Contracts were made in 1900 for lines from Hanoi to Vietry, to Haiphong, to Ninh-Binh, and to Vinh. The line was extended from Langson to the Chinese frontier in that year and southward to Gialam, on the opposite bank of the Red river, from Hanoi. The railroads from Hanoi to Vietry, 98 miles, and from Hanoi to Ninh-Binh, 73 miles, were completed in 1902. Lines from Vietry to Laokai, 140 miles, from Ninh-Binh to Vinh, 133 miles, and from Tourane to Hue, 65 miles, were projected; one from Saigon to Tanlinh, 82 miles, was building; and lines from Panlinh to Lang-Biang and Khanh-hoa, 290 miles, from Hue to Kwangtri, 53 miles, and from Laokai to Yunnansen, 285 miles, were being studied. The imports and exports of Indo-China have grown from 215,000,000 francs in 1896 to 534,000,000 francs in 1902. Special imports have risen from 81,000,000 francs to 202,000,000 francs, and special exports from 88,000,000 francs to 160,000,000 francs. The largest share in this increased trade has gone to France, whose imports into Cochinchina increased from 30,000,000 francs to 100,000,000 francs, while exports to France increased from 10,000,000 francs to 39,000,000 francs.

Cochinchina is represented by a Deputy in the French Chamber. The area is 23,160 square miles; the estimated population, 2,323,499, of whom 4,451 are Europeans; 73,234 of the natives are Roman Catholics and 1,688,270 are Buddhists. The native military force numbered 2,405 in 1902. About one-fifth of the area of the country is cultivated, the principal crop being rice, which covered 2,910,033 acres in 1900. There have been 153,600 acres acquired by 355 Europeans. The production of rice was 607,800 tons in 1900. The exports of rice were 607,800 tons, valued at 89,225,000 francs. Exports of fish were 8,975,000 francs in value; of colonial products, 5,700,000 francs. Other exports are cardamom-seed, copra, silk, cotton, pepper, and hides. Coffee is being planted, mostly by Europeans. The total value of imports in 1900 was 121,675,000 francs; of exports, 107,350,000 francs, of which 25,450,000 francs went to France and French colonies. There were 573 vessels, of 770,422 tons, entered and cleared at the port of Saigon during 1900. The length of telegraph-lines is 2,276 miles, with 3,840 miles of wire. The local revenue and expenditure in 1901 was estimated at \$4,204,244 in silver.

Cambodia became a French protectorate in 1862. The area is 37,400 square miles. The population consists of about 1,200,000 natives of various races, 250,000 Chinese and Annamites, 40,000 Malays, and 350 Europeans. The native ruler is King Norodom. Pnom-Penh, the capital, has about 50,000 inhabitants. The production of pepper in 1900 was 750,000 kilograms. Rice is also an important crop. Other products are cotton, salt fish, tobacco, betel, indigo, cinnamon, and coffee. The local revenue in 1901 was estimated at \$1,951,487 in silver, out of which the King and royal family receive \$525,000 for the maintenance of the court.

The French protectorate over Annam was established in 1886 and Thanh-Thai was made King in 1889. Hue, the capital, with 30,000 inhabitants, is garrisoned with French troops, and the Government is carried on by native officials under French supervision. The area is 52,100 square miles, with a population estimated at

6,390,000 Annamites and Mois, 4,000 Chinese, and 250 Europeans. Of the natives, about 420,000 are Roman Catholics. The products are sugar, cinnamon, rice, silk, corn, and other cereals, areca-nuts, tobacco, sugar, betel, manioc, bamboo, caoutchouc, cardamom-seed, coffee, timber, dyes, and medicinal plants. Of about 300,000 kilograms of raw silk produced annually 200,000 kilograms are woven by the natives and the rest is exported. The natives work copper, iron, zinc, and gold, which are mined in the province of Quangnam. At Tourane coal-mines have been opened. Cotton yarn and cloth, tea, petroleum, paper manufactures, and tobacco are the principal imports. The local revenue and expenditure for 1901 was estimated at \$2,081,416 in silver.

Tonquin was definitely annexed in 1884 after a protracted war and Laos was added in 1893. The area of Tonquin is 119,600 square miles. The population is estimated at 12,000,000. A French resident, M. Fourés, directs the administration, the Annamese Viceroy having been withdrawn in 1897. Hanoi, the capital, has about 150,000 inhabitants. Rice is raised in great quantities and shipped to Hong-Kong. The production of silk is about 500,000 kilograms, of which 300,000 kilograms are woven by the natives. Cotton is grown and cotton-mills have been established at Haiphong and Hanoi. Sugar, pepper, oils, cardamom-seeds, coffee, fruits, and tobacco are produced. The quantity of coal raised at the Hongay mines in 1899 was 168,600 tons. Copper and iron are mined. Textile yarns and tissues, tools, hardware, machinery, and beverages are the principal imports. The total value of imports in 1900 was 63,800,000 francs, of which 28,750,000 francs came from France and French colonies; value of exports, 40,025,000 francs, of which 4,225,000 francs went to France and French colonies. The estimated local revenue and expenditure in 1901 was \$4,197,950.

The Laos territories have an estimated area of 98,000 square miles, and their population is estimated at 1,500,000. Luang-Prabang, the capital, has about 40,000 inhabitants. The cultivated products are rice, cotton, indigo, tobacco, and fruits. There are large teak forests from which logs are floated down the Mekong to Saigon. Concessions have been obtained by French companies to mine for gold, lead, tin, and precious stones. Steamboats have been placed on the Mekong above the rapids. The budget of revenue and expenditure for 1901 was \$758,660. Cochinchina pays six-thirteenths, Tonquin and Annam five-thirteenths, and Cambodia two-thirteenths of the cost of government.

The most important of French possessions in the Pacific is *New Caledonia*. The Governor is P. Feillet. There is a General Council of 20 members. The area is 7,700 square miles. The population in 1898 consisted of 19,053 Europeans, 1,829 Asiatics, and 31,874 natives; total, 52,756. In 1902, exclusive of the military, there were over 54,000 inhabitants. Imported European and Asiatic laborers have increased the population. French laborers get a free passage. There were in 1900 in the penal settlement 3,522 convicts undergoing sentences of hard labor, and the exiles numbered 2,570, the deported 10, the discharged convicts 4,585. In 1900 there were 238 French emigrants who went out to New Caledonia, the Government furnishing transportation. The local revenue and expenditure for 1901 was estimated at 4,414,727 francs. The expenditure of France in 1902 was 5,792,957 francs, including 3,003,870 francs for the penal settlement. There are about 1,600 square miles of cultivated lands,

1,600 square miles of grazing lands, and 500 square miles of forest. The rest of the surface is mountainous. The penal establishments have a domain of 400 square miles. The natives have their own reservations. Other tracts of available lands form the state domains, out of which free grants are offered to settlers. The deportation of convicts to New Caledonia has ceased and the convict population is decreasing. Japanese laborers are no longer imported on contract, but the Japanese continue to arrive for agricultural labor and domestic service. About 800 Tonquinese and Indians from Pondichéry have recently been imported. Dalmatians who went first to New Zealand to dig kauri-gum migrated to New Caledonia, where they found more profitable work in the mines, and many of their countrymen have gone over from Europe to join them. Fewer laborers are being recruited in the New Hebrides.

The principal agricultural products are coffee, corn, tobacco, sugar, and manioc. The only land laborers till recently were convicts, Kanakas, and natives of the New Hebrides. Grapes and pine-apples are grown, and experiments are being made in the raising of silkworms and the cultivation of wheat and of rubber. The most valuable products are mineral. The nickel ore mined in 1899 amounted to 74,614 tons, valued at 3,950,000 francs; cobalt ore, 3,294 tons, valued at 355,000 francs; chromate of iron, 12,634 tons, valued at 644,000 francs; copper ore, 6,349 tons, valued at 488,000 francs. In 1900 there were 100,000 tons of nickel ore exported, and in 1901 there were 133,000 tons. Companies have built works to treat the ore on the spot. The value of the nickel, cobalt, and chrome exported in 1901 reached 8,916,000 francs. The total value of imports in 1899 was 10,958,198 francs, of which 6,645,199 francs came from France and French colonies; exports, 8,913,197 francs, of which 3,481,140 francs went to France and French colonies. The importation of cereals and flour were 1,543,923 francs; of beverages, 2,223,114 francs. The most important exports were minerals for 7,081,093 francs and 801,579 francs' worth of canned meat for the French army. There were 127 vessels, of 177,657 tons, entered and 120, of 154,483 tons, cleared at the port of Noumea in 1899. A railroad, 90 miles long, is being built from Noumea to Bourail, and the harbor of Noumea is being improved. A line of steamers from San Francisco will carry American flour, wheat, and provisions and other products to New Caledonia. The tariff regulations restricting the people to French implements have been removed. The new Australian tariff has diminished trade with Australia. Trade with France is increasing.

The *Isle of Pines*, 58 square miles in extent, with a population of 600, close to New Caledonia, has an establishment for habitual criminals. The *Wallis Archipelago*, having an area of 40 square miles and 4,500 inhabitants, over which a French protectorate was established in 1887, is administered by a resident under the Governor of New Caledonia. *Futuna* and *Alaï*, south of these islands, have 1,500 inhabitants. The *Loyalty Islands*, which have an area of 800 square miles and 14,800 inhabitants, are administered from Noumea. Sandalwood is exported, and there are plantations of bananas. The *Huon Islands* have only a few inhabitants. The *New Hebrides* are the field of operation for French trading and mining companies, but by a convention concluded with Great Britain on Oct. 29, 1887, they were placed for the protection of life and property under the authority of an Anglo-French commission composed of naval officers

serving in the Pacific. The recruiting of women and traffic in firearms and intoxicants are forbidden by regulations adopted by the British and French naval commission.

The *French Establishments in Oceania* consist of scattered groups and islands in the western Pacific united under the authority of a Governor residing at Tahiti, G. P. T. Gallet in 1902. They have a total area of 1,520 square miles and about 29,000 inhabitants. The island of Tahiti, inhabited by a Polynesian race, has an area of 600 square miles and a population in 1900 of 10,750. Papeete, the capital, had 4,282 inhabitants, of whom 2,490 were French. The revenue of Tahiti for 1900 was 1,237,456 francs. The expenditure of France in 1902 was 798,352 francs. On the lowlands near the coast coconuts, bananas, oranges, sugar, and vanilla are grown. The imports in 1900 were valued at 3,521,526 francs; exports, 3,597,358 francs. Articles of food and cotton cloth are the principal imports. The largest exports in 1900 were copra for 1,221,480 francs, mother-of-pearl for 1,108,058 francs, and vanilla for 811,338 francs. Of the total value of imports 1,651,736 francs came from the United States, 664,482 francs from New Zealand, 578,576 francs from France and French colonies, and 317,080 francs from Great Britain. Of the total value of exports 1,525,607 francs went to the United States, 832,789 francs to Great Britain, 534,222 francs to France and French colonies, and 341,117 francs to New Zealand. There were entered at Papeete during 1900 only 40 vessels, of 29,343 tons; cleared, 42 vessels, of 28,436 tons. The island of Moorea has an area of 50 square miles with 1,596 inhabitants; Raiatea and Tahaa have 2,300 inhabitants; Huahine has 1,300; Bora Bora, 800. The Tubuai and Ravavae Islands have an area of 100 square miles and 1,700 inhabitants. Rapa has 15 square miles with 192 inhabitants. The Tuamotu Islands have about 5,000 population. The Gambier Islands, with an area of 6 square miles, have 580 inhabitants. The area of the Marquesas Islands is 480 square miles, with a population of 4,280; their products are oranges, copra, and mother-of-pearl. The total area of the islands belonging to the establishments in Oceania is 1,520 square miles, and their total population about 31,000.

In America France has the islands of Guadeloupe and Martinique and their dependencies (see WEST INDIES), French Guiana, and the little groups of St. Pierre and Miquelon near the southern coast of Newfoundland. *French Guiana* has a General Council of 16 members and is represented by one Deputy in the French Chamber. The acting Governor in 1902 was Joseph P. François. The area is estimated at 30,500 square miles, and the population at 30,300, of whom 4,360 are convicts undergoing the punishment of hard labor, 80 are discharged convicts, and 2,650 are exiles. The number of Indians is about 1,500. The military force consists of 371 French soldiers. Only 8,800 acres are cultivated, though rice, corn, manioc, cacao, coffee, sugar, indigo, and tobacco are grown. The export of gold in 1899 was 81,715 ounces. The most valuable gold-fields were disputed by Brazil and have been awarded to France by the Swiss arbitrators to whom the question was referred. Phosphates, silver, and iron ore are exported, and of the agricultural produce cacao, coffee, and rum. There is a trade, too, in woods, of which valuable kinds abound, and in other forest products. In 1900 the value of gold exported was 6,000,000 francs; of marble and stone, 185,000 francs; of rosewood essence, 50,000 francs; of gum, 15,000 francs. The total

value of imports was 9,725,000 francs, and of exports 6,350,000 francs. Of the imports 7,050,000 francs came from, and of the exports 6,100,000 francs went to France and French colonies. The number of vessels entered and cleared at the port of Cayenne during 1899 was 180, of 38,872 tons. A railroad from Cayenne to the Aratale creek, 60 miles, has been authorized, which will later be carried 190 miles farther to where the boundaries of Brazil and Dutch Guiana meet. The local revenue and expenditure in 1901 was estimated at 2,692,818 francs. The expenditure of France for 1902 was 7,086,000 francs, of which 5,887,930 francs were for the penal establishment.

St. Pierre and Miquelon have an area respectively of 10 and 83 square miles, with 5,700 inhabitants in the former, which is the rendezvous of the French cod-fishing fleet, and 550 in the latter. There is a General Council elected by the people. The Governor in 1902 was E. Julien. There were 196 fishing-boats, of 9,662 tons, belonging to the islands in 1900. The value of imports in 1900 was 9,326,037 francs, of which 4,381,469 francs came from France; exports, 13,467,453 francs, of which 12,253,997 francs were products of the islands, consisting of dried and fresh codfish, cod-liver oil, etc. The revenue collected in the colony in 1901 was estimated at 691,011 francs. The expenditure of France in 1902 was 251,988 francs.

FRIENDS. The following are the comparative statistics of the Society of Friends (Orthodox) in America, by yearly meetings, for 1900 and 1901:

YEARLY MEETINGS.	1900.	1901.
Philadelphia (estimated).....	4,468	4,400
New York.....	3,756	3,006
New England.....	4,508	4,533
California.....	1,510	1,567
Oregon.....	1,553	1,607
Canada.....	1,030	1,059
North Carolina.....	5,456	5,483
Wilmington.....	6,069	6,299
Ohio.....	5,773	5,489
Iowa.....	10,865	10,814
Western.....	15,868	15,915
Indiana.....	20,544	20,224
Kansas.....	10,864	11,802
Baltimore.....	1,214	1,217
Total.....	93,498	93,204
Net loss for the year.....	.....	294

The New England, New York, Philadelphia, Baltimore, and North Carolina Yearly Meetings were organized before the beginning of the nineteenth century. Ohio Yearly Meeting was set off from the Baltimore Yearly Meeting in 1812. Indiana Yearly Meeting was established in 1812, and though 4 large yearly meetings—Western, Iowa, Kansas, and Wilmington (Ohio)—have been set off from it, it is still the largest yearly meeting in the world. Western Yearly Meeting, Indiana, which was set off from Indiana Yearly Meeting in 1857, is the second largest yearly meeting in the United States. Iowa Yearly Meeting was set off in 1863, and represents in its membership emigrations from nearly all the yearly meetings. Canada Yearly Meeting was set off from the New York Meeting in 1867. Kansas Yearly Meeting was set off from Indiana Meeting in 1872, and has members in Kansas, western Missouri, northwestern Arkansas, and the Indian Territory.

The 14 yearly meetings in the United States and Canada represent about 130 quarterly meetings and 350 monthly meetings.

The Five Years' Meeting.—A national organization of the Friends of the Orthodox branch in the United States was effected at Indianapolis,

Ind., Oct. 22-27, at the first regular meeting of the Five Years' Meeting as a permanent body to represent the yearly meetings on the basis of the new constitution and uniform discipline (see Annual Cyclopaedia, 1899, p. 307, and 1900, p. 246). Eleven of the 13 yearly meetings in the United States had adopted the new constitution and uniform discipline and were duly represented in the meeting, leaving only those of Philadelphia and Ohio without accredited delegates. The opening of the Five Years' Meeting was preceded, Oct. 21, by the final meeting of the Quinquennial Conference, out of which the Five Years' Meeting has been developed, which after hearing the report of the committee appointed to prepare the uniform discipline and the report of the treasurer adjourned *sine die*.

At the opening of the Five Years' Meeting, Oct. 22, fraternal delegates attended from Ohio and Canada Yearly Meetings, and members of London and Philadelphia Yearly Meetings were received as fraternal delegates. Nearly 200 delegates were present. Edmund Stanley, of Kansas, was chosen clerk, or presiding officer. The earlier sessions were occupied with the discussion of subjects connected with the prospective functions, enterprises, and agencies of the organization, on which action was taken later. These subjects included The Scope and Work of the Evangelistic and Church Extension Board of the Five Years' Meeting; The Scope and Work of the Committee on Legislation; The Present Condition of the Indians and the Work to be done for them; Present Condition of the Negroes and the Work to be done for them; The Present Condition of the Foreign Missionary Work of American Friends; The Scope and Work of the Board of Foreign Missions of the Five Years' Meeting; The Scope and Work of the Committee on Education; The Finances of the Five Years' Meeting; Plan for United Action for the Suppression of the Liquor Traffic; Methods of Practical Work among Rural and Urban Communities; Practical Aspects of the Present Trend of Religious Thought; How can an Efficient Ministry be Developed? Our Present Duty in the Cause of Peace and Arbitration; Our Church Literature; The Place and Functions of the Five Years' Meeting in our Church Organization; and The Theory and Practice of Public Worship. A paper was read on the place of woman in the Church and the need for care that her full place should be given her. The matter of incorporating the Five Years' Meeting was referred to the Committee on Legislation, with authority to act and sign an application for incorporation. It was decided that the business of the meeting be transacted according to the rules of parliamentary usage. Of propositions for amendment of the constitution and discipline, besides a provision for the correction of casual errors, the only one adopted was a rule making new provisions submitted by one yearly meeting and approved by the Five Years' Meeting operative when adopted by four-fifths of the yearly meetings constituting the Five Years' Meeting. An Evangelistic and Church Extension Board was organized. A board on the condition and welfare of the negroes was appointed to take into consideration the best means of elevating them, with power to carry the same into effect. Resolutions were passed against lynching and lawlessness, and commending the work done by several of the yearly meetings in behalf of the negro. The work of the associated Executive Committee of Friends on Indian Affairs was commended, its present organization was accepted, and it was appointed the official representative of the meeting in that field. The

Board of Education, having completed its organization, made a report, which was adopted, commending the work of the colleges and approving efforts to provide greater endowments for them; authorizing the establishment and conduct of a lectureship on the history and interpretation of Christian truth as held by Friends; advising co-operation of Friends in the support of the existing course of Bible study in the colleges; commending efforts by means of Biblical institutes to furnish a high character of Biblical instruction to members and suggesting the establishment of a course in one of the existing colleges; and constituting a financial educational board to receive and hold gifts and bequests for educational purposes. The work of the Peace Association, it being a well-organized and incorporated body, was approved, and the association was invited to represent the meeting and report to it regularly, while the yearly meetings were asked to support it. The American Friends' Board of Foreign Missions presented a review of its work, and the meeting, defining its functions and its relations to the other boards and the yearly meetings, declared its duty to be to represent American Friends in matters pertaining to the interdenominational aspects of foreign mission work. Each yearly meeting represented in the board, while continuing its own separate work, as heretofore, is expected to realize that this work forms a constituent part of the foreign mission work of Friends in America, of which the American Friends' Board has a general advisory oversight; "but it must not be interpreted that such advice carries with it any controlling authority." Resolutions were adopted calling for a proper observance of the Christian Sabbath, and declaring "true, living, and reverent prayer" essential for the spiritual power of the meetings, and for the entire Church work in the world. A call was adopted to be sent to the governing bodies of the various denominations of Christians in the United States, inviting them to send delegates to a Temperance Congress to be held in the city of Washington on the second Wednesday of March, 1900, to consider in what way Christians can exert a united influence in the cause of temperance, and by what means they may work together. Five delegates at large and one additional delegate from each of the 11 annual meetings were appointed the committee of the present meeting on the subject.

Missions of American Friends.—The missionary work of American Friends began in Indiana Yearly Meeting in 1873, when Samuel A. Purdie went to Mexico as a missionary. It was prosecuted through the press, the schools, and the Church. Iowa Yearly Meeting began in 1883 to labor among the colored population and the coolies in Jamaica. The Woman's Foreign Missionary Association of Friends entered the mission field at Tokio, Japan, in 1885. Kansas Yearly Meeting established a mission among the Indians on Douglas Island, Alaska, in 1887. New England Meeting was associated with English Friends in Palestine till 1885 when it took separate charge at Ramallah. Western Yearly Meeting took the work at Matahuela, Mexico, from Indiana Meeting in 1889, and has also a mission in South Africa. Ohio Yearly Meeting began a mission in China in 1890, and afterward in India. Oregon Yearly Meeting began at Kake Island, Alaska, in 1894, and California Meeting on Kotzebue Sound, Alaska, in 1897. The other yearly meetings have no special missions of their own, but cooperate with the yearly meetings already named in the work they have undertaken. The American Friends' Board of Missions, which is incorporated in In-

diana, was formed in 1894 as a bureau of information, and engaged in mission work in Cuba in 1900. The South African Industrial Mission Board was incorporated in Ohio in 1902. The report of the American Friends' Board for 1900-'01 (published in December, 1901) gives accounts of the missions carried on by the societies and the yearly meetings separately or in cooperation in China, Japan, India, Syria, Armenia, Palestine, Africa, Mexico, Cuba, and Alaska, and returns 64 missionaries (21 men and 43 women), 17 recorded ministers, 5 physicians, 135 native helpers, 6 of whom were recorded ministers, 28 unrecorded preachers, 46 teachers, and 14 Bible women; 22 organized churches with 1,810 members and 5,591 adherents; and 53 Bible schools, with 2,435 members. The native churches had contributed \$1,354 for education and \$1,719 for the Church. The total home contributions to the mission work were \$49,697.

Friends' Peace Conference.—A Peace Conference of American Friends was held in Philadelphia, Dec. 12 to 14, 1901, and was attended by about 300 delegates from all parts of the United States. All the yearly meetings and all the branches of the society were represented, either on the program or by persons in attendance; and the fact was remarked that "for the only time since the days of the lamentable separation, Friends of the three names united in a harmonious effort for a common end." The program of discussions comprised papers on the New Testament Grounds for Peace and the Elements of Peace Doctrine in the Old Testament; The Failure of the Christian Church in regard to Peace Principles; The Early Friends' Conception of Peace and War; The Growing Iniquity and the Inherent Immorality of War; Early Christianity and War; Attitude of Christians as to War and Peace, and the Christian Idea of War; Importance of teaching Peace Principles in Bible Schools; The Principal Influences making for Peace, and how they may be strengthened; The Duty of the Christian Church at the present time in the movement to abolish War; Internationalism; Peace Principles in Political Life and Institutions; To what Extent are Peace Principles practicable? The Present Position of the International Peace Movement; Present Encouragement for Friends of Peace; Mistakes and Failures of Friends in their Peace Work; The Makers of Peace; What Constitutes the True Peace Spirit; Remedies for Prevailing Militarism; Peace as involved in the Christian Method; War inconsistent with the Genius of Quakerism; The Influence of Quaker Peace Ideals on our National Life; Woman's Responsibility and Opportunity for promoting Peace Principles; and The Work of Quaker Women for Peace. A declaration was adopted, expressing the conviction that lapse of time has not made necessary any change in the position which Friends have always taken on the subject of war, but has rather strengthened it; and that war is irreconcilable with the precepts, example, and spirit of Christ, and is likewise out of harmony with the common principles of reason and morality, and is the antithesis of Christianity, and the negative, for the time being, of the moral order of the world. The progress that has been made toward peace in recent generations was gratefully recognized in the resolutions, and the establishment of the International Court of Arbitration was mentioned as one of the greatest events in the history of human society, and in line with the policy always advocated by Friends. Further, the resolutions deplored the present wars of nations making high profession of Christian civilization with less civilized and en-

lightened peoples, and called for the adjustment of matters at issue by Christian methods.

Friends' Christian Endeavor.—The International Christian Endeavor Convention of Friends was held at Richmond, Ind., Aug. 8 to 10, and was attended by representatives from every yearly meeting in America, except those of North Carolina and Canada. An epistle was received from the Christian Endeavor Union of London Yearly Meeting. The Friends' Christian Endeavor movement was begun about 1892, in New York city. A general meeting was held in London in 1900. A special feature of the past year's work had been the institution of visiting meetings for the purpose of organizing new societies and encouraging those already organized. The results had been very satisfactory. Special remark was made concerning the interest taken by the societies in home and foreign missions. A number of classes in Church history had been organized, with special reference to the history of the Friends. The 489 societies represented in the convention returned 13,786 members, of whom 1,806 had joined during the year; 158 accessions to the Church from the societies; and total contributions of \$9,476, including \$1,105 for foreign and \$5,710 for home missions. The total contributions were \$1,253 more than in the previous year.

English Friends.—The statistical reports made to the London Yearly Meeting in May showed that while a few new organizations had been formed within its jurisdiction, others had lapsed, and the number that remained, 369, was 4 less than a year before. The number of recorded ministers was also 369, but they were not evenly distributed so as to give each congregation a minister; for some congregations had no minister, while others had several. The number of members in Great Britain had increased by 128, and was now 17,470; while the number of "attenders and associates" had declined by 150 to 7,647.

In the London Meeting on Ministry and Oversight the sentiment was expressed that the meetings of that name ought to take definite measures for encouraging and helping ministers and those likely to take vocal part in meetings, by the loan of books for study, by classes on Biblical subjects, and in other ways, and there might be a standing committee to plan out courses of study. A recommendation in accordance with these views was drawn up to be sent to meetings on ministry and oversight throughout the country, with the request that they report next year what they were doing to help the ministry. In a discussion on the subject of the Propagation of the Gospel it was pointed out that no adequate efforts were being made by the meetings on Ministry and Oversight to carry the Gospel in any practical way into the communities where Friends live; and it was suggested that the local meetings should become pastoral committees and should initiate positive work for the propagation of the Gospel about them. A comprehensive minute was drawn up, commending this subject to the consideration of the subordinate meetings. The yearly meeting met May 21. The attention of the Woman's Meeting on the State of Society was given largely to the subject of maintaining a healthy home life and of a good understanding between parents and children. In the Men's Meeting on the subject various questions were brought up, among them the difficulty of maintaining an active Church life in face of the modern pressure of business; the need of developing religious work among the growing population of the towns as well as in the country districts; greater spirituality and power in preaching; the importance of a better

understanding by ministers of the intellectual difficulties and perplexities of their hearers; Christian service in grappling with the causes of physical and moral degradation; and the choice of such newspapers for reading as took a high moral standard and presented a Christian view of life. It was decided to present the thoughts that had been expressed in an epistle to the notice of the society. In connection with the hearing of the reports of members returned from the war districts of South Africa, a committee was appointed to visit the quarterly meetings with a view of presenting freshly to members their responsibility for upholding the standard of the peaceful nature of Christ's kingdom. The subject of the use of the meeting-houses on Sunday evenings was considered in view of the question whether the Sunday evening services should have the character of quiet "meetings for worship" or should be of the

nature of mission meetings, with practical addresses of a teaching sort. It was found that different methods succeeded in different places, according to the character of the constituency. A report on the subject was sent down to the congregations, which were left to dispose of the matter for themselves. The district meetings were advised, if the education bill should be pressed forward, to urge amendments in the direction of religious liberty and popular control. Measures were considered having in view the greater efficiency of the Central Education Board. The subject of the Reform of the Procedure of the Yearly Meetings, which had been referred to a committee in the previous year, was adjourned, for further consideration by it. The formation of a general meeting in Australia was approved of, and a deputation was decided upon to attend its opening.

G

GEOGRAPHICAL PROGRESS. Arctic Regions.—No explorer has as yet reached the pole, though some noteworthy results have been achieved by expeditions that returned in 1902. The most successful of these appears to have been that under Capt. Otto Sverdrup, who went out in June, 1898, in Dr. Nansen's ship, the *Fram*, and returning, reached Stavanger, Norway, Sept. 19, 1902. He discovered what is believed to be the farthest land lying between the American continent and the north pole west of Greenland. A great island was found north of the Parry Islands, extending to about 80° north latitude; all north and west of this was an unbroken sea of ice.

In an article on Arctic Problems, in the *Geographical Journal*, Sir Clements R. Markham says: "After his [Nansen's] voyage there is no longer any geographical object in going to the north pole, except for the sake of deep-sea soundings, for it is merely a point in the polar ocean, the economy of which has been made known by Nansen. The really useful work that remained so as to connect the whole western side of the arctic regions is (1) the discovery of the region between the Asiatic coast and Prince Patrick island; (2) the examination of the space from Prince Patrick island to the farthest point reached by Admiral Aldrich during the expedition of 1875; and (3) the completion of the tracing of the north coast of Greenland.

"The first piece of work is the most difficult, and it may well be that the region in question contains no land and is merely part of the polar ocean. The third would be a great and important achievement. Capt. Sverdrup intended to attempt it by wintering in a hut on the north coast of Greenland and sending the *Fram* round to meet him at Cape Bismarck. This is the only way it could be done; but two ships would be safer. Prevented by the unfavorable season in 1899, Capt. Sverdrup fortunately turned his attention to Jones Sound, which led to the completion of the most important remaining arctic work of all, namely, the discovery of what was hitherto unknown in the wide gap between Prince Patrick island and Aldrich's farthest.

"The whole of the northern coasts of the Parry Islands was discovered by the naval officers employed on the Franklin searches, from Jones Sound to Prince Patrick island. But, except at the western extreme of these discoveries, the ice

pressure was not very great, and it was supposed that there must be land farther north. Indeed, at the eastern end Sir E. Belcher sighted land far to the north, which he named North Cornwall; and from Bathurst island land was sighted to the north and named Findlay. Aldrich's farthest is some 250 miles to the north of Belcher's discoveries. The great arctic work to be done, by way of Jones Sound, was to decide these questions, to discover the western side of Ellesmere Land, and to discover the land, if it existed, to the north of the Parry Islands. In this way our knowledge of the long line of coasts facing the frozen ocean on the west side of the arctic regions would be made complete.

"This great work has been done by Capt. Sverdrup and his gallant companions during four traveling seasons, entailing four arctic winters, and it has been done thoroughly. They have discovered the western side of Ellesmere island and its intricate system of fiords, as well as 3 large islands west of Ellesmere island; they have explored the northern coast of North Devon; they have connected Belcher's work with the coasts of Jones Sound; they have reached a point within 60 miles of Aldrich's farthest; and they have discovered that land north of the Parry Islands the existence of which was conjectured as far west as the longitude of the eastern coast of Melville island. This includes the discovery of the northern sides of North Cornwall and Findlay island. In addition to the main arctic problem which is thus solved, it is likely that the region discovered will be of exceptional interest, from the winds and currents, the varying character of the ice, the existence of coal-beds, and the abundance of animal life. A systematic survey has been made of these important discoveries, checked by astronomical observations."

Capt. Sverdrup's and Lieut. Isaachsen's expeditions together occupied three hundred and seventy-two days of actual travel, during which they covered a distance of 3,000 miles and traversed 1,500 miles of newly discovered land. Besides these expeditions, other important journeys were undertaken. The expedition consisted of 16 men, 6 of whom were men of scientific training, geology, botany, and zoology being all represented by specialists. Astronomical, magnetic, and other physical observations were provided for, while an officer was to attend to cartographical work. The surgeon was to take charge of meteorology. The principal members of the expedition, besides

Capt. Sverdrup, were Lieut. Isaachsen; Mr. Bay, zoologist; Mr. Simmons, botanist; Mr. Schei, geologist; Mr. Svendsen, surgeon. All on board were prepared to put their hands to work of all kinds. A good supply of dogs was taken on board, and every preparation was made for sledge expeditions. The Greenland settlements were reached about the end of July, and an attempt was made to push the Fram northward through Robeson's channel, but she was caught in the ice at Cape Sabine, off Ellesmere Land, about 79° north latitude.

The following is taken from Capt. Sverdrup's account:

"On Aug. 17, 1898, we were stopped a little north of Cape Sabine by masses of ice, which we could not penetrate. The cold immediately set in and the new ice rapidly increased. We were therefore compelled to take up our winter quarters at Rice strait. In the course of the autumn we made a sledge journey on the inland ice of Ellesmere Land. Exploring and mapping the innermost part of the fiord at Hayes Sound was commenced. In addition thereto we made hunting expeditions, chiefly to procure food for the dogs. We shot about 25 walruses and 11 musk-oxen. With such a large increase in the dogs' food I saw no objection to wintering at this place. Here was a good and large field of work. In the course of the winter a hut was built, which we intended to put up on Robeson's channel or farther north.

"In the spring of 1899 two sledge journeys were made across Ellesmere Land to the west coast, the one across the glacier district, the other farther north, across country free from ice. The mapping at Hayes Sound was completed. Scientific investigations were carried on until we left our winter quarters. The summer of 1899 turned out unfavorable. I therefore decided to go to Jones Sound, in consequence of which we left Smith's Sound Aug. 22, 1899. On the way we caught such a number of walruses that we had food for the dogs to last through the winter. We took up winter quarters on the south side of Ellesmere Land, in latitude 76° 29' north, and longitude 84° 24' west. Shortly afterward I made a boating excursion with 3 men to explore and lay down a depot. We were, however, shut up by the ice and were compelled to remain one month near the boat before we were able to go on board. On the ice on the return journey we met Baumann and 3 men, who had gone out in search of us. We learned from them the sad news that Braskerud had died. He had caught cold while out hunting. After the arrival on board we made preparations for mapping and for laying down depots. Oct. 22 we were stopped by open water, 68 miles from the vessel; the fog was lying so heavy and thick westward that we could form no decided opinion as to the extent of the open water. The portion of the coast which we had passed ran in a true westerly direction, which we could see was the case farther on. According to Inglefield's map, the country ought to have curved northward. From our winter quarters we laid down the depot, and then entered a large fiord east of the depot, where we shot 26 musk-oxen.

"On Feb. 23, 1900, Isaachsen, Schei, Stoltz, and Bay proceeded with four packs of dogs to the depot. They returned on March 3 with the information that there had been some heavy ice scrapings at Jones Sound, which impeded the advance of the vessel. The depot was also destroyed by bears, and almost all the dogs' food eaten up. On March 7 Bay, Fosheim, and I again

set out on fresh explorations. Bay was left behind at the depot on watch, while Fosheim and I proceeded westward. The same day we left Björneborg, which was the name we gave the depot, we met with open water, where large floes of ice were drifting backward and forward in the rapid current in the sound between North Kent and Ellesmere Land. The advance along the sound proved very difficult. We returned and came on board March 14. The main expedition started in two parties with 9 men and dogs on March 17 and 20. From Björneborg all proceeded on the 23d, reaching the sound the following day. The passage along the sound proved very difficult on the rugged ice. In many places there were pressure ridges right up to the side of the mountain. These pressure ridges at several places had to be worked through with pickaxes and spades. At other places the ice would be quite smooth, so that we, at steep inclines, ran the risk of losing both loads and dogs in the sea. After traveling three days, we passed the sound, which is 20 miles broad, without other mishap than losing a load in the sea. The rope connecting the dog with the sledge parted, so that the dog was saved. Northward we met with fairly smooth ice. The 31st of March, 175 miles from the vessel, the returning party, consisting of Baumann, Raanäs, Schei, Stoltz, and Henriksen, turned back to Björneborg. At that period we experienced a temperature of 42.5° of frost, and great difficulty in advancing. Two sledge parties proceeded farther northward for exploring the unknown west coast of Ellesmere Land, each with provisions for fifty days. The one party consisted of Isaachsen and Hassel, and the other of Fosheim and me. North of the sound, between Ellesmere and North Kent, a large bay extends eastward about 100 miles broad. On the northern side of the same some large complicated fiords are situated. The land extends about 50 miles westward from these, after which it runs in a north and northwesterly direction. In latitude 79° Isaachsen and I parted, Isaachsen receiving instructions to explore some new land which we sighted west of us. The land which Fosheim and I traveled through is very hilly and intersected by large fiords, of which several are from 15 to 20 miles broad at the mouth. On May 4 we reached latitude 81° north. From here the land extends in a northerly direction. We returned to Björneborg on June 2.

"During the whole time we experienced uncommonly severe weather, and what especially impeded the work was fog and thick weather. Bay, after our departure, had an encounter with a ferocious bear, which he at last killed. Fosheim and I came on board on June 4, after an absence of seventy-six days. During the whole journey we experienced almost daily snowstorms, accompanied with severe cold, when the snow and ice rendered it most difficult to proceed. Isaachsen and Hassel came on board on June 19. After reaching the new land in longitude 98° west, they turned back, according to agreement, to the place where they separated, whereupon they traveled southward and afterward eastward to about longitude 89° west. Here they discovered a large system of fiords, proceeding up some of them. The blubber of bear formed a substitute for fuel as the paraffin became exhausted.

"A third party, consisting of Schei and Henriksen, with provisions for forty days, chiefly on geological investigations, came on board June 1. They had traversed two islands north of the sound and been some distance into that fiord where Isaachsen and Hassel were. On the return

journey they traveled across a large peninsula southeast of the fiord. Baumann was in command of the returning party. After they left us they experienced very stormy and cold weather, and several were frostbitten in the face and on the hands on their arrival at Björneborg. From there they had accompanied Schei to the north point of North Kent, after which they went on board. In May Baumann with his party made some investigations to find a passage overland, whereby the sound might be avoided. We knew, of course, that it would be impossible to pass on our return. He deposited information at the agreed place north of the sound. On my return to the Fram I learned that the vessel was nearly destroyed by fire on one of the last days of May. The awning had been ignited by a spark from the funnel and was soon enveloped in flames. The kayaks stored under it, as well as other inflammable things, burned violently. The main rigging and the mast caught fire. Fortunately, it occurred in the middle of the day, while there were plenty of people on the deck. Along the side of the vessel we had water enough for extinguishing the fire, and we succeeded in subduing it.

"The summer work began with scrapings, at first through cracks in the ice, afterward at various places. Gradually the ice broke up. Aug. 9 we steamed out from our winter quarters, steering westward along Jones Sound. On the 16th we got fast in the ice north of Grinnell Island. A heavy northerly breeze kept the ice tightly together. We remained here till Sept. 16, when the southerly gales dispersed the ice. We then proceeded down through Cardigan strait and took up our winter quarters in the fiord next to the sound, latitude $76^{\circ} 48'$ north, and longitude 89° west of Greenwich. We shot this autumn 28 musk-oxen, and, as last autumn, a number of hares. The passage we now used to the coast northward went across a neck of land about 600 feet high. The place where we got down to the sea we called Nordstrand. After the autumn hunting was completed Olsen and I were to proceed up to the large fiords north. Olsen, on the way, fell and got his arm out of joint at the shoulder. As the wind was too strong for a traveling tent to be pitched, we had to go back to Nordstrand. I placed Olsen in a tent, but my attempts to set the arm right were in vain. The storm lasted three days. Two of my best dogs were choked by the snow, and one I lost on the hunting expedition last autumn. The fourth day we went on board and put Olsen's arm right. In the winter we were much visited by wolves, and we had enjoyable wolf hunts in the silent hours of the night. We captured a few alive. On March 12, 1901, two parties went out, each consisting of four men, to lay down depots. The mean temperature was *minus* 45° C.; some days it was even below *minus* 50° . April 8 all parties set out, Isaachsen and Hassel westward, Fosheim, Raanäs, Schei, and I northward, Baumann and Henriksen accompanying us a little distance north of the depot. Thereupon we proceeded farther northward, but found ourselves at the bottom of this system of fiords. When we could find no reasonable land passages we turned back and entered a fiord immediately north of this system. On April 26 we reached the bottom of this fiord. Here we found a fairly good passage northward, where we got down to the sea on April 29. This was that system of fiords which had been traversed by two parties last year. On May 1 we saw from latitude 79° north, in very clear weather, that there was still some sea ice

outside the sound. We continued northward. On May 4 I despatched Fosheim and Raanäs across to follow the eastern land, whereas Schei and I continued along the western. At latitude $80^{\circ} 30'$ the land turned westward; on the west side of the sound we followed the latter, but found ourselves very soon in rough polar ice. As the weather now became very stormy and foggy, we had to turn, sacrificing the rest of the season, to the piece traversed and southward, from where not a few fiords are running into the land. On May 17 we were roused at night by an awful howling of the dogs. When we came on deck we found 12 wolves, which were on the point of carrying away one dog of my pack. When we fired at them—and some of the wolves were killed—the rest ran away rapidly. The dogs were quite helpless, as they had muzzles on. On June 18 we arrived at the Fram. Isaachsen and Haslund found, in about latitude 78° north, a sound separating North Cornwall from the track of land to the north. We traveled through this sound, following the south coast of the land, north of North Cornwall westward and then northward. Then we continued along the land in a northwesterly direction, latitude $79^{\circ} 30'$ north, and longitude 106° west, when the land turned eastward and southward. On the west coast no land could be seen westward, and on the northern coast nothing to the north either, only rough polar ice. These tracts of land are rather low, the highest not reaching over 1,000 feet. Bears were shot on the south coast; reindeer could be seen, and appeared to be plentiful. Isaachsen then went southward and eastward. These islands were explored all round, after which Isaachsen traveled down on Graham Islands, and across to Ellesmere Land; he came on board on June 7.

"Baumann and Stoltz left the Fram on April 24 to investigate more closely the system of fiords, into which I first entered this spring. It was proved on this trip that the neighborhood of these fiords is probably the part of Ellesmere Land most abounding in game. Musk-oxen, reindeer, and wolves are very plentiful. Fosheim and Raanäs had explored a fiord about 70 miles long, which runs in from Greely fiord in a southeasterly direction.

"The whole of this summer appeared very unfavorable for getting out of the ice. We tried blasting, etc., but to no purpose. Then we tried to force a passage along the land at every high-water, as the ice there would always be somewhat slack. In this way we succeeded in advancing 9 miles southward, but after touching the ground several times we did not get out. We now had to procure food for the dogs during the winter. Two hunting parties in Jones Sound got about 20 walruses, which proved sufficient. Bay remained on guard at the meat until the ice became thick enough for it to be conveyed on board. On a very dark night in October he was surprised by a bear. He tried to get out, but his sweater caught something in the door, so he could not move. However, he fired his rifle. At dawn he crept out and found the bear lying dead not far away. After the walrus hunting, two parties were despatched northward to procure fresh meat for the winter. They shot about 18 musk-oxen, which were transported on board; then the walruses were brought on board, and the excursions were at an end—Nov. 4, 1901.

"Isaachsen and Bay explored the north coast of North Devon from April 23 to May 22, whereupon Isaachsen and Simmons made a twenty-four days' sledge excursion in order to fetch

fossils from a fiord in the north, where they had formerly discovered considerable beds of coal. We arrived at Godhavn, Greenland, on Aug. 18. We left there on Aug. 22, passed Cape Farewell on Aug. 28."

Lieut. Robert E. Peary returned from his four years' sojourn in arctic regions on the relief steamer *Windward*, reaching Sydney, Cape Breton island, Sept. 18. He did not reach the pole; his highest point was $84^{\circ} 17'$. The party of the Duke of the Abruzzi reached $86^{\circ} 33'$ in 1900. Lieut. Peary announced that important scientific discoveries had been made by the expedition. The following passages are from his report of the operations from August, 1901:

"Left Erik harbor, on the Ellesmere coast, Aug. 29. The party reached Payer harbor Sept. 16, crossing Roose Bay partly by sledge and partly by boat, then walking across Bedford Pim Sound. About a week later my Eskimos began to fall sick, not one escaping. By Nov. 19 6 adults and one child were dead, nearly all the others very weak, but out of danger.

"Early in January Eskimos came across from Anvik, bringing news of the ravages of a fatal epidemic through the tribe. Word was sent back by the scouts for as many of the survivors as could to come to me, and by the end of the month they began arriving. In February a large depot of dog food was established near Cape Louis Napoleon, 60 miles north of Sabine. On March 3 my advance party of 6 sledges, in charge of Hensen, left for Conger. March 3 started with the main party of 18 sledges. Conger was reached in 12 marches, arriving within an hour or two of the advance party. My supporting party of Eskimos, returning from Conger, brought down the instruments, chronometers, and arctic library. Eight marches more took us to Cape Hecla.

"The north end of Robeson channel was all open across to the Greenland coast. Lakes of water, extending northward, could be seen from Black Cape and Cape Ransome. From Hecla another supporting party returned. April 1 started northward over the polar sea with Hensen, 4 Eskimos, and 6 sledges. Old floes, covered with snow and intersected with rubble ridges and lanes of young ice, were encountered from the moment we left the ice foot.

"After 6 marches, open leads, floes in motion were encountered. Two natives were sent back. As we advanced, the floes became smaller, the pressure ridges on a grander scale, and the open leads more frequent. Each day's march was more perilous, and our general course deflected west by the character of the ice. Finally, at 84.17° north latitude, northwest of Hecla, the polar pack became impracticable, and further efforts to advance were given up. New leads and pressure ridges with foggy weather made our return in some respects more trying than the advance. Hecla was regained April 29, and Conger May 3. Cape Sabine was reached on the 15th. A few days later went north as far as Cape Louis Napoleon to complete the survey of Bobbit Bay, returning June 1.

"The ice broke up earlier than in 1901, and Payer harbor was blockaded almost continuously. The *Windward* bored her way through the ice and entered the harbor the morning of Aug. 5, and got out again the same afternoon with scarcely fifteen minutes to spare before the harbor was closed by the ice. Forcing our way across Smith Sound, my Eskimos, with their belongings, were landed in Inglefield Gulf. Several days were devoted to hunting walrus, then

the *Windward* started south, reaching and leaving Cape York the afternoon of Aug. 28.

"Equipment and personnel were satisfactory, and farther advance was vetoed by insuperable natural conditions. The *Windward* has on board the instruments, chronometers, and arctic library abandoned by the Greely expedition, and numerous specimens of natural history, musk-ox, reindeer, and walrus skins. The skeleton of a two-horned narwhal—a rare arctic specimen—living specimens of musk-ox, walrus, arctic hare, and Eskimo dog are also on board."

Lieut. Peary said he had made a close study of the most northerly people in the world, the Eskimos living on Whale Sound. They are a small tribe, completely isolated, not exceeding 200, and are being rapidly destroyed by an unknown disease, apparently a malignant slow fever. Lieut. Peary taught them to work, employed them, and paid them with weapons and utensils, by which their ability to procure food is materially increased. He believes that the pole can be reached on sledges by any expedition adequately equipped which makes its winter quarters at latitude 83° . It is no more difficult to travel between latitudes 70° and 80° than between 60° and 70° , and he believes not more difficult between 80° and 90° than between 70° and 80° . He thinks there is no open ocean in the extreme north, nor is there a constantly frozen sea, though the waters are practically covered always with ice. The shore of Greenland he believes the most northerly land on the earth.

The expedition sent out in 1901 by William Ziegler under command of Evelyn B. Baldwin, returning, arrived at Honningsvaag, Norway, Aug. 1. A supply ship, the *Frithjof*, had left Tromsø July 1 to carry coal and bring back news of the expedition. The result of the undertaking is regarded as a failure, in that the explorers did not reach the pole, which achievement was declared to be the specific purpose of the expedition—"to plant the American flag at the north pole"—for which it was more fully equipped than any previous expedition has been. In explanation Mr. Baldwin said: "In the course of nearly a year and a half's incessant work we have accomplished more than the unfavorable conditions which surrounded us really warranted, and have, in addition, brought back data which ought materially to assist subsequent explorers. For the first time in the history of north polar exploration a photographic record has been secured of the ice and snow conditions of the arctic and of the animal life of those regions so complete as to be practically exhaustive. In this respect the kinematograph has played a most important part—the first time it has ever been successfully employed in the far north—and we now have over 1,000 perfect photographic representations of our work. In addition, we have over 200 drawings and paintings."

The character of the ice in the Franz-Josef Land archipelago, all the channels of which were blocked in the autumn of 1901, prevented the America from going far enough north to allow of establishing headquarters favorable for sledge work in the winter and spring, so that winter quarters had to be made at Camp Ziegler, the station founded on the explorer's first arrival in $80^{\circ} 23'$ north, instead of at the higher point they had hoped to reach. In addition to this disadvantage, more than half the dogs died of disease. Mr. Baldwin said further:

"Briefly, my scheme was to establish ourselves as strongly as possible upon the northernmost land of the archipelago before attempting

any dash to the pole. After spending our first winter in this depot, I intended, before the return of the sun, to throw out advance parties northward from Rudolf Land to about the eighty-third parallel, so as to begin the real polar dash from that point. In evidence of our sincerity in carrying out the primary object of the expedition, we have now the satisfaction of pointing to the establishment of our depots, from which it will now be possible to despatch parties from Rudolf Land without its being necessary to endanger a ship at a higher latitude than Camp Ziegler. Altogether, we have formed four large stations, for the transport of which an ordinary arctic vessel would be required. In the establishment of these depots we were obliged to travel over the same ground at least ten times. This severe work naturally led to the wearing out of our sledges, many of which, in the intense cold, became exceedingly brittle and went to pieces like glass, especially when traversing the heavy screw ice. I despatched 15 balloons with 300 messages, and in June I obtained the first moving pictures of arctic life. I also discovered Nansen's hut, recovering original documents and securing paintings of the hut. Marine collections for the National Museum, including new charts, etc., were obtained. In the field-work, 30 men, 13 ponies, 60 sledges, and 170 dogs were employed from Jan. 21 to May 21. To each of the balloons was attached a string of buoys, which by means of automatic contrivances were released as they touched ice, land, or water. As northeasterly winds prevailed, it is likely that these balloons were driven upon the great field of ice which this year blocks the entire eastern coast of Spitzbergen; when they are released by the movement of the ice they will, it is expected, furnish data concerning air and sea currents."

A story was sent from Winnipeg in the summer regarding the fate of the explorer Andrée and his companions. It lacks verification, but seems to have some evidence in its favor. As Andrée set out in 1897, there must be an error about the time at least, since, according to the story, he would not have come down till three years later—that is, in 1900. Following is the despatch:

"Rev. Dr. Ferlies arrived from York, Northwest British Territory, brings authentic information of the fate of explorer Andrée and his companions. Two years ago, 1,700 miles north of York, a party of Eskimos, under the leadership of 'Old Huskie,' saw the Andrée balloon alight on a plane of snow in that vicinity, which is about 30 miles north of Fort Churchill. Three men emerged from the balloon, and some of 'Huskie's' people approached them out of curiosity. As they did so, one of Andrée's companions fired a gun. This is a signal to uncivilized natives for battle. It was regarded as a challenge, and almost instantly the natives fell upon the three explorers and massacred them. Everything pertaining to their outfit was carried to the homes of the natives on the border of the arctic region. 'Old Huskie' himself gave this information to Ralph Alstine, agent for the Hudson Bay Company, and the story, after being investigated by Dr. Ferlies, was told by him. He says that there is little room for doubt, as frequent reports have since come of the strange implements which the north natives have in their possession, the telescope being particularly described."

Antarctic Regions.—The Scottish National Antarctic Expedition sailed from the Clyde, Nov. 3, with William S. Bruce as leader. The Norwegian

whaler Hekla was bought, renamed the Scotia, and reconstructed for the expedition. The Scotia is a bark-rigged auxiliary screw steamer, of about 400 tons register, measuring 140 feet in length, 29 feet in breadth, and having a depth of 15½ feet. The ship is being especially fitted out to carry on oceanographical research. Two great drums, each containing 6,000 fathoms of cable for trawling and trapping in what is supposed to be the deepest part of the Antarctic Ocean, were taken, for Mr. Bruce intends to follow the track of Weddell, who sailed from Leith in 1823 and attained a latitude of 74° 15' south. Eastward of this track Ross obtained a sounding of 4,000 fathoms and no bottom.

A steam-yacht, the Morning, has been sent out by the Royal Geographical Society to the Discovery, which carried the National Antarctic Expedition (British) to antarctic waters in 1901. Besides carrying supplies and acting as tender to the Discovery, the Morning will supplement its work, being well supplied for taking observations.

In a letter from the steamship *Antarctica* in February, Dr. Otto Nordenskjöld, leader of the Swedish antarctic expedition, says:

"Our expedition had its last contact with civilization at Staaten island, a few miles north of Cape Horn, where the Argentine Government has erected a magnetic observatory to cooperate with the antarctic expeditions in 1902. Jan. 6 we left the island. On the morning of the 11th all on board could know that we were in a new world. The air was cold and the water at the freezing-point, but the land itself was hidden by fog. Suddenly at noon the fog lifted and unveiled to our view in its unsurpassed grandeur the first of the antarctic lands to be seen. It was King George island, in the chain of South Shetlands. The island is very mountainous, and some of its peaks attain a height of 2,000 or 3,000 feet. Between these peaks are broad valleys, and anywhere else in the world this island would show all the contrasts of a varying nature. But up to the highest summits everything is covered with snow and ice. The valleys are filled by immense glaciers, connecting over the ridges with their neighbors, climbing the summits, and far more luxuriant than the vegetation of tropical forests. To the east or to the west there seems nowhere to be an outcrop of bare rock, and only at a few places at the edge of the sea are there bold promontories of steep cliffs. But all along the coast are rocky islets, often low but always of the boldest shape, and, in contrast with the main island, those islands are almost always completely free from snow. The whole scenery presents a type of a glaciated country such as our own was at a remote period, a good deal different from Greenland. Even in the farthest north there does not exist a land so overwhelmed by the snow as this island. Only at the extreme west of the island was there a strip of lowland. We did not stop there, but proceeded to another island, Nelson island, where the name on the chart, Harmony cove, seemed to intimate that we would find a favorable landing-place. And it was, in fact, a nice little place, far more inviting than one could ever expect after the first view of the land. The bare space was not very large and the snow was creeping down on all sides. But on all spots possible grew a not too poor vegetation of mosses, lichens, and algae of many different species. On the knolls of moss there was a rich life of small insects, and even a little beetle, the first ever found in the antarctic, rewarded the work of the entomologist.

"But, with all this, no land in the arctic can be compared with this in poverty. On the other hand, on suitable places there is life enough, so rich even that it seems impossible it could ever be surpassed. But this life almost all depends upon the sea. The dredge and the net have unveiled to us a fauna so rich in numbers, so wonderfully varied in its forms, that I do not believe it is paralleled in the arctic, and even the specialists often stand wondering before this new and unexpected life. Not only is the surface of the sea crowded by shrimps and other lower forms, but there also exists a richness of fish some of which would probably in other parts of the world give rise to a great industry. Nowhere else are the swarms of whales, some of them among the largest of their kind, nearly so numerous as here. Even the seals are crowded along every coast, and everywhere in the ice-pack. On the shore where we landed they were counted in hundreds, and they were so tame that they allowed themselves to be scratched on the neck and the back.

"When approaching the shore you will be met by swarms of an animal that would hardly be recognized by any one who did not know it before. Necessarily you will think of the flying-fish when you see a long line of black spool-shaped beings, with two fin-like appendices, throwing themselves high out of the water, only to come down again and continue their flight below its surface. Thousands of penguins breed on Nelson island, but that is not one of the best places to study their life.

"After Jan. 11 followed a week of the most interesting discoveries. At the western end of his Louis Philippe Land, Dumont d'Urville had seen in 1838 a deep cut into the land, which he named Orleans inlet, and here at first we steered our course. The land and the channel trended unceasingly to the west without interruption, and, after twenty hours on a virgin sea and amid the grandest scenery, we found ourselves in the regions examined by the Belgian expedition and in the channel called by them after their steamer, Belgica. Louis Philippe Land is only a part of the great continental mass called on the maps Graham Land. We had to turn back to get into the Atlantic. Here we followed the coast, stopping a short time at Cape Seymour, one of the most interesting points in the whole antarctic by reason of its being the only place where fossil remains have until now been discovered."

America.—A hitherto unknown region between Great Slave lake and Hudson Bay was surveyed in 1900 by J. W. Tyrrell and C. C. Fairchild. It lies west of the Doobaunt river. The route began from the lake, the most easterly bay of which was named Charlton harbor. It is about 16 miles long, and is connected with McLeod Bay by a deep channel less than a mile wide. Lockhart river, which flows into Charlton harbor, was surveyed. The Parry falls were found to be beautiful, but on a smaller scale than as described by Back, a former traveler. Artillery lake lies at an elevation of 1,188 feet, which is 668 feet higher than Great Slave lake. The height of land was found to be 7 miles away, and on its eastern side was a new lake, Lake Douglas, with outlet toward the north or east. The main route led north by the Kasba river and lake to Lake Clinton Colden. Thence the height of land was crossed by short portages, and a string of lakes was followed to Hanbury river. This river runs through a wild chasm, Dickson cañon, beginning with a fall of 50 feet. Below, the country assumed a more verdant appearance,

with trees and flowering plants more abundant, affording feeding-grounds for musk-oxen. The Hanbury flows into Theron river, a large stream with a volume of 50,000 cubic feet at the junction. It is navigable for river steamers 550 miles from Hudson Bay. The district seems not well adapted for farming, but the timber supply and the herds of musk-oxen should be of considerable value.

An account of an exploration on the eastern coast of Labrador by a party of 10 under the lead of Willard Glazier says they set out from the Moravian mission station of Nain in latitude about 56.5 north. Following up the bay on which the station stands, they discovered a fine river about 135 miles long. It flows through 7 lakes, the largest 40 miles long and surrounded by precipitous mountains rising 1,000 to 2,000 feet above it. From these many cascades fall into the lake. The lakes are connected by rapids. Returning to Nain, the explorers went north to Okak Bay, the site of another mission station, and ascended North river. The interior of the country was found to be bleak and desolate and destitute of inhabitants. The only vegetation was a few spruce and larch trees and some alders and wild grasses. There are caribou in abundance, and in the bays and rivers seals and fish. The commonest minerals are iron ore, copper, mica, and Labradorite.

An exploration in British Honduras was recently made by Mr. T. Fenwick, of Belize. A region supposed never to have been visited by white men, southwest of the Cockscomb mountains, was named King Edward's Land; and beyond this another range of mountains was reached. Continuing to the south, the explorers found still another range, extending west and south, which they named Queen Alexandra's mountains. The peaks of the Cockscomb mountains which the party ascended were named, one for Joseph Chamberlain and the other for Lady Wilson, wife of the Governor.

Asia.—Dr. Sven Hedin contributes to the *Geographical Journal* a summary of the results of his latest journey in Central Asia, 1899-1902. The *Annual Cyclopædia* for 1901 gives an account of his experiences and discoveries in 1899 and 1900. After summarizing these, Dr. Hedin's narrative proceeds:

"My second expedition started from the same base [Mandarlik, beside Gas-nor]. Its object was to complete the mapping of northern Tibet, especially of the mountains to the north of Kum-kull. This lake also was sounded. These Tibetan lakes are dangerous to navigate in a small open sailing-boat; to do so is always attended with a considerable amount of peril. But my principal and longest journey through Tibet began at Charlik on May 17, 1901. The route I selected went first up the valley of the Charlik-su, then on to Kum-kull, and over the Arkatagh. After that I struck a line between the route followed by Littledale and that followed by Prince Henri and Bonvalot, and penetrated southward as far as 33° 45' south latitude. There the caravan encamped, while, accompanied by two attendants and in disguise, I made a perilous journey as far as the vicinity of Tengri-nor. There we were closely examined, and compelled to return to the caravan, though the Dalai-Lama's emissaries treated us with the greatest respect and politeness. A second attempt to penetrate south from the same camping-place was frustrated at Sellisytso by a force of 500 horsemen. After that I directed my course westward to Leh, avoiding both Nain-Singh's and Littledale's routes. This jour-

ney cost me the lives of two men and of almost all my animals. The baggage animals were yaks, which were everywhere placed at my service by command of the Dalai-Lama. The results of this last journey in Tibet are recorded on a map of 370 sheets.

"In April I broke up from Leh, and crossing the Karakorum pass, went down to Yarkand; thence traveling via Kashgar and the Caspian Sea, I returned to Stockholm, where I arrived on June 27, 1902. The successful issue of this journey, which lasted altogether three years and three days, was in great part owing to the circumstance that his Majesty the Emperor of Russia most graciously appointed an escort of four Cossacks to attend upon me throughout. Than these I have never had more honest, more capable, or braver men in my service.

"My first journey of 1893-'97 has been regarded as marking an advance in the knowledge of the geography of central Asia. The last journey of 1899-1902 has yielded results three times as rich as those of the former journey, and in the course of it I have been enabled to lift the veil which for a thousand years had hidden vast stretches of the mountainous and desert regions of the heart of Asia.

"My cartographical material extends to 1,149 sheets, and if these were arranged end to end in a long row they would stretch over a distance of 1,000 feet. A complete meteorological journal was kept without interruption throughout, in part during my expeditions, in part also and simultaneously in my principal fixed camps, where a barograph and a thermograph were in constant operation. The abundant materials thus gathered in are now being worked up by Dr. Nils Ekholm. I took also over 2,000 photographs, using for this purpose an English camera and English-made plates, and the results leave nothing to be desired. Anatomical collections of the higher animals were made, including aquatic animals in spirits, and a herbarium was brought together. The geological profiles of Tibet will be illustrated by some 700 rock specimens collected in that region. I have also brought home a number of archeological treasures from the ruins we discovered in the desert, among them several objects of extraordinary interest, and I made further a great quantity of sketches, diagrams, and drawings to illustrate various features appertaining to the provinces of physical geography."

Dr. W. H. Workman and Mrs. Workman, on a third expedition among the higher Karakoram mountains, devoted their attention chiefly to the Chogo Lungma glacier; they examined also three large tributary terminal glaciers. The upper part of the Chogo Lungma glacier has not heretofore been explored, and the map was found to be wholly incorrect. The glacier takes its rise in a steep snow wall, or coll, about 20,000 feet in altitude, which connects two lofty peaks, one of which is fixed by the Indian survey at 24,486 feet. The other seemed to be little lower. Several other peaks nearly as high send down large glaciers to help form the Chogo Lungma. One of the tributary glaciers brought the explorers under the northern flank of Mount Haramosh, which is 24,285 feet high, to a broad snow pass, at a height of 17,500 feet, from which another glacier plunges sharply down to the west into a deep valley, whence, by crossing a lower ridge at 15,000 feet, Gilgit can be reached. The surface of the great glacier is irregular, and it is in many places seamed by crevasses. The tributary glaciers are nearly all broken at different places in their course by impassable ice-falls. At the entrance

of the Haramosh arm a deep depression in the surface is occupied by a large lake.

In a paper on explorations in Chinese Turkestan, read before the Royal Geographical Society, Dr. M. A. Stein said that the idea of explorations about Khotan was suggested by the discoveries of M. de Rhins, the French explorer, and Dr. Sven Hedin's march of 1895, which was first made known in 1898. With the help of the Indian Government Dr. Stein was enabled to set out in April 1900, and reached the capital of the Hunza chief in June. In that city the carved woodwork exhibited the features of old Indian decoration, while in the Mir's residence the furniture and fittings were Chinese in type. Arriving at Tashkurghan, Dr. Stein was enabled to prove the identity of the territory of Kir-p'an-to with the modern Sarikol. A fresh start was made from Kashgar in September, and Khotan was reached in October. From this point a survey was made of the Yurung-kash flowing between ranges of lofty peaks 23,000 feet high and connected with certain recognized peaks in the Indian triangulation. After beginning excavations in December the first find of importance was some leaves of manuscript in Sanskrit, which might be assigned to the sixth century. In addition, there were documents in non-Indian characters which represented the indigenous tongue of Khotan. The discovery of Chinese writings dated 778-787, as well as coins of about 720, seem to show that Dandan Uiliq was abandoned at the end of the eighth century. The district was probably irrigated by canals bringing the hill water to the desert, and no adequate cause could be assigned for its desertion. An older town was discovered in the desert north of Iman Jafar, where tablets were unearthed bearing the ancient Indian script Kharoshthi. The area over which ruins are scattered is about 11 miles by 4, and the buildings were constructed in a massive style of beams of wood and plaster, which has served to keep the tablets in a high state of preservation. There were also pieces of pottery of great antiquarian interest and notes in various writings. The clay seals with which the tablets were fastened show the influence of Western art and include figures of Pallas Athene, Eros, and portraits with classical modeling and barbarian features. The discoveries corroborate the evidence of early Chinese explorers that these lands were colonized by immigrants from the Punjab about 200 B. C. This district must have been deserted before the fourth century, as there were no signs of writing on paper, which became common in Turkestan at that date."

In the autumn of 1899 Mr. Douglas W. Freshfield with several companions made a journey to the Himalayas to examine the glaciers of Kangchenjunga. The journey occupied in all seven weeks, during which the party ascended and descended 75,000 feet, or 14 miles up and 14 miles down. They were twenty-four days between Lachen and Khunza without meeting inhabitants, twenty days without seeing trees, and they were wholly dependent on the provisions they carried with them, except for a few contributions from their sportsmen. Following is a report of his description of the glaciers: "He reminded his audience that Kangchenjunga was a mountain 28,156 feet high. It was therefore the third highest measured mountain on the face of the globe, and was nearly 400 miles north of Calcutta. It formed the culminating point of a group which rose on the confines of Tibet, Nepal, and Sikkim. The Kangchenjunga group was completely cut off by the Khosi valley on

the west from the mountains of Nepal, and by the Teesta valley on the east from the mountains of Bhotan. By crossing the spur which united it to the Tibetan highlands, it was just possible to get round the mountain without trenching on any territory which was officially recognized as Tibetan. Mr. Freshfield said his object was to make the high-level tour of Kangchenjunga, and to pass as near the great mountain as possible. That had never been accomplished by Europeans.

"Taking into account secondary glaciers, the area covered by snow and ice in the group, accepting the 24,000 peak north of the Jonsong La as its northern limit, might be estimated at 180 square miles. As to the most notable peculiarities of Sikkim glaciers, the transformation of snow into something like glacier ice took place within a few hundred feet of the final ridge of Kangchenjunga. Such *névé* was found there as in similar positions on the Jungfrau in the Swiss Alps. In the upper ice-falls the ice was apt to assume a strange conformation. He described it by comparing it to the earth pillars found in certain friable soils. The glacier was converted, not into Alpine *seracs*, towers, and ridges severed from one another by profound clefts, but into clusters of ice-cones, repeating the same form monotonously."

Africa.—From an article by Rev. George Grenfell on The Upper Congo as a Waterway it is learned that there are more than 100 steamers plying there. The river affords a whole available waterway of more than 6,000 miles. Leopoldville and Brazzaville are important places, though smaller than Boma, the capital; twenty-five years ago they were unknown native villages. They are starting-points for the fleet of the more than 100 steamers that have been carried in plates and sections beyond the cataracts and reconstructed there. They are of all sizes, from small open launches to crafts carrying 200 to 300 tons.

GEORGIA. (See under UNITED STATES.)

GERMAN EVANGELICAL CHURCH.

The German Evangelical Synod of North America was formed in Missouri in 1840 by 6 ministers who were performing missionary work among the German settlers, and who had been attached in their native land to the Evangelical, the state Church of Prussia. Other religious bodies which had originated under similar circumstances in Ohio, the East, and the Northwest were united with it in 1850, 1860, and 1872. It had in 1901, according to the reports made to the General Synod which met in St. Louis, Mo., in that year, in 17 district synods, 922 ministers, 1,153 congregations, with 203,574 communicant members, 10,144 teachers, and 100,177 children in Sunday-schools, and 486 parochial schools; and the aggregate of contributions for the propagation of the Gospel was returned at \$95,660. The lists of pastors and congregations published in the Evangelischer Kalender for 1903 give the names of 27 pastors and 26 congregations additional to those given in the Kalender for the previous year. Recognizing the Holy Scriptures as the only authoritative standard of faith and practise, this Church accepts the Lutheran standards and the Heidelberg Confession as interpretations of them so far as those declarations agree, and where they differ leaves the Bible passages to be interpreted by the conscience of the believer. The home mission work of the Church was placed by the General Synod of 1901 under the care of a separate board. During the three years that had passed since the previous meeting of the General Synod 63 mission parishes had been as-

sisted, 29 of which had become self-supporting. Between \$10,000 and \$12,000 were contributed for these missions yearly. The grants for 1902, reported to the meeting of the board in August, amounted to \$26,500. The foreign mission in India, under the care of the foreign mission board, returned 7 missionaries and 5 women, with native teachers, catechists, etc., making a total missionary force of 79 persons. The mission included 4 principal stations, with 2,092 communicants and 5,291 members in all. The contributions of the last three years to this work had been more liberal than those of any previous term. The amount contributed for 1901 had been \$15,980, which, with a surplus of \$12,226 at the beginning of the year, had given \$28,206 to be at the disposal of the board; while the expenditure had been \$19,943. At the beginning of 1902 the surplus had been reduced to \$8,262. An immigrant mission was maintained in Baltimore, Md., and cooperated with the German emigrant mission in Bremen. The principal educational institutions of the Church are the proseminary at Elmhurst, Ill., and Eden College and Theological Seminary, St. Louis, Mo. Other benevolent institutions are a deaconess house in St. Louis, 2 orphan houses, and a hospital in St. Louis. Eden Publishing House, St. Louis, Mo., supplies literature for the Church in the German and English languages. Formerly the German language was very largely predominant in the work of the Church, but the membership has become so largely Anglicized that the General Synod a few years ago made provisions for the publication of literature for Sunday-schools and church services in English as well; and the English department has become a considerable and growing branch of the work of the publishing house. A Young People's Society was organized at a meeting held for that purpose in Cleveland, Ohio, Sept. 17 and 18, 1902, at which 13 of the 17 district synods were represented by delegates. The Rev. J. Pister, president of the General Synod, presided. Constitutions were adopted for the general and for local societies.

GERMANY, an empire in central Europe, composed of the federated German states, which, in the terms of the Constitution of April 16, 1871, form an eternal union for the protection of the realm and the care of the welfare of the German people. The King of Prussia as German Emperor has supreme direction of the military and political affairs of the empire. There are 2 legislative bodies with concurrent powers—the Bundesrath, composed of representatives of the federated states, and the Reichstag, representing the German people. Acts on which they agree become law on receiving the assent of the Emperor, countersigned by the Chancellor of the Empire. The Bundesrath has 58 members, appointed by the governments of the federated states. The Reichstag has 397 members, 1 to 131,604 of population, elected by universal manhood suffrage and by secret ballot for the term of five years. Members of the Bundesrath are appointed anew for each legislative session. The Kingdom of Prussia is represented in the Bundesrath by 17 members and in the Reichstag by 236, the Kingdom of Bavaria by 6 and 48 respectively, the Kingdom of Saxony by 4 and 23, the Kingdom of Württemberg by 4 and 17, the Grand Duchy of Baden by 3 and 14, the Grand Duchy of Hesse by 3 and 9, the Grand Duchy of Mecklenburg-Schwerin by 2 and 6, the Grand Duchy of Saxe-Weimar by 1 and 3, the Grand Duchy of Mecklenburg-Strelitz by 1 and 1, the Grand Duchy of Oldenburg by 1 and 3, the Duchy of Brunswick by 2 and 3, the Duchy

of Saxe-Meiningen by 1 and 2, the Duchy of Saxe-Altenburg by 1 and 1, the Duchy of Saxe-Coburg-Gotha by 1 and 2, the Duchy of Anhalt by 1 and 2, the Principality of Schwarzburg-Sondershausen by 1 and 1, the Principality of Schwarzburg-Rudolstadt by 1 and 1, the Principality of Waldeck by 1 and 1, the Principality of Reuss-Greiz, or Reuss of the elder line, by 1 and 1, the Principality of Reuss-Schleiz, or Reuss of the younger line, by 1 and 1, the Principality of Schaumburg-Lippe by 1 and 1, the Principality of Lippe by 1 and 1, the free city of Lübeck by 1 and 1, the free city of Bremen by 1 and 1, the free city of Hamburg by 1 and 3, the Reichsland of Alsace-Lorraine by 4 commissioners of the Statthalter in the Bundesrath who have no votes and 15 Deputies in the Reichstag. The Bundesrath and the Reichstag are called together annually by the Emperor, who with the concurrence of the Bundesrath can prorogue the Reichstag, but not without its consent for longer than thirty days, or dissolve it, in which case new elections must take place within sixty days and a new session must begin within ninety days. The imperial ministers act independently of each other, but under the control of the Imperial Chancellor.

The reigning Emperor is Wilhelm II, born Jan. 27, 1859, eldest son of Friedrich III of Prussia and Friedrich I of Germany, eldest son and successor of Wilhelm I, the first German Emperor. Wilhelm II succeeded his father on March 9, 1888. The heir apparent is Prince Friedrich Wilhelm, Crown Prince of the German Empire and of Prussia, born May 6, 1882, eldest son of the Emperor and the Queen-Empress Victoria, who was a princess of Schleswig-Holstein-Sonderburg-Augustenburg. The Chancellor of the Empire was Graf von Bülow in the beginning of 1902, who succeeded Prince Hohenlohe-Schillingfürst on Oct. 17, 1900. The following were the secretaries of state at the head of the several departments: Minister of Foreign Affairs, Baron von Richthofen; Minister of the Interior and Representative of the Chancellor, Graf von Posadowsky-Wehner; Secretary of State for the Imperial Marine, Vice-Admiral von Tirpitz; Minister of Justice, Dr. A. Nieberding; President of the Imperial Railroad Office, Dr. Schulz; President of the Court of Accounts, Herr Magdeburg; President of the Invalid Fund Administration, Dr. Rösing; Secretary of State for the Post-Office, Herr Krätke; Secretary of State for the Imperial Treasury, Baron von Thielmann; President of the Imperial Bank, Dr. Koch. The Emperor can not veto laws passed by both the Bundesrath and the Reichstag. By the Prussian Constitution no bill can become law unless approved by the King. The King nominates the ministers, and they hold office during his pleasure. The legislative bodies in Prussia are the Herrenhaus, or House of Lords, and the Abgeordnetenhaus, or House of Deputies. To the Herrenhaus belong the princes of the house of Hohenzollern, 16 heads of media-tized princely houses, 50 territorial nobles, life peers chosen by the King from great landowners and manufacturers and men appointed for their national celebrity. 8 representative nobles elected by landowners of the old Prussian provinces, representatives of universities, heads of chapters, burgomasters of towns of over 50,000 inhabitants, and an unlimited number of peers nominated by the King for life or for a term of years. The Abgeordnetenhaus contains 433 members, elected for five years by electors, one-third of them chosen by the wealthiest, one-third by the intermediate, and one-third by the poorest class of direct taxpayers, each of which contributes one-

third of the total amount of direct taxes. The ministry of state at the beginning of 1902 was composed as follows: President of the Council of Ministers, the Imperial Chancellor, Graf von Bülow; Minister of Finance, Baron von Rheimbaben; Minister of Public Works, Herr von Thielen; Minister of Worship, Instruction, and Medical Affairs, Dr. Studt; Minister of Agriculture, Domains, and Forests, Herr von Podbielski; Minister of Justice, Dr. Schönstedt; Minister of the Interior, Baron von Hammerstein; Minister of Commerce, Herr Möller; Minister of War, Gen. von Gossler.

Area and Population.—The area of the German Empire is 208,830, and the population, according to the census of Dec. 1, 1900, was 56,367,178, compared with 52,279,901 on Dec. 2, 1895. The area and population of the provinces of Prussia are given in the following table:

PROVINCES.	Square miles.	POPULATION.	
		1895.	1900.
East Prussia.....	14,282	2,006,699	1,996,696
West Prussia.....	9,854	1,494,885	1,568,658
Berlin.....	26	1,677,304	1,888,848
Brandenburg.....	15,381	2,821,695	3,108,554
Pomerania.....	11,638	1,574,147	1,634,532
Posen.....	11,184	1,828,633	1,887,275
Silesia.....	15,566	4,415,809	4,668,637
Saxony.....	9,750	2,668,549	2,882,616
Schleswig-Holstein.....	7,337	1,286,416	1,387,968
Hanover.....	14,869	2,422,020	2,590,939
Westphalia.....	7,803	2,701,430	3,187,777
Hesse-Nassau.....	6,060	1,756,802	1,907,961
Rhine Province.....	10,423	5,106,002	5,759,798
Hohenzollern.....	441	65,762	66,780
Total.....	134,608	31,855,123	34,472,509

The Prussian population was divided into 16,971,456 males and 17,501,084 females, 103.12 females to every 100 males. The town population, 14,844,221, showed an increase of 2.29 per cent. in five years; the country population, 19,624,086, showed an increase of 1.08 per cent. The number of marriages in Prussia during 1899 was 287,408; of births, 1,265,923; of deaths, 761,050; excess of births, 504,873. During 1900 the emigration over sea from Prussia was 12,471. In 1899 the total was 13,747, of whom 1,548 emigrated from Brandenburg and Berlin, 2,293 from Posen, 1,784 from Hanover, 1,449 from West Prussia, 990 from Schleswig-Holstein, 853 from the Rhine Province, 836 from Pomerania, 605 from Hesse-Nassau, 557 from Westphalia, 585 from Silesia, 494 from East Prussia, 463 from Saxony, and 14 from Hohenzollern. Berlin had 1,901,567 inhabitants on Dec. 31, 1901.

Bavaria, with an area of 29,286 square miles, had a population in 1900 of 6,175,153, compared with 5,818,544 in 1895. The population in 1900 comprised 3,027,093 males and 3,148,060 females. The number of marriages in 1899 was 50,783; of births, 230,969; of deaths, 154,165; excess of births, 76,804. The emigration over sea in 1900 was 2,074, compared with 2,140 in 1899.

The Kingdom of Saxony, with an area of 5,787 square miles, had 4,199,758 inhabitants on Dec. 1, 1900, compared with 3,787,618 in 1895. There were 2,042,437 males and 2,157,321 females in 1900, a ratio of 105.6 females to 100 males. Of the population in 1900, the proportion living in towns was 50.01 per cent. The number of marriages in 1899 was 38,980; of births, 164,164; of deaths, 99,609; excess of births, 64,555. The emigration over sea in 1900 was 876, compared with 1,057 in 1899.

Württemberg has an area of 7,503 square miles, and had on Dec. 1, 1900, a population of 2,169,-

434, it having increased from 2,081,151 in 1895, an average of 0.81 per cent. per annum. The number of marriages in 1900 was 17,102; of births, 76,637; of deaths, 49,119; excess of births, 26,318. The emigration in 1900 was 1,160, compared with 1,250 in 1899.

The area of Baden is 5,823 square miles. The population in 1900 was 1,866,584, against 1,725,464 in 1895, which shows an increase of 1.585 per cent. per annum. There were 925,670 males and 940,914 females in 1900, being 101.65 females to 100 males. The number of marriages in 1900 was 15,491; of births, 65,261; of deaths, 43,277; excess of births, 21,984.

The Grand Duchy of Hesse in 1900, with an area of 2,966 square miles, had 1,119,893 inhabitants, 558,240 males and 561,653 females, the increase over 1,039,020 in 1895 having been at the rate of 1.56 per cent. per annum. There were 19,671 marriages, 36,848 births, and 22,100 deaths in 1900; excess of births, 14,748.

The Grand Duchy of Mecklenburg-Schwerin has an area of 5,135 square miles. The population in 1900 was 607,835, against 597,436 in 1895. There were 300,419 males and 307,416 females, 102.3 females to 100 males. The number of emigrants over the ocean in 1900 was 168, against 231 in 1899.

The Grand Duchy of Saxe-Weimar has an area of 1,388 square miles. The population in 1900 was 362,018, composed of 176,650 males and 185,368 females. In 1895 the total population was 339,217. The number of marriages in 1900 was 3,051; of births, 12,322; of deaths, 6,969; excess of births, 5,353; emigration, 86, against 20 in 1899.

The Grand Duchy of Mecklenburg-Strelitz, having an area of 1,131 square miles, had in 1900 a population of 102,628, composed of 50,080 males and 51,758 females. The population in 1895 was 101,540. The number of marriages in 1899 was 898; of births, 3,103; of deaths, 2,324; excess of births, 779; emigration, 12 in 1900, against 21 in 1899.

Oldenburg, including the principalities of Lütbeck and Birkenfeld, with an area of 2,479 square miles, had in 1900 a population of 399,183, divided into 198,307 males and 200,876 females, against a total of 373,739 in 1895. The number of marriages in 1900 was 3,422; of births, 14,312; of deaths, 8,281; excess of births, 6,031; emigration, 269 in 1899 and 255 in 1900.

Brunswick, which has an area of 1,424 square miles, increased in population at a rate per annum of 1.39 per cent. from 434,213 in 1895 to 464,333 in 1900, divided into 230,288 males and 234,045 females. There were 4,066 marriages, 15,642 births, and 9,295 deaths in 1900; excess of births, 5,848; emigration over sea, 112 in 1899 and 68 in 1900.

The Duchy of Saxe-Meiningen, with an area of 953 square miles, had 234,005 inhabitants in 1895 and 250,683 in 1900, divided into 123,027 males and 127,656 females. The number of marriages in 1899 was 2,185; of births, 8,772; of deaths, 4,939; excess of births, 3,833; emigration, 56 in 1899 and 49 in 1900.

The Duchy of Saxe-Altenburg, having an area of 511 square miles, had 180,313 inhabitants in 1895 and 194,914 in 1900, the latter number composed of 95,796 males and 99,118 females. There were 1,744 marriages, 7,720 births, and 4,831 deaths in 1899; excess of births, 2,889; emigration, 31 in 1899 and 17 in 1900.

The area of the Duchy of Saxe-Coburg and Gotha is 755 square miles. The population in 1895 was 216,613 and in 1900 it had increased

to 229,550, divided into 110,923 males and 118,627 females. There were 1,998 marriages, 7,938 births, and 4,729 deaths in 1899; excess of births, 3,209; emigration, 42 in 1899 and 46 in 1900.

Anhalt, having an area of 906 square miles, had 293,298 inhabitants in 1895 and 316,027 in 1900, composed of 155,162 males and 160,865 females. There were 2,790 marriages, 10,813 births, and 6,292 deaths in 1900; excess of births, 4,521; emigration, 43 in 1899 and 33 in 1900.

Schwarzburg-Sondershausen, which has an area of 333 square miles, had 78,074 inhabitants in 1895 and 80,898 in 1900, divided into 39,508 males and 41,390 females. There were 691 marriages, 2,645 births, and 1,674 deaths in 1899; excess of births, 971; emigration, 21 in 1899 and 14 in 1900.

The area of Schwarzburg-Rudolstadt is 363 square miles and its population in 1900 was 93,059, composed of 45,259 males and 47,800 females, compared with a total in 1895 of 88,685. There were 831 marriages, 3,212 births, and 1,831 deaths in 1899; excess of births, 1,381; emigration, 22 in 1899 and 18 in 1900.

Waldeck has an area of 433 square miles and had 57,766 inhabitants in 1895 and 57,918 in 1900, divided into 27,935 males and 29,983 females. There were 418 marriages, 1,783 births, and 1,156 deaths in 1899; excess of births, 627; emigration, 24 in 1899 and 19 in 1900.

Reuss-Greiz has an area of 122 square miles and had in 1900 a population of 68,396, of whom 32,521 were males and 35,875 females, compared with 67,468 in 1895. There were 550 marriages, 2,673 births, and 1,604 deaths in 1899; excess of births, 1,069; emigration, 52 in 1899 and 103 in 1900.

Reuss-Schleiz, with an area of 319 square miles, had 138,993 inhabitants in 1900, consisting of 66,554 males and 72,439 females, against a total of 132,130 in 1895. There were 1,215 marriages, 5,671 births, and 3,434 deaths in 1899; excess of births, 2,237; emigration, 73 in 1899 and 112 in 1900.

The Principality of Schaumburg-Lippe has an area of 131 square miles, and in 1900 had a population of 43,132, of whom 21,449 were males and 21,683 females, compared with 41,224 population in 1895. There were 352 marriages, 1,264 births, and 689 deaths in 1899; excess of births, 575; emigration over sea, 11 in 1899 and 6 in 1900.

Lippe, which has an area of 469 square miles, had a population of 134,854 in 1895 and 139,238 in 1900, divided into 67,113 males and 72,125 females. The number of marriages in 1900 was 1,249; of births, 4,968; of deaths, 2,515; excess of deaths, 2,453; emigrants, 8 in 1899 and 3 in 1900.

The Hanseatic town Lübeck, possessing a territory 115 square miles in extent, had a population in 1900 of 96,775, composed of 47,784 males and 48,991 females, against a total of 83,324 in 1895. The number of marriages in 1900 was 828; of births, 3,070; of deaths, 1,831; excess of births, 1,239; emigrants, 87 in 1899 and 35 in 1900.

The free city of Bremen, which possesses 99 square miles of territory, increased in population from 196,404 in 1895 to 224,882 in 1900, divided into 111,014 males and 113,868 females. The number of marriages in 1900 was 2,086; of births, 7,046; of deaths, 4,015; excess of births, 3,031; emigration, 371 in 1899 and 317 in 1900.

The Hanseatic free city Hamburg, embracing a territory of 158 square miles, had in 1900 a population of 705,738 in the city and 62,611 in the country; total, 768,349, consisting of 375,811 males and 392,528 females, compared with 681,632

in 1895. The population in 1900 included 14,509 foreigners, of whom 3,595 were Austrians, 2,099 Swedes and Norwegians, 2,424 Danes, 1,520 British, 3,240 from other countries of Europe, 1,631 from other parts of the world, and 288 unknown. There were 6,442 marriages, 22,980 births, and 13,989 deaths in 1900; excess of births, 8,991.

The Reichsland Alsace-Lorraine has an area of 14,513 square miles. The population in 1900 was 1,719,470, compared with 1,640,986 in 1899. It consisted of 880,437 males and 839,033 females. The number of marriages in 1900 was 13,034; of births, 53,338; of deaths, 38,184; excess of births, 15,154. The number of emigrants over the ocean was 255 in 1900, compared with 171 in 1899.

The increase of population for the whole empire between 1895 and 1900 was 4,087,277. The total number of marriages in 1899 was 471,519; of births, 2,045,286; of deaths, 1,250,179; excess of births, 795,107. The total emigration in 1900 was 22,309, of whom 1,388 were bound for England, 19,703 for the United States, 364 for Brazil, 474 for other American countries, 183 for Africa, 1 for Asia, and 196 for Australia. Of the German emigrants who embarked at German, Belgian, and Dutch ports, 11,114 were males and 9,257 females. There were 2,440 families, comprising 8,387 individuals. The total number of emigrants who embarked at German ports during 1900 was 176,819, of whom 16,690 were Germans and 160,129 were of other nationalities. The number of Protestants in the empire in 1900 was 35,231,104, having increased from 31,026,810 in 1890, or 13.6 per cent.; the number of Roman Catholics increased in the decade from 17,674,921 to 20,327,913, or 15 per cent.; the Jews increased from 567,884 to 586,948, only 3.4 per cent. The number of Protestants per 1,000 is 625; of Catholics, 361; of Jews, 10; of members of other creeds or unreported, 4.

Finances.—The ordinary revenue for the year ending March 31, 1902, was estimated at 2,105,326,000 marks, and extraordinary revenue at 206,654,000 marks; total revenue, 2,311,923,000 marks. The ordinary expenditure was estimated in the budget at 1,914,923,000 marks, and extraordinary expenditure at 429,663,000 marks; total, 2,344,586,000 marks. Of the ordinary revenue customs and excise receipts were estimated at 810,331,000 marks and stamp-duties at 114,020,000 marks, together 924,351,000 marks; receipts of the post-office and telegraphs were estimated at 420,163,000 marks; from the printing-office, 7,777,000 marks; from railroads, 93,676,000 marks; from the Bank of the Empire, 14,714,000 marks; receipts of various departments, 26,465,000 marks; interest of the invalid fund, 30,449,000 marks; various receipts, 390,600 marks; matricular contributions of the states, 570,933,000 marks; other contributions, 16,408,000 marks. Of the matricular contributions, Prussia was required to pay 349,735,000 marks; Bavaria, 61,935,000 marks; Saxony, 42,672,000 marks; Württemberg, 21,851,000 marks; Baden, 18,944,000 marks; Hesse, 11,368,000 marks; Mecklenburg-Schwerin, 6,146,000 marks; Saxe-Weimar, 3,671,000 marks; Mecklenburg-Strelitz, 1,037,000 marks; Oldenburg, 4,041,000 marks; Brunswick, 4,708,000 marks; Saxe-Meiningen, 2,543,000 marks; Saxe-Altenburg, 1,971,000 marks; Saxe-Coburg-Gotha, 2,327,000 marks; Anhalt, 3,206,000 marks; Schwarzburg-Sondershausen, 816,000 marks; Schwarzburg-Rudolstadt, 938,000 marks; Waldeck, 585,000 marks; Reuss of the senior line, 690,000 marks; Reuss of the junior line, 1,408,000 marks; Schaumburg-Lippe, 437,000 marks; Lippe, 1,409,000 marks; Lübeck, 986,000 marks; Bremen,

2,287,000 marks; Hamburg, 7,815,000 marks; Alsace-Lorraine, 17,407,000 marks. The matricular contributions are assessed on the states in proportion to their population; the rate per capita is fixed in each annual budget. Of the ordinary, or recurring, expenditure, 756,000 marks were for the Reichstag, 233,000 marks for the Imperial Chancellery, 13,311,000 marks for the Ministry of Foreign Affairs, 54,575,000 marks for the Ministry of the Interior, 559,628,000 marks for the army, 79,896,000 marks for the navy, 2,133,000 marks for the Ministry of Justice, 578,196,000 marks for the imperial treasury, 394,000 marks for railroads, 88,543,000 marks for the debt of the empire, 915,000 marks for the auditing office, 70,995,000 marks for the pension fund, 30,450,000 marks for the invalid fund, 364,269,000 marks for posts and telegraphs, 5,614,000 marks for the printing-office, and 65,015,000 marks for railroads. The surplus of the customs, tobacco, stamp, and spirit duties returned to the states was 570,933,000 marks. The total expenditure on the army, ordinary and extraordinary, amounted to 673,656,000 marks; on the navy, 207,484,000 marks. For the year ending March 31, 1903, the matricular contributions were increased 24,000,000 marks and a loan of 35,000,000 marks was proposed to balance the estimated total expenditure, recurring and non-recurring, of 2,349,742,456 marks.

The funded debt of the empire on March 31, 1900, amounted to 2,298,500,000 marks, of which 1,240,000,000 marks consisted of 3½-per-cent. loans, and 1,058,500,000 marks were later loans paying 3 per cent. which had increased 116,253,000 marks since March 31, 1898. There were 120,000,000 marks of treasury bills outstanding and 120,000,000 marks of paper money. The invalid fund on March 31, 1899, amounted to 390,967,654 marks, and the Government held a war fund of 120,000,000 marks, hoarded in gold.

The amount of gold coin minted since the beginning of the empire was 3,701,171,400 marks, of which 39,198,800 marks had been withdrawn before the end of 1900, leaving 3,661,972,600 marks in circulation. The amount of silver coined up to the close of 1902 was 565,176,900 marks, of which 28,747,100 marks had been withdrawn, leaving 536,429,800 marks in circulation. The amount of nickel coins issued and not recalled was 68,549,700 marks, and that of copper coins was 15,403,600 marks, making a total coinage of 4,282,355,700 marks outstanding. The amount of bank-notes in circulation was 1,313,855,000 marks, protected by 899,630,000 marks of coin and bullion.

The budgets and debts of the individual states for 1902, or in some cases for 1901, are given in marks in the table on page 282.

The budgets include the contributions of the states to the common expenditure of the empire. In Alsace-Lorraine there was also an extraordinary revenue of 4,452,464 marks, and an expenditure of 4,969,350 marks. More than half the revenue comes from customs and excise, and there is a large expenditure for education. The expenditure of Anhalt for the empire was 28,530,300 marks. The state property was valued at 9,211,839 francs. The whole debt of Baden was incurred for railroads, and three-quarters of the Bavarian debt. The debt of Bremen was incurred for railroads and harbor works. The budget of Brunswick does not include the civil list of the duke, which is 1,125,000 marks, nor the fund for schools, arts, and sciences, out of which there was an expenditure of 2,670,000 marks. The statement of the debt, which was raised for railroads,

does not include an annual payment of 1,219,740 marks on a premium loan which will be extinguished in 1924. The property of the state in domains and forests and in funds is valued at 40,900,000 marks, not including an annuity of 2,625,000 marks to be paid till 1932 for the railroads, which were turned over to the German Government. The debt of Hamburg, contracted for public works, required the payment of 15,305,600 marks in 1901, and for education 10,361,944 marks were spent. To meet these heavy charges an income tax is levied that amounts to 30 marks per capita.

The debt of Hesse, contracted for railroads which return a profit, is no burden, and taxation is light in this grand duchy, which possesses valuable domains. In Lübeck half the revenue is derived from direct taxation, and the rest mainly from interest, domains, and railroads. In Mecklenburg-Schwerin, apart from the budget of common expenses of the Grand Duke and the states, the Grand Duke has a separate income of 22,625,000 marks, which is largely devoted to public purposes. The state railroads and interest on invested funds more than defray the debt charge. The accounts of Mecklenburg-Strelitz are not published. The estimates of the Prussian revenue for the year ending March 31, 1902, were 99,135,424 marks from domains, 213,186,300 marks from direct taxes, 87,604,000 marks from indirect taxes, 88,282,500 marks from the lottery, 1,743,900 marks from the Marine Bank, 554,500 marks from the mint, 192,316,080 marks from mines, furnaces, and salt-works, 1,442,025,359 marks from railroads, 391,039,565 marks from the finance administration, and 134,166,978 marks from the state administration. The expenditures were estimated at 46,653,470 marks for agriculture, domains, and forests, 131,609,300 marks for finance, 168,522,050 marks for the administration of mines, furnaces, and salt-works, 875,678,390 marks for the administration of railroads, 8,000,000 marks for addition to the Crown dotation, 232,045,947 marks for interest on the public debt, including railroad debt, 39,616,814 marks for the sinking-fund of the debt, 1,423,230 marks for annuities, etc., 213,915 marks for the Herrenhaus, 1,675,516 marks for the Chamber of Deputies, 348,368,038 marks for matricular contribution to imperial expenditure, 68,822,136 marks for appanages, indemnities, and annuities, 10,441,403 marks for the Ministry of State, 553,600 marks

for the Ministry of Foreign Affairs, 104,794,968 marks for the Ministry of Finance, 31,862,958 marks for the Ministry of Public Works, 13,334,541 marks for the Ministry of Commerce and Industry, 115,060,358 marks for the Ministry of Justice, 72,060,358 marks for the Ministry of the Interior, 24,220,282 marks for the Ministry of Agriculture, Domains, and Forests, 145,152,437 marks for the Ministry of Public Worship and Instruction, 139,058 marks for the Ministry of War, and 217,531,804 marks for extraordinary expenditure. The public debt of Prussia consists of 5,500,430,900 marks of consolidated debt paying 3½ per cent. interest, 977,397,400 marks paying 3 per cent., 119,845,259 marks of railroad debt, and 5,128,907 marks of debts assumed on the annexation of provinces. Saxe-Altenburg had in 1901 funds amounting to 5,002,686 marks, and two-thirds of its revenue was derived from domains. Saxe-Coburg and Gotha have separate legislative chambers and separate budgets. The domain revenue of Coburg in 1902 was 444,875 marks, and expenditure 260,885 marks; the state revenue of Coburg was 1,084,100 marks, and expenditure the same; the domain revenue of Gotha was 1,933,900 marks, and expenditure 1,179,100 marks; the state revenue and expenditure of Gotha was 2,329,980 marks; the common revenue of the two duchies was 3,097,420 marks, and expenditure 3,757,620 marks. The debt of Coburg was 2,569,000 marks; that of Gotha was 2,146,558 marks. A third of the revenue of Saxe-Meiningen is derived from domains, and most of the debt has been incurred for profitable public works. Domains and investments exceed the debt of Saxe-Weimar. The revenue and expenditure of Saxony as stated does not include an extraordinary revenue of 112,783,186 marks, which was expended on public works. The whole debt of this kingdom was incurred for railroads, telegraphs, and other public works, the Government having invested 967,206,084 marks in railroads alone. From the railroads and from domains and forests is derived more than half of the state revenue. In Württemberg a third of the revenue is derived from forests, farms, mines, furnaces, and salt-works, and the railroads, posts, and telegraphs. The debt was incurred mainly from railroads, the net income from which amounts to 92 per cent. of the interest of the whole debt.

The sum of annual revenues of all the German states is estimated at 4,292,000,000 marks, including 138,000,000 marks of extraordinary revenue. Their combined expenditure is estimated at 4,316,000,000 marks, including 165,000,000 marks of extraordinary expenditure. The empire and the federated states together raise an annual revenue of 6,762,000,000 marks, including 344,000,000 marks from extraordinary sources, and their combined expenditure amounts to 6,786,000,000 marks, including 381,000,000 marks for extraordinary purposes. The indebtedness of the federated states amounts to 10,987,000,000 marks. Including the debt of the empire, the German public debts amount to 13,383,000,000 marks, of which 13,119,000,000 marks are consolidated debt. The total debt is 237 marks per capita, and the annual cost for interest, amortization, and administration is 9.57 marks per capita.

The Army.—The peace strength of the German army in 1901 was as follows: 216 regiments of infantry, numbering 12,073 officers and 367,478 men; 18 battalions of rifles, numbering 388 officers and 11,182 men; 5 machine-gun divisions, numbering 15 officers and 335 men, with 216 horses; 293 district commands, numbering 917 officers and 5,782 men; 2,565 surgeons and pay-

masters; 93 regiments of cavalry, numbering 2,433 officers and 66,849 men, with 65,789 horses; 825 cavalrymen in special services; 94 regiments of field-artillery, numbering 3,060 officers and 65,260 men, with 33,383 horses, forming 494 field-batteries, of which 47 are mounted, each of 4 guns, except the batteries attached to infantry divisions, which have the war complement of 6 guns; 996 artillery in special services; 18 regiments of foot-artillery, numbering 895 officers and 22,977 men, with 43 horses; 137 foot-artillery in special services; 26 battalions of pioneers, numbering 595 officers and 15,419 men; 103 pioneers in special services; 3 railroad regiments, 1 railroad battalion, 2 balloon detachments, and 2 railroad companies, numbering altogether 251 officers and 6,417 men; 49 railroad troops in special services; 23 battalions of train, numbering 331 officers and 8,238 men, with 5,655 horses; 74 men in special train services; 558 officers and 4,957 men in special formations; and 2,629 non-regimental officers, with 380 men; total, 24,145 officers and 580,023 men, with 104,485 horses. There are besides about 8,000 volunteers for one year, who serve at their own expense. The infantry battalion, which contains 544 men in time of peace, is increased to 1,002 in war time by calling out the reserves. The Prussian guards and the regiments garrisoned in Alsace-Lorraine have 686 men in each battalion on the peace footing. In time of peace 3 battalions form a regiment, 2 regiments a brigade, 2 brigades a division, to which are attached 4 squadrons of cavalry, 4 batteries, and 1 battalion of rifles or of pioneers; and 2 infantry divisions, with 1 division of 4 regiments of cavalry, to which 2 batteries of horse-artillery are attached, and 6 field-batteries and 1 mounted battery of artillery form an army corps. There are 23 army corps, each of which is organized and equipped so as to be able to take the field as an independent army.

The Navy.—The German navy in the beginning of 1902 comprised 10 first-class battle-ships, 5 of the second class, 2 armored cruisers, 8 old battle-ships, 19 coast-defense ironclads, 16 protected cruisers, 7 torpedo-gunboats, 27 destroyers, and 47 first-class and 96 second-class torpedo-boats. There were building 2 battle-ships, 1 armored cruiser, 1 coast-defense vessel, 2 armored cruisers, and 16 destroyers. The Wittelsbach, Mecklenburg, Zähringen, Wettin, and Schwaben, of 12,000 tons, are the newest and largest battle-ships; yet they have no large guns, but only quick-firers, 4 9.4-inch, 18 6-inch, 12 3.4-inch, and numerous smaller ones. Their engines of 13,000 horse-power can make 18 knots. Their hulls are protected with 10-inch Krupp armor, and most of their guns are placed in armored batteries amidships. Two new ships that have been ordered will carry 4 11-inch and 18 6.7-inch guns. The armored cruiser Prinz Heinrich, launched in 1900, having a displacement of 8,868 tons, is protected on the sides with 6-inch armor, carries 2 9.4-inch guns and 10 6-inch quick-firers, the latter placed amidships and protected with 4.6-inch Krupp armor, and is engined for 20 knots with 15,000 horse-power. A sister ship under construction will have 8-inch quick-firers in the main battery. The Kaiser Wilhelm der Grosse, Kaiser Barbarossa, and Kaiser Karl der Grosse, launched in 1899 and 1900, of 11,180 tons, have 11½-inch armor at the water-line, an armament of 4 9.4-inch Krupp breech-loaders and 12 6-inch, 10 3.4-inch, and 18 small quick-firers, and has engines of 13,000 horse-power capable of making 18 knots. The Freya, Hertha, Victoria Luise, Vineta, and Hansa are protected cruisers of 5,650 tons, with

4-inch deck armor, a speed of 18½ knots with engines of 10,000 horse-power, and an armament of 2 8.2-inch, 8 6-inch, and 10 3.4 inch quick-firers. The Gazelle, Niobe, Nymphe, Ariadne, Amazone, Medusa, and Thetis, of 2,650 tons, have 2-inch armor decks and carry 10 4-inch quick-firers. The first three, with engines of 6,000 horse-power, can steam 19½ knots; the others, with engines of 7,000 horse-power, are able to make 21 knots. Others of this class are to be built strong enough, with 2,715 tons displacement, to hold engines that can make 24 knots. In German vessels guns are mounted in every available spot, and the aim is to concentrate the heaviest possible fire on the enemy. In the later vessels more attention is paid to gun protection, which is secured by armored casemates. The newer ships carry in their secondary batteries 6.7-inch quick-firing guns of the model adopted in 1901. Concerted action of the torpedo fleet has been studied more than in any other navy and very difficult maneuvers are practised. The Government subsidizes 7 fast liners of the Hamburg-American and North German Lloyd companies in order that they shall be held in readiness to act as auxiliary cruisers in case of war. The maritime population of the German seaboard is exempt from service in the army, but owes service in the navy. Inducements are held out to capable and experienced sailors to volunteer; and the navy does not lack recruits of such material. Besides 48,000 German sailors employed in the merchant fleet and 6,000 in the merchant service of other countries, there are 26,000 fishermen and others available for the navy.

The naval program of 1900, to be completed by 1920, contemplated a fleet of 2 double squadrons, each composed of 16 battle-ships, 8 large cruisers, and 24 small cruisers, for service in home waters, in addition to which there should be 8 large and 15 small cruisers for service in foreign waters, and a reserve of 4 battle-ships and 4 large and 6 small cruisers; but owing to the opposition of the Center the number of vessels for foreign service was reduced to 3 large and 10 small cruisers, and the reserve to 4 battle-ships and 3 large and 4 small cruisers. The bill provided that 2 battle-ships and 1 large and 3 small cruisers should be begun every year till 1905. In 1902 an addition to the law of 1900 was announced, to be laid before the Reichstag in 1904, which will allow for the construction of a greater number of vessels for foreign service and for larger recurrent expenditure in order to put the new ships into commission.

Commerce and Production.—The production of wheat in 1901 from 2,049,160 hectares was 3,841,165 metric tons; of rye from 5,954,973 hectares, 8,550,659 tons; of barley from 1,670,033 hectares, 3,002,182 tons; of oats from 4,122,818 hectares, 7,091,930 tons; of potatoes from 3,218,777 hectares, 40,585,317 tons; of hay from 5,912,122 hectares, 23,116,276 tons. Vineyards covered 119,249 hectares. The area under hops was 37,191 hectares. The number of agricultural holdings in 1895 was 5,558,317, covering 43,284,742 hectares, supporting 18,068,663 persons, the number of workers being 8,156,045. The number of horses in Germany on Dec. 1, 1900, was 4,184,099; of cattle, 19,001,106; of sheep, 9,672,143; of hogs, 16,758,436. In Prussia there were 2,913,003 horses, 10,865,296 cattle, 6,989,430 sheep, and 10,954,002 hogs; in Bavaria, 384,869 horses, 3,550,089 cattle, 748,470 sheep, and 1,736,761 hogs; in Saxony, 166,713 horses, 687,587 cattle, 74,518 sheep, and 576,825 hogs; in Alsace-Lorraine, 142,787 horses, 501,804 cattle, 83,085 sheep, and 440,936 hogs; in Württemberg, 112,129

horses, 1,017,683 cattle, 315,965 sheep, and 512,485 hogs; in Baden, 75,395 horses, 651,664 cattle, 67,828 sheep, and 497,917 hogs; in other German states, 389,203 horses, 1,726,983 cattle, 67,828 sheep, and 497,917 hogs.

The forests cover 34,473,000 acres, over 25 per cent. of the total area of Germany. The chief mining districts of Germany are the coal and iron fields of Westphalia, the Rhine Province, and Silesia in Prussia and those of Lorraine. In Saxony there are coal, iron, and silver mines. Silver and copper are mined in the Harz mountains, and Silesia has zinc-mines. The total production of coal in 1900 was 109,271,700 tons; of brown coal, 40,279,300 tons; of iron ore, 18,964,400 tons; of zinc ore, 639,200 tons; of lead ore, 148,200 tons; of copper ore, 747,800 tons; of rock salt, 927,800 tons; of salts of potash, 3,052,900 tons; of other minerals, 401,800 tons; total value of minerals produced in Germany and Luxembourg, 1,262,000,000 marks. The quantity of pig iron smelted in 1899 was 8,143,132 metric tons; of zinc, 153,155 tons; of lead, 129,225 tons; of copper, 34,634 tons; of silver, 468 tons; of tin, 1,481 tons; production of sulfur and sulfuric acid, 834,329 tons. The value of pig iron was 455,875,000 marks; of zinc, 72,951,000 marks; of lead, 37,260,000 marks; of copper, 50,076,000 marks; of silver, 37,832,000 marks; of tin, 3,483,000 marks; of sulfur and sulfuric acid, 23,092,000 marks. There were 2,605 kilograms of gold extracted, value 7,259,000 marks. The production of nickel, bismuth, and vitriol and chemical manufactures was 37,900 tons, valued at 13,215,000 marks. The total value of foundry products was 701,043,000 marks. The production of manufactured iron in 1899 was 9,309,402 tons, value 1,355,995,000 marks. There were 286,597 men employed in the manufacture of iron and steel and 423,320 in the coal-mines. The imports of iron and iron manufactures in 1901 were 582,455 tons less, and those of machinery, tools, and vehicles 37,961 tons less than in 1900, whereas exports increased respectively 798,683 and 6,188 tons. The number of boats engaged in the North Sea fisheries in 1901 was 541, of 35,951 tons, with 3,847 men in the crews. The exports of fresh fish in 1900 were 4,250,000 marks in value, while 25,867,000 marks' worth of fresh fish, 38,016,000 marks' worth of salt herrings, and 8,476,000 marks' worth of other salted, dried, and canned fish were imported. There were 399 sugar factories in 1899, which consumed 12,439,301 metric tons of beet-roots, producing 1,691,258 tons of raw sugar and 307,133 tons of molasses. The production of refined sugar in 1900 was 1,215,205 tons. In 26 starch factories were produced 8,681 tons of dry sugar, 35,905 tons of sirup, and 4,976 tons of color. The production of beer in 1899 was 69,299,000 hectoliters, of which 49,209,000 hectoliters were brewed in the imperial excise district, 17,739,000 hectoliters in Bavaria, 4,128,000 hectoliters in Württemberg, 3,095,000 hectoliters in Baden, and 1,128,000 hectoliters in Alsace-Lorraine. There were 59,024 distilleries in 1900, which produced 3,667,820 hectoliters of alcohol.

The total value of special imports in 1901 was 5,967,017,000 marks, and of special exports 4,759,407,000 marks. In 1900 the value of imports in the special trade was 6,042,992,000 marks, and that of exports 4,752,601,000 marks. The imports of live animals in 1900 were 178,443,000 marks in value, and exports 21,114,000 marks; imports of animal products were 211,063,000 marks, and exports 41,547,000 marks; imports of articles of consumption were 1,584,429,000 marks, and exports 496,467,000 marks; imports

of seeds and plants were 66,925,000 marks, and exports 43,268,000 marks; imports of fuel were 222,157,000 marks, and exports 286,216,000 marks; imports of fats and oils were 359,958,000 marks, and exports 36,630,000 marks; imports of chemicals, drugs, and colors were 331,365,000 marks, and exports 397,617,000 marks; imports of stone, clay, and glass were 90,715,000 marks, and exports 201,635,000 marks; imports of metals and metal goods were 768,216,000 marks, and exports 783,282,000 marks; imports of wood and wood manufactures were 337,275,000 marks, and exports 169,582,000 marks; imports of paper and paper manufactures were 31,290,000 marks, and exports 131,350,000 marks; imports of textile materials and manufactures were 1,273,311,000 marks, and exports 1,098,750,000 marks; imports of leather and leather manufactures were 281,544,000 marks, and exports 266,293,000 marks; imports of rubber and rubber goods were 86,368,000 marks, and exports 64,775,000 marks; imports of railroad materials and rolling-stock were 9,615,000 marks, exports 37,885,000 marks; imports of hardware, etc., were 27,713,000 marks, and exports 163,305,000 marks; imports of books and works of art were 44,292,000 marks, and exports 157,875,000 marks; miscellaneous exports were 10,746,000 marks in value. The total value of dutiable imports was 2,961,207,000 marks, paying in duties 521,113,000 marks, an average rate of 17.6 per cent.; value of imports free of duty, 3,081,785,000 marks. The imports of horses were 77,556,000 marks in value; of hogs, 5,088,000 marks; of wheat the value of 171,117,000 marks was imported; of rye, 96,049,000 marks; of barley, 92,484,000 marks. Imports of coffee were 155,828,000 marks. The value of petroleum imports was 77,240,000 marks. The imports of hides and skins amounted to 163,932,000 marks. The imports of raw cotton were in value 340,735,000 marks; of raw wool, 261,645,000 marks; of woolen yarn, 110,575,000 marks; of raw silk, 108,244,000 marks. The value exported of cotton cloth was 88,715,000 marks, not including fine goods; of mixed silk and cotton cloth, 110,410,000 marks; of woolen cloth, 166,389,000 marks; of hosiery, 97,238,000 marks; of trimmings, etc., 131,668,000 marks. Exports of leather goods were 72,793,000 marks in value; of paper, 74,128,000 marks. Wood manufactures were exported to the amount of 84,677,000 marks. The export of aniline dyes was 77,289,000 marks. The value of sugar exports was 216,338,000 marks; exports of hops, 25,286,000 marks. Coal and coke were exported to the amount of 272,707,000 marks. The imports from and exports to various countries in the special trade of 1900 were valued in marks as given in the table on page 285.

The imports of gold and silver coin and bullion in 1900 amounted to 257,962,000 marks, and exports to 140,718,000 marks, against 280,984,000 marks of imports and 160,621,000 marks of exports for 1899. The quantity of merchandise imports in 1901 was 44,304,857 metric tons, against 44,911,799 tons in 1900, and that of exports was 2,909,648 tons, against 2,638,407 tons. The values of imports showed a decrease of 75,975,000 marks, or 1.255 per cent., while the exports increased 6,806,000 marks, or 0.144 per cent., in value.

Navigation.—The number of vessels in both foreign and coasting trades entered at German ports in 1899 was 88,646, of 17,990,051 tons, of which 77,414, of 16,786,697 tons, had cargoes and 11,232, of 1,203,354 tons, were in ballast; the number cleared was 89,329, of 18,026,371 tons, of which 65,839, of 12,323,746 tons, carried cargoes

COUNTRIES.	Imports.	Exports.
German free ports.....	82,824,000	82,824,000
Great Britain.....	80	812,775,000
North America.....	80	688,874,000
Austria-Hungary.....	80	810,730,000
Russia.....	80	329,183,000
South America.....	80	305,084,000
Netherlands.....	80	285,084,000
France.....	80	278,504,000
Belgium.....	80	253,106,000
Switzerland.....	80	202,054,000
Norway and Sweden.....	80	202,054,000
Italy.....	80	127,311,000
British India.....	80	69,948,000
Denmark.....	80	128,316,000
Australia.....	80	60,046,000
Balkan Peninsula.....	80	79,808,000
Africa.....	80	72,287,000
Spain.....	80	64,229,000
Portugal.....	80	20,908,000
Other countries in Asia.....	80	180,200,000
All other countries.....	80	473,000
Total.....	8,042,992,000	4,722,601,000

and 23,490, of 5,702,625 tons, sailed in ballast. Of the total number entered with cargoes 58,800, of 9,457,549 tons, were German and 18,515, of 7,329,148 tons, were foreign, including 5,034 British, of 4,197,777 tons, 4,142 Swedish, of 910,678 tons, 4,810 Danish, of 843,529 tons, 1,462 Norwegian, of 661,639 tons, 2,241 Dutch, of 281,718 tons, and 616 Russian, of 220,101 tons. Of the number entered in ballast, 8,905, of 796,915 tons, were German and 2,327, of 406,439 tons, were foreign, including 180 British, of 155,500 tons, 1,225 Danish, of 81,591 tons, 67 Norwegian, of 48,912 tons, 216 Swedish, of 47,852 tons, 549 Dutch, of 32,847 tons, and 35 Russian, of 17,309 tons. Of the total number cleared with cargoes, 82,561, of 8,148,081 tons, were German and 13,278, of 4,175,665 tons, were foreign, including 2,906 British, of 1,091,666 tons, 2,812 Swedish, of 679,065 tons, 4,363 Danish, of 600,480 tons, 814 Norwegian, of 316,556 tons, 1,747 Dutch, of 230,174 tons, and 398 Russian, of 155,565 tons. Of those cleared in ballast, 15,984, of 2,160,670 tons, were German and 7,506, of 3,541,946 tons, were foreign, of which latter, 2,212, of 2,332,852 tons, were British, 725, of 385,745 tons, were Norwegian, 1,536, of 281,057 tons, were Swedish, 1,679, of 256,267 tons, were Danish, 253, of 87,979 tons, were Russian, and 1,016, of 84,016 tons, were Dutch.

The merchant navy on Jan. 1, 1901, consisted of 391 sailing vessels, of 31,454 tons, and 452 steamers, of 192,315 tons, in the Baltic, and 2,102 sailing vessels, of 562,316 tons, and 938 steamers, of 1,155,580 tons, belonging to North Sea ports; total, 2,493 sailing vessels, of 593,770 tons, and 1,390 steamers, of 1,347,875 tons, counting only vessels above 17.05 tons. Of the sailing vessels 673 and of the steamers 1,381 were made of iron or steel. There were 22,564 vessels engaged in the coasting-trade and inland navigation in 1898.

Railroads, Posts, and Telegraphs.—The railroad network of the German Empire in 1899 had a total length of 31,492 miles, all the property of either the imperial or state governments excepting 3,060 miles. There were 1,064 miles of narrow-gauge railroads, of which the Government owned 483 miles. The capital cost of the railroads was 12,497,138,000 marks; receipts, 1,964,963,000 marks in 1899; expenses, 1,202,642,000 marks. In April, 1901, there were 32,205 miles of completed railroad, including narrow gauge. The freight traffic in 1899 amounted to 322,544,620 metric tons, which paid 1,221,313,738 marks; the number of passengers was 812,535,709, who paid \$13,088,652 marks, besides 171,412 soldiers.

The imperial post-office in 1900 carried 1,008,066,862 letters, 526,544,518 postal cards, 855,972,346 pieces of printed matter, 4,765,862 business papers, 56,298,366 samples, and 1,161,782,015 newspapers, and the amount of money remittances was 25,033,627,933 marks; receipts, 394,542,596 marks; expenses, 382,760,515 marks. The Bavarian post-office traffic was 173,754,930 letters, 59,969,440 postal cards, 72,627,286 printed enclosures, 199,320 business papers, 4,800,480 samples, 213,480,659 newspapers, and 2,625,235,045 marks of money sent; receipts, 36,277,340 marks; expenses, 32,181,410 marks. The Württemberg post-office handled 64,622,108 letters, 33,825,402 postal cards, 40,694,888 printed enclosures, 118,248 business papers, 1,524,224 samples, 56,443,415 newspapers, and 1,117,623,096 marks of money remittances; receipts amounted to 16,221,888 marks and expenses to 14,212,148 marks. The total postal traffic of Germany was 1,847,043,960 letters, 1,020,339,360 postal cards, 969,494,520 printed enclosures, 5,083,430 business papers, 62,023,070 samples, 1,431,706,080 newspapers, and 29,376,466,976 marks of money sent; the combined receipts of the three postal services were 447,041,824 marks, and expenses 429,154,073 marks.

The length of the imperial telegraph-lines in 1900 was 106,723 kilometers, with 414,962 kilometers of wires, over which 29,801,300 internal and 11,460,473 foreign telegraphs were sent in that year; the length of the Bavarian lines was 16,624 kilometers, with 45,923 kilometers of wires, over which 2,589,877 internal and 688,864 foreign messages were transmitted; the lines of Württemberg had a length of 4,968 kilometers, with 11,502 kilometers of wires, over which 1,237,333 internal and 230,939 foreign messages were sent; total length of telegraph-lines in the empire, 128,315 kilometers, with 472,867 kilometers of wire; total number of despatches, 33,629,519 internal and 12,380,276 foreign. There were in the empire 15,533 towns with telephone communications, having 289,647 exchanges, with 49,295 miles of line and 517,350 miles of wire; the number of conversations in 1900 was 597,423,041. There were 2,797 long-distance circuits, having 10,930 miles of line and 137,900 miles of wire; number of conversations, 93,533,314.

Politics and Legislation.—The principal task of the Reichstag in the session of the continued session which began on Nov. 28, 1901, was to frame a new tariff as a basis for new commercial treaties. The session of the Reichstag began in 1900 and was continued by adjournment. The legislative business was left in such an unfinished state in May, 1901, that the expedient of adjourning instead of closing the session had to be adopted, and on June 11, 1902, the session was again adjourned till Oct. 14. The bills and motions that accumulated retained their precedence, so that there was no opportunity to raise fresh questions, while in some cases the circumstances in which the bills were drafted were altered. The bill to guarantee interest on the cost of a railroad in East Africa from Dar-es-Salam to Mrogoro would be ineffective because the project of raising the money through a financial syndicate had been abandoned owing to the state of the money market. There were 49 motions of private members not yet disposed of. The prolonged session must come to an end with the legislative period of five years, which expires in June, 1903, when a general election takes place. The German spirits bill, a measure favorable to the Agrarians, introduced in 1901, was finally passed before the adjournment. The saccharin bill was another legacy from the previous year and another consum-

sion to the Agrarians, intended as a slight compensation for the abolition of sugar bounties. A more substantial compensation was the lowering of the internal duty on sugar, designed to extend the domestic consumption of sugar by materially lowering its price, and therefore acceptable to Socialists and Radicals as well as to Agrarian Conservatives, who would find in the home market opened to them an outlet for their sugar if the competition of cane-sugar drove it out of the English market. The Government in signing the Brussels convention had no fear that Germany, the greatest sugar-producing country in the world and the most advanced in its methods of production, could not still compete successfully in the world's market; but it did fear that, if it refused to accept the terms that Great Britain offered at Brussels, German sugar would be shut out of England by countervailing duties. Nevertheless, the extreme section of the Agrarians struggled to prevent the ratification of the Brussels convention by the Reichstag. Nearly all the sugar manufacturers were opposed to the treaty. The convention was finally approved on June 11 by 209 votes to 103. The minority consisted of the greater part of the Conservatives and a large section of the Clericals, while the Social Democrats and the Radicals gave 110 votes for the convention, which the ordinary supporters of the Government would otherwise have rejected. The sugar bill reduces the internal-revenue tax on sugar from 20 marks per 100 kilograms to 16 marks and abolishes the bounties on exports. The sugar cartel has raised the price about 14 marks to consumers in order to secure an extra profit of 3 to 4 marks for its members. The domestic demand has declined in consequence, but the abolition of bounties will curtail the power of the trust.

The saccharin bill prohibits the production or importation of saccharin except by permission of the Federal Council, which is empowered to license one or more manufacturers or importers subject to constant official inspection and the revocation at any time of their licenses; and the product can not be sold except by specially licensed apothecaries for medical or scientific purposes only. The existing factories receive compensation at the rate of 6 times their average annual profit, reckoned at 4 marks per kilogram. The Imperial Chancellor is empowered to fix the maximum quantity of saccharin that each licensed factory may produce. The use of saccharin as a cheap substitute for sugar is stopped altogether by this law, but not its use on the prescription of a physician by persons suffering from a disease that is aggravated by the use of sugar. The bill appropriating money for the construction of a railroad in German East Africa was postponed on account of the unfavorable condition of the imperial estimates. A bill to secure liberty of worship to all subjects of the empire was rendered effective by legislative acts in the states where Catholic disabilities and restrictions on worship still existed, as in Mecklenburg and Brunswick.

The Government tariff bill was introduced in the Reichstag on Dec. 2, 1901, referred to a committee of 28 members on Dec. 12, and read in the house on Feb. 26, 1902, after which the committee went to work on the 946 clauses. High protection has been the fiscal policy of the German Government since 1879, and under it the country has made a wonderful advance in industry, though this was greatest and emigration smallest in the period of commercial treaties concluded by Count von Caprivi. Agriculture has not been

generally prosperous, and those who have suffered most are the influential territorial aristocracy of Prussia, who have received legislative favors from the beginning, but not enough to counteract the special disadvantages under which they labor. While the world's competition has lowered the prices of agricultural products the newly developed mines and industries of western Germany have drained away the population of the east and made agricultural labor scarce and dear. The objection of the Agrarians to the canal system, which they defeated three times in the Prussian Chamber, was that it would not only afford cheaper transport for competing foreign products, but would further stimulate this migration of the laboring population. When the new tariff had to be made landowners and farmers in most of the agricultural districts joined in the cry for higher protection for their products, so that they could have a share of the prosperity that had come to the industrialists. The Conservative and Clerical parties, which normally support the Government, and by their numbers and compact organization can also defeat Government measures, were controlled by Agrarian opinion. The National Liberal party contained many Agrarians. The remnant of the Radical party and the Social Democracy were determined to resist to the last every schedule in the tariff that would make food still dearer than it already was made by Agrarian measures and expedients that the Government had adopted during a series of years. Austria-Hungary, Italy, Russia, and other countries that have supplied Germany with food were deeply concerned in the outcome of the struggle. The people of the United States were interested in the prospects of their food exports to Germany, and also in the question whether dear food would not weaken Germany's industrial competition and start once more the emigration of enterprising and skilled Germans to America and drive German capital abroad. Duties on grain, which had not existed for fifteen years, were introduced in the protective tariff of 1879, and were tripled in 1885, but lowered again in 1892, when new commercial treaties were made with Austria, Belgium, Italy, and Switzerland, followed by similar reciprocal arrangements with Roumania and Russia. Other countries, excepting Portugal, have favored-nation treaties, the one with the United States having been made by Prussia in 1828. This old treaty has given rise to various disputes with the United States regarding bounties and other evasions, and under it Germany has claimed that the United States can make no reciprocity treaty with any country without extending the same advantages to Germany. When Canada discriminated in favor of Great Britain the German Government applied the autonomous tariff to Canada. The German autonomous tariffs of 1879 and 1887 made the duty on wheat and rye 5 marks per 100 kilos, but the duty since 1892 under the favored-nation clause has been 3.50 marks, and on barley 2 marks. If new reciprocity treaties are not concluded before Dec. 31, 1903, the duties of 1887 would come into force on Jan. 1, 1905, unless the Reichstag adopts a new tariff. The Government proposed as minimum duties, not to be lowered for any country by a reciprocity agreement, 5.50 marks on wheat, 5 marks on rye and oats, and 3 marks on barley. The Agrarians called for 7.50 marks per 100 kilograms on all kinds of grain. The Tariff Committee, by a majority of 17 to 11, adopted the rates of 6 marks on wheat and 5.50 marks on rye, barley, and oats. From Bavaria came a protest against a barley

duty that would destroy the export trade in beer. The maximum duties in the Government bill were 6.50 marks on wheat, 6 marks on rye, and 4 marks on barley and oats. The committee adopted the rates of 7.50 marks on wheat and 7 marks on rye, barley, and oats. The tariff scheme did not include maximum and minimum rates for any of the 946 articles excepting cereals. When the scale of duties on grain had been altered against the protests of the ministers by the Tariff Committee, the Government proposed that all the other items should be passed in a lump as a basis of negotiation in making commercial treaties with different countries. The committee, which had rendered the task of negotiating treaties difficult by altering the proposed grain duties, especially in fixing a barley duty that threatened the trade with Austria-Hungary in that article and had placed obstacles in the way of all foreign commerce by requiring a certificate of origin to accompany every invoice, would not yield up its powers so easily. It went on to impose protective duties on all kinds of vegetables, 2 to 4 marks per 100 kilograms, with the object of killing a large trade with Italy and France for the benefit of German gardeners, and similar duties on flowers, fruits, trees, and plants. While the tariff was under discussion the Prussian Minister of Commerce instituted an inquiry into the number, origin, and development of cartels, or industrial trusts, and their economic effects in lowering the cost of production, preventing overproduction, and raising or fixing prices. The potash, coal and coke, and iron cartels were excluded. The coal and iron trades have made an agreement to pay to exporters of iron and steel manufactures the whole difference between the price they realize abroad and the current prices in Germany. Costly plants continued to be erected when the market was glutted with merchandise; yet in the economical use of fuel and material and scientific methods of production, as well as in the cheapness of labor, German iron manufacturers have an advantage over their competitors. When the Socialists on the Tariff Committee proposed to admit free of duty all kinds of goods sold by trusts or rings cheaper abroad than in Germany Count Posadowsky promised a thorough investigation into the operations of rings. It is estimated that 300 cartels, syndicates, and combinations have arisen in Germany within a few years, of which 80 are concerned with trade and 220 with production, including 80 in the metal, 40 in glass and pottery, 30 in the chemical, 20 in the textile, 10 in the coal, 10 in the paper, and 10 in the provision industries. By the rules of the United States Treasury Department import duties on German goods on which a syndicate of manufacturers has paid export bounties are assessed on the prices current in the open market in Germany, not on the reduced export prices. Against this method of valuation Germans have protested, but it is the law.

The Tariff Committee not only raised the proposed duties on live animals from 10 or 12 to 18 marks per 100 kilos, but insisted that this rate should not be lowered more than 20 per cent. in commercial treaties. The Government duties on horses were from 30 to 300 marks; those of the committee vary between 90 and 360 marks. The duty on tea was lowered from 100 to 25 marks. A protective duty was even imposed on milk. The duty on butter and cheese was raised from 20 to 30 marks. The duty on eggs the Agrarians proposed to increase from 2 to 20 marks, although Italy was specially concerned in this item, too. As a sop to the working classes they

abolished the duty on herrings, which the Government desired particularly to maintain so as to foster the deep-sea fisheries, and thus increase the number of seamen available for the navy. The states of south Germany—Württemberg, Baden, Bavaria—were strongly opposed to the enhanced grain duties, which would not benefit even their agriculture. Before accepting the rates fixed by the committee the ministers succeeded in allaying the opposition in this quarter, but if the still higher rates demanded by the Agrarians were granted the Chancellor declared that commercial treaties for long terms could not be concluded. The Socialists exclaimed against the bread usury. All the cities and towns of the empire sent representatives to protest against the duties as disastrous to industry and commerce. The committee reduced the Government duties on various manufactures and raised some to please manufacturers in certain branches of trade, but at the request of ministers the Government schedules were left almost intact in regard to manufactured articles. The tariff bill, still incomplete in the hands of the Reichstag committee, could not be presented before the autumn meeting of the Reichstag. The committee was authorized to continue its deliberations during the recess, and by a special law its members received payment, 2,000 marks each. The bill appropriating money for the purpose was an innovation hailed by the Socialists and the Radicals as the preliminary step to the payment of members of the Reichstag, which they have constantly demanded, while the Government has adhered to Bismarck's idea that salaries would lower the intellectual and social standard of the Reichstag. Meanwhile the unsuitableness of the English precedent to the conditions of public life in Germany has been shown in the increasing difficulty of keeping the members together in sufficient numbers to form a quorum for the transaction of business. When the Prussian Landtag closes its session so many of its members who are also members of the Reichstag and who receive pay as Prussian Deputies leave for their homes that the Reichstag is forced to adjourn. The Reichstag voted to give 30,000 marks to the Colonial Society to establish a bureau for the information of intending emigrants, but not in the form of an annual subsidy, as the Government proposed. The proposal to spend 1,550,000 marks in extending the Tanga and Korogwe Railroad in East Africa to Mombo was rejected by the Budget Committee, which reduced the estimates for 1902 so that they could be balanced by borrowing 112,000,000 marks, instead of 182,000,000 marks, as proposed by the Government. All parties are proportionally represented on the Budget Committee. Still its conclusions are not invariably followed by the Reichstag. The credit of 24,000,000 marks to maintain a garrison of 3,030 men in China was reduced to 20,000,000 marks on the motion of the Radical leader, Eugen Richter. The Government is desirous of building up separate military and naval forces for colonial purposes, and the majority of the representatives of the people are suspicious of proposals which may indirectly further this object. Expenditures for fortresses, siege-artillery, and other military requirements were cut down and other reductions effected so as to save 23,250,000 marks in recurring expenditure. A deficit of 40,000,000 marks was still left, and one of 50,000,000 marks was anticipated for 1903. The railroad revenue in particular had fallen off. The accounts for 1901 showed a deficit of 48,000,000 marks, the income of the Imperial Government having decreased

27,000,000 marks, while expenditure increased 21,000,000 marks. Herr von Thielen, Prussian Minister of Public Works and head of the Imperial Railroad Administration, resigned on June 22, and was succeeded by Major-Gen. Budde.

The dictatorship paragraph in the Constitution of the Reichsland was abolished pursuant to an edict of the Emperor authorizing Prince Hohenlohe-Langenburg, the Statthalter, and the Imperial Chancellor to take steps in the Bundesrath and the Reichstag to effect the repeal. The law of Dec 30, 1871, conferred on the Chief President of the Reichsland power to adopt in the event of danger to the public safety all measures that he considered requisite. He was thereby invested with the same powers that the French law of August, 1849, gave to the military authorities when a state of siege had been declared. In the Constitution of Alsace-Lorraine, adopted in July, 1879, the same law was retained, empowering the Statthalter to employ for police purposes the military garrison, to expel any person, even a born Alsace-Lorrainer or a German, from the Reichsland, to suppress any newspaper, etc. The representatives of Alsace-Lorraine in the Reichstag continually protested against the paragraph until in 1895, and again in 1900, resolutions were passed in favor of its repeal. The Government paid no attention to these resolutions, but finally proposed the elimination of the paragraph as a token of the Emperor's good-will and confidence in the loyalty of the Alsace-Lorrainers to the empire.

The Reichstag Tariff Committee at length reported the bill on Aug. 11. The Clericals on the committee, supported by the Social Democrats, proposed to devote any surplus accruing to the treasury from the tariff to building a fund for the maintenance of widows and orphans, a motion which was lost by 3 votes, although the ministers promised some such scheme for alleviating the pressure of the tariff on the working classes. When the Reichstag reassembled on Oct. 14 and began the discussion of the compromise bill as it came from the committee the Chancellor accepted the altered duties on grain, even the barley duty, and endeavored to conciliate the opponents of higher taxes on the food of the people by expressing a readiness to consider the question of paying members of the Reichstag. The Center, the two Conservative parties, and the National Liberals supported the compromise tariff. The Social Democrats and Radicals used every parliamentary device to prolong the discussion on every clause. When on Nov. 27 only a few clauses had been forced through in the face of this determined obstruction, the leaders of the Government parties moved that the Reichstag, instead of continuing to vote on each clause, vote upon the whole bill. This was contrary to the rules of the house, but President von Ballestrem declared the motion open to debate.

The Emperor excited some distrust and much criticism by a telegram which he sent to the Prince Regent of Bavaria expressing deep indignation at the base ingratitude exhibited by the Bavarian Chamber to the house of Wittelsbach in refusing to vote 100,000 marks for the purchase of works of art, and offering to place the sum at the disposal of Prince Leopold. A member of the Bavarian Diet had already offered to supply the money which the Clerical majority had withheld in retaliation for the dismissal of Minister of Education von Landmann because he had upheld a Catholic professor in a dispute with the Würzburg University senate. The Emperor Wilhelm's impulsive strictures on a constitutional

act of the Legislature of one of the federated states, one most jealous of its parity with Prussia in the federation, seemed to have the more political significance because the political party responsible for the act that provoked his outburst was the one that in the Prussian Chambers had defeated the canal bills and other legislative projects that he had espoused, as was his constitutional right, and also bills in the Reichstag that he claimed to have the right to influence in the same way.

The Prussian Diet in the session that began on Jan. 8, 1902, notwithstanding a deficit due mainly to the diminution of railroad receipts, was invited to authorize the construction of new branch lines. The extension of the canal system was regarded by the Government as a matter of urgent necessity for the whole country. Measures were taken by the Government in advance of parliamentary grants for the relief of agricultural distress in Posen and Westphalia. The situation in the bilingual districts of the eastern part of the kingdom had assumed an aspect so serious that the Government considered it a question of self-preservation for the Prussian state to maintain for the German element the political and economic position to which it can justly lay claim in virtue of the civilizing influence it has long exercised. Unpatriotic agitation would be firmly suppressed in reliance upon the energetic cooperation of the German population in those districts and the support of the whole nation, which regards the repression of the German language and German culture as an assault upon the national honor and dignity. The Polish settlement bill approved by the Landtag provided for an addition of 250,000,000 marks to the fund for land purchase and settlement in West Prussia and Posen, of which sum 150,000,000 marks, supplementing 200,000,000 marks voted for the purpose in former years, are to be devoted to the colonization of small German proprietors in the Polish provinces and 100,000,000 marks to the purchase of estates to be converted into Government domains and forests. The Poles were more thrifty, industrious, intelligent, prosperous, and prolific than the Germans in Poland, and therefore the task of Germanizing these provinces was difficult, if not hopeless. Religious instruction in the German language had recently been introduced in Wreschen, and when Polish children absented themselves they were sent for and whipped. This incident, published throughout the world by the Poles, the Government was ashamed of, and not only was corporal punishment forbidden in such cases, but the attempt to utilize religious instruction as a means of removing the impression that German is the language of Protestants only was abandoned. Anti-Prussian demonstrations in Russian Poland were summarily suppressed by the authorities, and similar demonstrations in Galicia were stopped by the Austrian Government, but Poles of all conditions manifested clearly enough their sympathy for their Prussian compatriots, and their resentment was intensified when Russian and Austrian Poles were expelled from Prussian colleges. Expelled students who returned to Russian territory were arrested by the police. The Russian Government found its policy of Russification rendered more difficult in consequence of the revival of the Polish national spirit in Posen, East and West Prussia, and Silesia. The Roman Catholic clergy in Russian Poland refused to give religious instruction in any language but Polish, and disregarded the decree of the Russian Government that where the children are not of

Polish parentage they shall be taught in Russian. The Roman Catholic Archbishop of Vilna was relieved of his functions for this reason. The Prussian Government in April issued a decree intended to check the immigration of Poles into Prussian territory. Many intending emigrants to the United States were brought across the border by swindling emigration agents and left there without money to take them farther. The decree orders all to be stopped at the frontier who are not provided with a passport and 400 marks in money besides railroad and steamship tickets. Children without their parents are not admitted, nor cripples or invalids. The settlement commission which had charge of the fund for colonizing Poland with German farmers spent 144,000,000 marks of the 200,000,000 marks voted in 1886 and 1898, and of the remainder 39,000,000 marks were required to complete the settlement of the lands they had acquired for German proprietors and tenants, 406,000 acres. The scheme had proved a failure so far. In spite of the Government settlements the total German holdings in Poland had decreased and those of the Poles had increased 77,000 acres since the experiment was started. Some of the assisted settlers had become Polonized, and many had sold out their farms to Poles and quitted the uncongenial surroundings to return to their own country. The Government asserted that German farmers, artisans, and traders were boycotted. In order to prevent the new settlers from parting with their lands for any price they could get so as to escape from Poland, the lands purchased with the new fund will only be leased or sold for an annual rent on terms preventing their transfer without the consent of the Government. Inducements were offered to the proprietors settled on the lands previously purchased to convert their tenure into one of this character. The policy of expropriating Polish proprietors and settling German farmers on the land was initiated by Prince Bismarck. Thus far it had defeated its own object by strengthening the Polish element in the towns and artificially raising the value of land over 20 per cent. The industrial and economic development of Poland, to which in the German part of the ancient kingdom the Prussian Government contributed some capital by its attempt at colonization, was coincident with the disappearance of the political and class divisions among the Poles and of the old Conservative party which clung to aristocratic traditions. A large meeting of Poles in Berlin resolved in favor of the organization of Polish life on a democratic basis, the retention of Polish land in Polish hands, and a Polish education for Polish children. The national spirit of the Poles was inflamed the more by a speech of the Emperor Wilhelm, declaring that Polish arrogance, encroaching on Germanism, had compelled him to summon his people to renew the struggle of the Teutonic knights of old for the preservation of the most precious national possessions. Count von Bülow said that Poles multiplied like rabbits, Germans like hares. The Polish danger that the Government undertook to avert was not confined to the Polish provinces. The Poles migrate as laborers to Westphalia and other mining and industrial parts of Germany, bringing with them everywhere their language, religion, national customs, and a standard of living that enables them to underbid Germans in the labor market. They often marry German or Polish women and bring up large families, forming Polish settlements in the midst of a purely German population. For every German settled with state aid in Poland

scores of Poles have established homes among the Polish communities in the heart of Germany.

A bill passed by the Prussian Landtag for regulating the inspection of meat was the complement of similar legislation in the Reichstag. Although its ostensible purpose was to protect the public health, the object was to shut out American and other foreign meat for the benefit of Prussian growers of live stock. Hence it was supported by the Agrarians and opposed by the Socialists and Radicals, who complained of the dearth of meat already caused by laws and administrative regulations similarly inspired and similarly defended as hygienic measures. The imperial law, which went into force on Oct. 1, 1902, forbids the use of noxious materials in the preparation of meat for transport or sale, the decision as to what is noxious to be left to the Federal Council. The materials declared to be noxious are boric acid and its salts, alkali and alkaline earth, hydro-oxides and carbonates, sulfuric acid and its salts, salicylic acid and its compounds, and chloric-acid salts. The employment of any of these preservatives and the sale or possession of preparations containing them was made unlawful; also the use of any coloring-matter except in margarine and sausage skins. Importers and manufacturers claimed that boric acid is harmless, but they had no opportunity to offer evidence before the promulgation of the law. A bill to prevent the defacement of scenery with advertising boards or notices empowers the police to prohibit outside of towns any advertising device or conspicuous sign that disfigures the landscape. In urban areas the authorities already had power to remove ugly advertisements. The Prussian bill to prohibit the disfigurement of rural spots remarkable for natural beauty, which leaves the police authorities to judge what is a disfigurement, was not passed without opposition, but the merit of the measure on the ground of public policy was recognized, and proposals to grant compensation or exempt certain kinds of advertising signs were rejected. In Hesse and other states similar statutes were enacted to protect natural scenery and public monuments.

Maritime Conference.—The International Maritime Committee, whose object is to harmonize the views of national associations that are studying improvements in maritime law, held its fourth annual meeting at Hamburg in the summer of 1902 in succession to the conferences at Antwerp, London, and Paris. A treaty proposed at Paris in 1900 would change the old rule by which damages from collisions are borne in equal shares where the accident is inevitable and without fault or where the fault is inscrutable. In such cases the committee proposes that the losses should lie as they fall. Where both ships are in fault the English law makes each bear half the loss, receiving from the other a contribution of half her own loss and contributing half the loss sustained by the other. Continental maritime law generally discriminates as nearly as possible between the degrees of fault and apportions the damages accordingly. The committee approves this rule. The treaty it has drawn up furthermore removes all restrictions on the measure of damages, allowing compensation for detention during repairs and the whole actual detriment and loss of profit that can be proved to have resulted from the accident. The fact that the collision is caused by the fault of a pilot whose employment is compulsory or by fault of a tug shall not be a defense. Neglect of the duty to afford assistance to the injured ship shall not entail

a presumption of fault from the point of view of the pecuniary responsibility for the accident. These provisions are also in accordance with Continental laws and contrary to existing British rules. The French distinction between salvage of a derelict and assistance of a crippled ship is abolished in the proposed treaty, with all rules fixing an arbitrary proportion of value due to the salvor, such as 33 1/3 per cent. of the value of an abandoned vessel which the French code allows. The limitation of ship owners' liability was referred to a new commission. On the motion of Everitt P. Wheeler, representing the United States, the proposal that damage and expense sustained by the salvor should as of right be made good in case of successful salvage or assistance was stricken from the draft treaty. It was agreed that tribunals of either the home port of the defendant vessel or of the personal domicile of the defendant party should have jurisdiction in cases of collision; in case of a collision in territorial waters the representatives of Austria, Hungary, Japan, Sweden and Norway, and two other nations voted to give jurisdiction to the courts of the country where it takes place, although the vessel may not be arrested there nor either plaintiff or defendant have his domicile there; 5 countries, including England, France, Germany, and the United States, voted in the negative, and the question was reserved for further discussion at a future conference. That registration should give jurisdiction to the courts of the port of where a ship is registered was agreed to by a vote of 9 nations against 4. The question whether the courts of a place where the defendant ship can be seized could have final jurisdiction was decided affirmatively, but the United States representatives were alone in supporting the present American and English practice, which confers jurisdiction on the courts of a country in which a defendant can be served, although he has neither domicile nor residence there. Whether mere residence should suffice was left for further consideration.

Labor Congresses.—The thirteenth International Congress of Miners met at Düsseldorf on May 19, 1902. For the first time the British miners represented were less numerous than those of the Continental countries. From the Continent there were 72 delegates voting for 748,000 miners. From Great Britain 39 delegates represented 625,000 members of the British Miners' Federation and 3 represented 80,000 miners of Durham, who still held out against the legal eight-hour day demanded by all other miners, British as well as Continental. The objects of the congresses were defined to be to limit the hours of underground labor from bank to bank; to obtain proper supervision and inspection of mines, including the election of additional inspectors by the workers, such inspectors to be paid by the state; to organize powers to enforce legal enactments; and to devise means to secure just contracts and fair treatment for all persons in or about mines. The Welsh miners desired an eight-hour day, among other reasons, because it would allow shot-firing to take place between shifts after an interval sufficient to allow dust to settle after the men had left the mines. German delegates declared that accidents most frequently occurred in Germany when the men were exhausted by long hours of labor. A French delegate described the bill passed by the French Chamber gradually reducing the work-day to eight hours from bank to bank. A Belgian delegate testified that in his country the few legal enactments that existed for the purpose of pre-

venting accidents were not strictly applied. An Austrian delegate was interrupted by a Welsh delegate, who thought that if the rule previously in force allowing but a single German speech to German and Austrian delegates together were to be disregarded the Welsh and English might speak for the miners of their separate nationalities. The rule, which was made because in former congresses the German and Austrian representation combined was comparatively small, was rescinded on the motion of an English delegate. The Austrian then described the new Austrian law which reduces the hours of labor in coal-mines to nine hours a day. The congress voted in favor of a legal eight-hour day, which on the motion of the French delegation applies also to surface workers. In regard to compensation for accidents and old-age pensions, it appeared that miners are worst off in Belgium, where there is no law on the subject and the benefit associations pay only a quarter of the wages in cases of accident and an old-age pension of a quarter of a franc a day. In England the doctors frequently deprive the victim of an accident of the full amount of his insurance on the ground of complication with diseases. German doctors cut down allowances in the same way, and the law has intervened to forbid the payment of insurance equal to the daily rate of wages when the man has paid subscriptions to benefit societies to secure that amount of insurance or more. The German law of compulsory insurance allows two-thirds of earning capacity lost as the result of an accident. In Austria the miners have only their benefit funds to rely upon, and these are in an insolvent condition. When incapacitated by accidents they receive from 30 kreuzers to a gulden a day until they recover, and if totally incapacitated a pension varying from 80 to 120 guldens a year, for which benefits they have to subscribe from 2 to 5 per cent. of their wages. The French miners are the most favorably treated in case of accidents, since they contribute nothing to the fund, yet after the fourth day receive half-wages. The congress voted unanimously to have compensation laws amended so as to cover all accidents in or about mines, to begin from the day of the injury. It was unanimously agreed that miners should endeavor to obtain a minimum rate of wages. The congress considered that the governments of all countries should provide pensions for the aged and those unfit for work. Sympathy was extended to the French miners in their effort to secure pensions of 2 francs a day after twenty-five years of service, irrespective of age. A resolution that miners in general elections should vote only for candidates pledged to support the proposals adopted by the International Congress and endeavor to enact them into laws; in default of such candidates the miners should nominate and elect representatives from among themselves. The congress adjourned on May 23.

An International Trade-Union Congress was held at Stuttgart in June. The English delegates agreed with their Continental colleagues in the opinion that, in addition to endeavoring to obtain better wages, it was necessary to direct their attention to politics, and that the amalgamation of the trade-unions with international socialism was only a question of time, although the old-fashioned unions were not yet ready to adopt the socialist theories.

The thirteenth German Socialist Congress was opened at Munich on Sept. 15. The Bernstein proposals for the revision of the Marxist dogmas on which Social-Democratic programs have been based and the adoption of more practical political

aims were once more advanced by their author. The trade-unionists in the congress differed with the advanced Socialists in regard to workmen's insurance and other labor legislation. The unions, which had their benefit associations before compulsory insurance was introduced, held the opinion that Government should aid workmen by subsidizing their own organizations, and that if unorganized workmen could obtain from the Government the same advantages as those who belonged to labor organizations could achieve, the interests of unionism would suffer. Both parties agreed that existing legislation is inadequate. The congress adopted resolutions demanding the extension of insurance to all workmen, its unification, the control of its administration by the insured, and the contribution to its costs by all classes; the extension of the existing system of accident insurance, the establishment of a board of control composed of officials elected by the workmen and paid by the Government; the improvement of the means of preventing diseases incident to labor, full compensation to families of injured workmen, and the prohibition of the employment of women for four weeks before and after childbirth; and the establishment of insurance for the unemployed and for the widows and orphans of workmen. The Reichstag delegates of the party were instructed to consider the advisability of moving a resolution in the Reichstag in favor of an eight-hour day. The congress resolved to support only candidates for the Reichstag pledged to uphold universal suffrage, to vote against higher import duties on foodstuffs, or any indirect tax on articles destined for the people's consumption, and to oppose any military or naval bill increasing the burdens of the people. The exclusion of foreign meat was condemned. A resolution was passed recognizing the danger to working men from immoderate indulgence in alcohol, but declining to make total abstinence a condition of party membership.

Dependencies.—The possessions and protectorates of Germany over the seas, all acquired since 1884, have a total area estimated at 1,027,820 square miles, of which 931,460 miles are in Africa (see EAST AFRICA, SOUTH AFRICA, and WEST AFRICA), 200 square miles in Asia, and 96,160 square miles in the Pacific. The Asiatic territory consists of the town, harbor, and district of *Kiauchau*, occupied by a naval force in November, 1897, and on March 6, 1898, leased to Germany by the Chinese Government for the term of ninety-nine years. A protectorate was proclaimed on April 27, 1898. The leased territory has an area of 200 square miles, not including the bay, which is of equal extent. Surrounding the German territory, which has 60,000 inhabitants, is a neutral zone having an area of 2,500 square miles and a population of about 1,200,000. The administration of *Kiauchau* is under the control of the naval authorities, and at its head is a naval officer, Capt. Truppel in 1902. The estimate of expenditure for 1903 is 12,528,000 marks, of which only 360,000 marks are raised by local taxation, 12,168,000 marks being supplied from the imperial treasury. The garrison in 1902 consisted of 2,352 marine infantry and artillery. A harbor is being dredged out and a mole built, 2 miles in length. From Tsin-tau, opposite *Kiauchau*, the Germans are building a railroad into Shantung to Tsinan, which will thence run south to Yenchau, and there meet another railroad to be built in a southwesterly direction from *Kiauchau*. The railroad will tap the coal-fields of Weihsien and

Pashan, within 100 miles of *Kiauchau*, of which Germans by the treaty have the concession, as well as priority in all other concessions to be granted in Shantung. The railroad was completed to Weihsien in the spring of 1902.

In the Pacific Germany possesses Kaiser Wilhelm Island and the Bismarck Archipelago, proclaimed German protectorates in 1884; the Marshall Islands, occupied in 1885; the Caroline, Palao, and Marianne Islands, purchased from Spain for 16,750,000 marks and transferred on Oct. 1, 1899; part of the Solomon Islands, Choiseul, Isabel, and various smaller islands having been ceded to Great Britain by the convention of Nov. 14, 1899; and the largest islands of the Samoan group, the triple protectorate over the whole group having been renounced by Great Britain in the Anglo-German agreement of Nov. 14, 1899, and by the United States, which received Tutuila. *Kaiser Wilhelm Island* is the northern part of the southeastern half of New Guinea. The protectorate, which includes Long Island, Dampier Island, and other islands, has an area estimated at 70,000 square miles and about 110,000 inhabitants. The number of Europeans on Jan. 1, 1899, was 58, of whom 53 were Germans. The German New Guinea Company, which formerly conducted the administration, transferred it to the Imperial Government on April 1, 1899. The local revenue for 1903 was estimated at 100,000 marks, which was supplemented by an imperial subvention of 722,000 marks. The natural products include sago, areca-nuts, ebony, bamboo, and coconuts. The coco-palms are carefully preserved. Tobacco, cotton, and coffee are cultivated. Copra, mother-of-pearl, and trepang are bartered by the natives for European goods. Gold is found in the Bismarck mountains. The value of imports in 1900 was 377,682 marks, of which 109,624 marks represent food substances. The value of exports was 212,117 marks, of which 119,360 marks represent tobacco and 65,000 marks copra. Dr. Hahl was in May, 1902, appointed Imperial Governor of the South Sea possessions of Germany constituting the Micronesian protectorate.

Bismarck Archipelago comprises Neu Pommern, Neu Mecklenburg, and Neu Lauenburg, formerly called New Britain, New Ireland, and the Duke of York Islands; also New Hanover, and the Admiralty, Anchorite, Hermit, Commerson, and other islands. The total area is estimated at 20,000 square miles and the population at 188,000. There were 200 Europeans in 1899, of whom 96 were Germans and 34 British. There were 64 Chinese and 68 Samoans and Fijians. The value of imports in 1900 was 1,240,925 marks, of which 243,769 marks represent articles of food. Exports were valued at 907,282 marks, of which 651,141 marks represent copra and 110,634 marks trepang. The islands were visited in 1899 by 132 vessels, of 37,448 tons.

The part of the *Solomon Islands* belonging to Germany includes Bougainville and Buka. The products are sandalwood and tortoise-shell.

The *Marshall Islands* consist of two chains of coral islands known as Ralick and Ratak. The area is about 150,000 square miles and the population 15,000, including 55 Europeans, of whom 48 are Germans. Coconut-palm trees have been planted. The value of imports in 1900 was 454,300 marks; of exports, mainly copra, 509,000 marks.

The *Caroline, Palao, and Marianne Islands* were first attached to the New Guinea protectorate. The Caroline and Palao Islands, having an area of 560 square miles, with 40,000 inhabit-

ants, are divided for purposes of administration into the Eastern Carolines and the Western Carolines and Palaos. The local revenue for 1903 was estimated at 33,100 marks and the expenditure at 338,100 marks, the Imperial Government contributing 305,000 marks. Copra is exported, and from the Palaos tortoise-shell and mother-of-pearl also.

The total revenue of all the German protectorates for 1902 was estimated at 8,440,900 marks, and the expenditures at 39,076,500 marks, leaving a deficit of 30,635,600 marks to be covered by imperial grants. The total recurring expenditure is 24,152,800 marks; non-recurring expenditure, 14,756,400 marks; reserve fund for emergencies, 167,340 marks. The increase in revenues over 1901 is 1,318,000 marks; increase in expenditure, 2,472,900 marks; increase in imperial grants, 1,154,900 marks.

GIFTS AND BEQUESTS. The following list comprises the most notable gifts and bequests for public purposes, of \$5,000 and upward in amount and value, that were made, became operative, or were completed in the United States in 1902. It excludes the ordinary denominational contributions for education and benevolent purposes, all State and municipal appropriations to public and sectarian institutions, and the grants of Congress for various measures of relief. As in the previous year, large individual philanthropy was a striking feature of the gifts and bequests. Besides the instances noted, there were several of exceptional amounts that are excluded from the list because they were propositions yet to be fulfilled or were still in an indefinite shape. Among these, which deserve notice as parts of the benevolent record of the year, are the following:

John D. Rockefeller proposed to endow a corporation, known as the General Education Board and created by an act of Congress in 1902, with a sum understood to be \$10,000,000. The object of the corporation, as set forth in the act, is "the promotion of education within the United States of America, without distinction of race, sex, or creed," and the corporation is authorized "to establish, maintain, or endow, or aid others to establish, maintain, or endow, elementary or primary schools, industrial schools, technical schools, normal schools, training-schools for teachers, or schools of any grade, or higher institutions of learning; to employ or aid others to employ teachers and lecturers; to aid, cooperate with or endow associations or other corporations engaged in educational work within the United States of America." The corporators' names in the bill are William H. Baldwin, Jr., Jabez L. M. Curry, Frederick T. Gates, Daniel C. Gilman, Morris K. Jesup, Robert C. Ogden, Walter H. Page, George Foster Peabody, and Albert Shaw.

President William R. Harper, of the University of Chicago, on Nov. 19 confirmed a report that \$8,000,000 had been secured for the consolidation of Rush Medical College with the university, but declined to make public the name of the donor.

Henry C. Frick, of Pittsburg, was credited with the intention of founding a university in that city which would be a larger institution than the Polytechnic School for which Andrew Carnegie had set aside \$5,000,000. Mr. Frick's plan comprised the furnishing of ground, buildings, and an endowment of \$2,500,000.

J. Ogden Armour, of Chicago, on whose young daughter Prof. Adolf Lorenz, of Vienna, had performed an operation, was preparing plans at the close of the year for the establishment in Chicago of a Lolita Armour Institute of Bloodless Surgery, providing ground, buildings, and an en-

dowment of \$3,000,000, the institution to be under the charge of Dr. Frederick Mueller, Prof. Lorenz's assistant.

Toward the close of the year Mrs. Jane Lathrop Stanford, of San Francisco, ordered the preparation of plans for a new library building for Leland Stanford Junior University, to be "the handsomest and most costly structure of its kind on this continent."

Excluded also from the list are the contributions from various sources for the American Board of Commissioners for Foreign Missions, aggregating \$18,369,163; and also the contributions of the year to the Methodist Episcopal Thank-offering Fund for the promotion of education, which in the specified three years ending Dec. 31, 1902, overlapped the \$20,000,000 asked for by more than \$1,000,000.

The known value of the gifts and bequests here enumerated exceeds \$94,000,000.

Abraham, Abraham, Brooklyn, N. Y., gift to Cornell University, the great Egyptological and Assyriological library of the late Prof. August Eisenlohr, of Heidelberg University.

Adams, Charles Kendall, Madison, Wis., bequest to Wisconsin University, available on the death of his widow, which occurred also in 1902, 15 fellowships of \$10,000 each. See OBITUARIES, AMERICAN.

Adams, Prof. Herbert Baxter, Johns Hopkins University (died in 1902), bequest to the university, his residuary estate; paid in 1902, amounting to \$43,000.

Adelphi College, Brooklyn, N. Y., gift from friends to secure gift of \$125,000 from John D. Rockefeller, \$125,000.

Albinger, Joseph, Mount Vernon, N. Y., bequest to the Church of Our Lady of Victory there, \$25,000.

Allegheny College, gift from friend, for endowment fund, \$300,000.

American Unitarian Association, New York, gift from a friend, for missionary work, \$10,000.

Ames, Mrs. Anna C., North Easton, Mass., gift to the public high school there, a fully equipped gymnasium, cost \$10,000.

Amherst College, gifts from friends for a new observatory to contain the largest object-glass in New England, \$50,000.

Anderson, Mrs. A. A., New York city, gift to the Society for Improving the Condition of the Poor, for public baths, \$100,000.

Andrews, Wallace C., New York city (died April 7, 1899), bequest for the establishment of a Girls' Industrial School at Willoughby, Ohio, a part of his estate, which in 1902 amounted to about \$1,000,000, and was made available by an act of the Ohio Legislature incorporating a trust to manage the bequest.

Anonymous resident of New York city, gift for the establishment in Philadelphia of a free clinic for the treatment of poor consumptives, to be under the charge of Dr. Lawrence F. Flick, \$600,000, and a pledge of a further sum for a maintenance.

Archbold, John D., New York city, gift to Syracuse University toward endowment, \$400,000; the New York Kindergarten Association, for endowment of new kindergarten, \$40,000; and with his wife, gift to St. Christopher's Home, for a new school building, \$15,000.

Arter, F. A., Cleveland, Ohio., gift to Allegheny College, Meadville, Pa., \$60,000.

Atwill, Mrs. Cornelia A., New York, bequests to St. Paul's Protestant Episcopal Church of Poughkeepsie, \$10,000; and the Gallaudet Home for Deaf-Mutes at New Hamburg, \$5,000.

Auchard, David, Helena, Mont., bequest for the building and maintenance of a Masonic Home, his estate of more than 30,000 acres, stocked with choice cattle and thoroughbred horses.

Aultman, Mrs. Katharine Barron, Canton, Ohio, bequest to that city for a library, \$25,000.

Ayer, Frederick Fanning, New York, gift to Old Ladies' Home, Lowell, Mass., \$50,000; Lowell Textile School, \$30,000; and Lowell Day Nursery and Lowell Humane Society, each \$10,000.

Babcock, Samuel D., New York, bequests to Christ Church, Riverdale, Calvary Church, and St. Luke's Hospital, each \$20,000; the Metropolitan Museum of Art, the Metropolitan Museum of Natural History, the Children's Aid Society, and the Young Men's Christian Association, each \$15,000; and the Charity Organization Society, New York Christian Home for Intemperate Men, the Samaritan Home for the Aged, the Sheltering Arms, and St. Luke's Home for Indigent Christian Females, each \$2,000.

Baker, Cyrus O., Newark, N. J., bequests to the Society for the Relief of Respectable Aged Women, \$30,000; Young Men's Christian Association, \$20,000; and Newark Female Charitable Society, Home for the Friendless, Protestant Foster Home, Newark Orphan Asylum, and First Congregational Church, each \$10,000.

Ball, Mrs. Sarah C. B., Galveston, Tex., gift to Austin Theological Seminary, \$75,000.

Banjotti, Paul, Turin, Italy, gift to Brown University, for a clock-tower, \$30,000.

Barnard College, New York city, gifts from friends for endowment, \$250,000, securing a like amount from John D. Rockefeller.

Bayliss, Edmund L., New York, gift to Phillips Exeter Academy, \$30,000.

Beach, Sophia E., New York, bequests to the Protestant Episcopal Church, for the poor of Calvary parish, and Samaritan Home for the Aged, each \$5,000; Society for the Relief of the Destitute Blind, and Home for Incurables, each \$3,000; and Society of St. Johnland, New York Protestant Episcopal City Mission, and Home for Men and Aged Couples, each \$1,000.

Beck, Charles B., New York city, bequest for a new church edifice for the West Farms Presbyterian congregation, \$100,000.

Belden, James J., Syracuse, N. Y., gift to the First Presbyterian Church there for a site for a new edifice, his residence property, valued at \$75,000.

Benedict, Ezra, Albany, N. Y., bequests to American Baptist Home Missionary Society and American Baptist Missionary Union, each \$10,000; American Baptist Publication Society, \$5,000; other benevolent institutions, \$60,000.

Bennett, Mrs. Thomas G., New Haven, Conn., gift to the Medical School of Yale University for new clinical building, \$96,000.

Benson, Harriet S., Philadelphia, Pa., bequests to Women's Union Federation Missionary Society and China Inland Mission, each \$50,000; American Sunday-School Union, Board of Foreign Missions of the Reformed Episcopal Church, and American Board of Commissioners for Foreign Missions, each \$25,000; McAll Mission in Paris, \$10,000; Seaside Home for Invalid Women at Atlantic City, Pennsylvania Seamen's Friend Society, Pennsylvania Institution for Instruction of Blind, Pennsylvania Institution for the Deaf and Dumb, Pennsylvania Asylum for Indigent Widows and Single Women, Pennsylvania Industrial Home for Blind Women, Pennsylvania Working Home for Blind Men, Home Missionary Society, Pennsylvania Training-School for Feeble-

Minded Children, Children's Seashore Home at Atlantic City, Hampton Normal and Agricultural Institute, American Colonization Society, Pennsylvania Society to Protect Children from Cruelty, Pennsylvania Society for Prevention of Cruelty to Animals, Indian School in Carlisle, Pa., and Bernardo Homes in London, Eng., each \$5,000; the Tuskegee Normal and Industrial Institute, \$2,000; and to several other institutions amounts making an aggregate of \$500,000.

Berden, Jacob C., Hackensack, N. J., bequest to the Hackensack Hospital, the bulk of his estate, valued at \$75,000.

Berry, George R., Baltimore, bequest to the Woman's College, Baltimore, available by decision of the court, between \$15,000 and \$20,000.

Beth-Israel Hospital Association, New York city, gifts for the erection and equipment of a hospital building; cost, \$225,000; opened May 25, 1902.

Billings, Robert C., Boston (died in 1899), bequests to his executors, to be distributed by them among such charitable institutions as they might select, the residue of his estate. On Dec. 12, 1902, the executors presented to the Supreme Court of Massachusetts a statement setting forth that they had a fund of \$1,000,000 for distribution, and presenting a list of 126 selected educational and charitable institutions for the approval of the court. Included in the list are nearly all the well-known Boston charities, libraries, and museums, several churches and hospitals, hospitals in a score of other New England cities, and the following-named institutions: St. Andrew's congregation (New Orleans), Bates College, Berea College, Wellesley College, Tuskegee Institute, Lincoln University (Cumberland, Tenn.), Fisk University, Atlanta University, Fairmount College (Wichita, Kan.), Mayesville (South Carolina) Institute, Meadville Theological Seminary, Phillips Exeter Academy, Hackley School (Tarrytown, N. Y.), Abbot Academy, Andover. The direct bequests in his will included the following: \$100,000 to Harvard University; \$100,000 to the Massachusetts Institute of Technology; and \$50,000 to the Institute of Technology to found a "Billings Student fund." Any student receiving benefit is expected to abstain from the use of alcohol and tobacco. The direct bequests and residuary distribution aggregated \$1,845,000.

Bishop, Heber B., New York, gifts to the Metropolitan Museum of Art, a collection of jade ornaments valued at \$750,000, and to fit up a room for its exhibition, \$55,000.

Bissell, William C., Lincoln, Neb. (died in 1898), bequest to the National Christian Association of Chicago, to aid its crusade against secret societies, nearly all his estate of \$25,000. The will was contested, and was upheld by the court in 1902.

Bliss, Aaron T., Governor of Michigan, gift to Albion (Mich.) College, \$21,000.

Blocker, John, Buffalo, N. Y., gift to trustees, the Mineral Springs farm of 118 acres, near that city, as a site for a group of charities to be known as the Blocker Homes, together with a pledge of \$100,000 in cash and \$100,000 more by his will.

Blumenthal, Isaac, New York, bequests to Mount Sinai Hospital to establish a perpetual bed, \$2,500; Hebrew Benevolent and Orphan Asylum, \$1,500; Montefiore Home, \$1,000; and Home for Aged and Infirm Hebrews, \$500.

Boardman, Lucy C., New Haven, Conn., gifts to that city, a Manual Training-School, cost \$150,000; and to Yale University, funds for a science laboratory, to cost \$60,000.

Boston (Mass.) University, gifts to endowment, from the Board of Trustees, \$50,000; from outside friends, \$150,000.

Bowdoin College, gift from friends for centennial fund, \$50,000.

Brage, William, Mauch Chunk, Pa., bequests to Yale University for a Chair of Romance Languages and Literature, \$75,000, and to aid deserving scholars, \$5,000; St. Luke's Hospital, South Bethlehem, Pa., \$5,000; and Lafayette College, \$2,500.

Braidich, Adolph F., New York, bequests to Charity Organization Society of New York, \$25,000; and American Society for Prevention of Cruelty to Animals, \$10,000.

Brick, Mrs. Julia Elma Brewster, Brooklyn, N. Y., bequests to Brooklyn Children's Aid Society, \$9,000; Mariners' Family Asylum (Staten Island), American Bible Society, Society for the Aid of Friendless Women and Children (Brooklyn), and Brooklyn Industrial School Association and Home for Destitute Children, each \$5,000; Brooklyn City Hospital, all her property in Ocean County, New Jersey; and to Joseph K. Brick Agricultural, Industrial, and Normal School, Edgecombe County, North Carolina, her residuary estate.

Brigham, Peter Bent, Boston, Mass. (died in 1877), bequest to trustees, his entire estate, to be held for twenty-five years and then applied to hospital purposes in Boston. The trust expired May 25, 1902, and the amount then available was \$4,000,000.

Bross, William, bequest to Lake Forest University, Chicago, funds for an annual lecture "on the connection, relation, and mutual bearing of any practical science or the history of our race, or the facts in any department of knowledge, with and upon the Christian religion," and also for an annual prize of \$6,000 to the author of the best book on that subject.

Brown, Mrs. Natalie Bayard, Newport, R. I., gift of a new building for Emanuel Church, cost \$80,000.

Brown, Mrs. Susan Dod, Princeton, N. J., bequest to Princeton University, her estate valued to \$150,000.

Brown University, gift from friends to secure gift of \$75,000 from John D. Rockefeller, \$25,000.

Bruce, Robert M., Greenwich, Conn., gift to that city for an isolation hospital, 15 acres of ground, with buildings.

Bryn Mawr College, gift from friends to secure gift of \$250,000 from John D. Rockefeller, \$256,000.

Bunzl, Mrs. Regine, New York, bequests to Society for Ethical Culture, and Hebrew Orphan Asylum, each \$2,000; and Mount Sinai Hospital, Montefiore Home, Home for Aged and Infirm Hebrews, and German Hospital, each \$1,000.

Burke, John Masterson, New York, gift to found a home for convalescents, \$4,000,000.

Butler, Mrs. Olive M., Portland, Me., gift to Bowdoin College, for 4 scholarships, \$10,000.

Campbell, Felix, New York city, bequest for a building fund for a Roman Catholic cathedral in Brooklyn, \$20,000.

Carnegie, Andrew, New York, gifts to Cooper Union, New York, \$300,000; city of New Orleans for a main library building and 3 branches, \$250,000; Wooster (Ohio) University, toward rebuilding the university \$100,000; Stevens Institute of Technology, Hoboken, N. J., for endowment of the Carnegie Laboratory of Engineering, \$100,000; Clark University, toward securing a bequest, \$100,000; American Library Association, to be used for the preparation

and publishing of reading-lists, indexes, and other bibliographical and literary work, \$100,000; Union College, to be devoted to the completion of Nott Memorial Hall, \$40,000; Cincinnati Library Board, for the erection of 6 new branch libraries, \$180,000; and for public libraries: Albany, N. Y., \$175,000; Amsterdam, N. Y., \$25,000; Athol, Mass., \$15,000; Atlantic, Iowa, \$12,500; Baraboo, Wis., \$12,000; Beatrice, Neb., \$20,000; Bedford, Ind., \$15,000; Benton Harbor, Mich., \$15,000; Bessemer, Pa., \$30,000; Binghamton, N. Y., \$75,000; Blue Island, Ill., \$15,000; Bozeman, Mont., \$15,000; Brazil, Ind., \$20,000; Canastota, N. Y., \$10,000; Cedar Falls, Iowa, \$15,000; Charlotte, Mich., \$10,000; Chicago Heights, Ill., \$10,000; Chippewa Falls, Wis., \$20,000; Columbus, Ind., \$15,000; Columbus, Ohio, \$150,000; Danville, Ind., \$10,000; Denison, Iowa, \$10,000; Denver, Col., \$200,000; Dillon, Mont., \$7,500; Dover, N. H., \$30,000; Dubuque, Iowa, \$60,000; Eldora, Iowa, \$10,000; El Paso, Tex., \$35,000; Estherville, Iowa, \$10,000; Fond du Lac, Wis., \$30,000; Fort Scott, Kan., \$18,000; Fremont, Neb., \$15,000; Fulton, N. Y., \$15,000; Georgetown, Col., \$10,000; Gloversville, N. Y., \$50,000; Grand Island, Neb., \$20,000; Greencastle, Ind., \$15,000; Greensboro, Md., \$15,000; Hampton, Iowa, \$10,000; Huntington, W. Va., \$35,000; Iowa City, Iowa, \$25,000; Jacksonville, Fla., \$50,000; Johnstown, N. Y., \$25,000; Kenton, Ohio, \$17,500; Kingston, N. Y., \$20,000; Kokoma, Ind., \$25,000; Lansing, Mich., \$35,000; Las Vegas, N. Mex., \$10,000; Laurel, Md., \$10,000; Lawrence, Kan., \$25,000; Lexington, Ky., \$50,000; Little Falls, Minn., \$10,000; Littleton, N. H., \$15,000; London, Ohio, \$10,000; Lorain, Ohio, \$30,000; Louisville, Ky., \$250,000; Maquoketa, Iowa, \$20,000; Marion, Ohio, \$25,000; Marlboro, Mass., \$30,000; Melrose, Mass., \$25,000; Mitchell, S. Dak., \$10,000; Monroe, Wis., \$20,000; Montclair, N. J., \$40,000; Mount Clemens, Mich., \$25,000; New Albany, Ind., \$35,000; New Brunswick, N. J., \$50,000; Newman, Ga., \$10,000; Newport, Ohio, \$6,500; Newton, Iowa, \$10,000; Newton, Kan., \$10,000; Oskaloosa, Iowa, \$20,000; Ottawa, Kan., \$15,000; Paris, Ill., \$18,000; Peterboro, N. H., \$5,000; Pomona, Cal., \$15,000; Port Huron, Mich., \$40,000; Pueblo, Col., \$60,000; Redfield, S. Dak., \$10,000; Reno, Nev., \$15,000; St. Joseph, Mich., \$15,000; Salina, Kan., \$15,000; San Bernardino, Cal., \$15,000; Santa Ana, Tex., \$15,000; Santa Rosa, Cal., \$20,000; Saratoga, N. Y., \$30,000; Sheboygan, Wis., \$35,000; Shelbyville, Ind., \$20,000; Southbridge, Mass., \$20,000; Sparta, Wis., \$10,000; Tampa, Fla., \$25,000; Taunton, Mass., \$60,000; Temple, Tex., \$10,000; Tipton, Ind., \$10,000; Tipton, Iowa, \$10,000; Washington, Ohio, \$12,000; Waterloo, Iowa, \$40,000; Watervliet, N. Y., \$20,000; Waukesha, Wis., \$15,000; West Hoboken, N. J., \$25,000; Wilmington, Ohio, \$10,000; Worcester, Mass., \$15,000; Xenia, Ohio, \$20,000; and Yankton, S. Dak., \$10,000. The library gifts were conditional on the various cities and towns providing the sites and agreeing to make annual appropriations for maintenance equal to 10 per cent. of his respective gifts. This list excludes Mr. Carnegie's gifts for library and other public purposes outside of the United States.

Carnegie Institution, Washington, D. C., awards by the, to Prof. W. O. Atwater, of Wesleyan University, for the prosecution of inquiries with the respiration calorimeter, \$5,000; to its Botanical Advisory Board, for the establishment and maintenance for a year of a desert botanical laboratory, \$8,000; and to Yale University for its experimental psychology laboratory, a sum not specified.

Carney Hospital, Boston, Mass., gifts from friends for a new building for the out-patient department, \$10,000; securing a State appropriation of similar amount.

Carpentier, Horace W., gifts to Columbia University, 2 scholarships, \$10,000; and to Saratoga county, N. Y., for a hospital, \$10,000.

Carroll, Mrs. Mary Austin, Boston, Mass., gift to the University of Virginia, a pledge of \$10,000 annually.

Catholic Missionary Union, Washington, D. C., gift from a priest for the establishing of the Apostolic Mission House there, \$10,000.

Catholic University of America, Washington, D. C., gift from a priest of Pennsylvania, for a fellowship, \$11,000; gifts from friends for a training-school for missionaries to non-Catholics, \$50,000.

Chandler, Mary Ellen, New York, bequests to the American Unitarian Association for the Hackley School at Tarrytown, \$5,000; and to the Society for the Employment and Relief of Poor Women, \$500.

Chapman, William H., New London, Conn., gift to that city, for a manual training-school, \$100,000.

Cheever, William J., North Andover, Mass., bequests to Orphans' Home, and Woman's Christian Relief Association, both of Denver, Col., each \$25,000; Essex Institute of Salem, Mass., \$20,000; city of Salem for provisions for the needy, \$10,000, and for its Public Library, \$5,000; Salem Marine Society, Seamen's Charitable Society, East India Marine Society, Seamen's Widows' and Orphans' Society, Samaritan Society, and Woman's Friend Society, all of Salem, each \$2,000; and Bertram Home for Aged Men, Salem Hospital, Association for Relief of Aged and Destitute Women of Salem, Woman's Christian Relief Society of Denver, Col., and other institutions, the residue of his property, estimated at \$300,000.

Chicago, University of, gifts, from an American woman in Paris, for a French school, \$200,000; and from other friends, \$526,000.

Church of the Heavenly Rest, New York city, gift from friend, name withheld, \$40,000.

Clark, Edward W. and Clarence H., Philadelphia, Pa., joint gift to the University of Pennsylvania, toward a chair of Assyriology, \$100,000.

Clark, William, Newark, N. J., bequests to Newark Female Charitable Society, Newark Orphan Asylum, Home for the Friendless, Protestant Foster Home, and Rutgers College, each \$10,000; and Newark Charitable Eye and Ear Infirmary, \$6,000. See OBITUARIES, AMERICAN.

Cochran, William F., Yonkers, N. Y., bequests to St. John's Riverside Hospital, as an endowment, \$150,000; Hollywood Inn, as an endowment, \$100,000, and for library, \$10,000; Women's Institute of Yonkers, Church Mission to Deaf-Mutes in New York, Trustees' Fund for Relief of Widows and Orphans of Deceased Clergymen, and Aged, Infirm, and Disabled Clergymen of the Protestant Episcopal Church of New York, and Presbyterian Board of Relief for Disabled Ministers and Widows and Orphans of Deceased Ministers, each \$10,000; and Young Men's Christian Association of Yonkers, \$5,000.

Cole, Henry, Denver, Col., gift to the Methodist Episcopal Church of that city, for evangelistic work, new buildings, and charities, \$350,000.

Colman, Mrs. Anne Lawrence, Greenwich, Conn., bequests to the Post-Graduate Hospital of New York, for the babies' ward, \$5,000; Children's Aid Society and Diet Kitchen, New York, each \$1,000; and the Newport Hospital and the Charity Organization of Newport, R. I., each \$1,000.

Columbia University, gifts from friends to endow the Professorship of Social and Political Ethics, \$7,500, and for books for the library, \$10,000; and a joint gift from several friends for the Dean Lung Department of Chinese, \$10,925; joint gift by James Stillman, H. McK. Twombly, Edwin Gould, George F. Peabody, James Speyer, Stuyvesant Fish, Archer M. Huntington, Isaac N. Seligman, Samuel Thorne, D. Willis James, William E. Dodge, and Mrs. Henry Villard, the two blocks of land in front of the university, known as South Field, cost \$1,900,000; cash payment, \$400,000.

Converse, John H., Philadelphia, Pa., President of Baldwin Locomotive Works, gift to the Presbyterian General Assembly's Committee on Evangelical Work, \$25,000.

Cook, Joseph, D. D., Glens Falls, N. Y., bequest to the Presbyterian Board of Foreign Missions, available on the death of his widow, his entire estate, valued at \$50,000.

Cooper, Edward, and others, New York city, joint gift to Cooper Union, for endowment, \$600,000.

Cooper Union, New York, gift from friend, to endowment fund, \$25,000.

Cox, Sarah Silver, Boston, bequests to Boston Home for Incurables, Perkins Institute for the Blind, Boston Industrial School for Crippled and Deformed Children, and the Boston Young Men's Christian Union, each \$5,000; and to the Sewing-School of the North End Union, \$4,000.

Crandol, Justis Brazil, Seaville, N. J., bequests to Hahnemann Medical College and Hospital, Philadelphia, and Women's Hospital, Philadelphia, each \$5,000; Old Ladies' Home in Oneida, N. Y., Home for Destitute Children, Peterboro, N. Y., Methodist Episcopal Church, Sea Isle City, N. J., Methodist Episcopal Church, Seaville, N. J., and Calvary Baptist Church, Seaville, N. J., each \$1,000.

Crane, Zenas, Dalton, Mass., gift to the city of Pittsfield, Mass., for a museum of natural history and art, \$80,000.

Cresson, Mrs. Priscilla H., Philadelphia, bequest to trustees, \$500,000, the interest to be paid to the Philadelphia Academy of the Fine Arts to enable students of unusual proficiency to continue their studies in Europe. The bequest includes a legacy left for the same purpose by Emlen Cresson (died in 1899), which became operative by the death of his widow.

Crocker, Mrs. William H., San Francisco, gift to University of California, for researches in Mexico, \$5,000.

Currier, Mrs. Lura, New York, bequests to Yale University for a fund as a help to deserving students, \$100,000; Columbia University, for a similar fund, \$50,000; and Presbyterian Hospital, New York Society for Relief of the Ruptured and Crippled, Madison Square Church Mission, Home for the Friendless, Messiah Home for Children, New York Post-Graduate Hospital, for the "babies' ward," New York Society for Prevention of Cruelty to Children, and Society for Prevention of Cruelty to Animals, each \$5,000.

Curtis, William J., New York, gift to Bowdoin College, \$5,000.

Dana, Ruth Charlotte, bequest to the Catholic University of America, Washington, D. C., for a scholarship, \$5,000.

Daughters of the American Revolution, Philadelphia Chapter, gift to the Government for an army recreation building, \$10,000.

Deaconess Home, Milwaukee, Wis., gift from friend for endowment, \$5,000.

De Peyster, Mrs. Cornelius B., New York, bequest to the New York Historical Society, avail-

able on the death of her daughters, the fund from the sale of her real estate, valued at \$142,000.

Devlin, Mrs. Sarah Ferris, Boston, Mass., bequests to the Catholic University in Washington, D. C., \$50,000; and to 4 Catholic charities in Boston, each \$5,000.

Dodge, William Earl, New York, gifts to Columbia University, Earl Hall, for a students' building, cost \$125,000; and New York Chamber of Commerce, a marble statue of John Jay, cost about \$12,000.

Dougherty, Andrew, New York, bequest to the Catholic University of America, Washington, D. C., for general expenses, \$5,000.

Dugan, Francis, New York, bequest to the Church of St. John the Evangelist, \$7,000; the Church of St. Paul the Apostle for charities, \$2,000; and to the Sisters of the Poor of St. Francis, \$1,000.

Duke, James B., New York city, gift to Trinity College, Durham, N. C., a new library building, \$10,000 for the purchase of books, and funds for the establishment of chairs in German, Romance Languages, Political Economy, and Applied Mathematics.

Duke, William W., New York city, gift to Trinity College, Durham, N. C., a dormitory.

Dun, Robert Graham, New York, bequest to the Metropolitan Museum of Art, 25 paintings, 8 of which are valued at \$126,000.

Eager, Almeron, Evansville, Wis., bequest to the town for a library, \$10,000.

Eaker, Mrs. Mary B., Dayton, Ohio, bequest to Young Men's Christian Association of that city, for a new building, her homestead, worth \$100,000. The association becomes a residuary legatee; total bequest, \$150,000.

Edgcombe, Sarah, Bath, Me., bequests to Bates College, \$20,000; Maine Wesleyan Seminary and Female College, \$10,000; Bangor Theological School, Good-Will Farm for Boys at Fairfield, Me., Maine Central Hospital, and Woman's Christian Association at Lewiston, each \$5,000; city of Bath for fuel for the poor, \$500; and to Tuskegee Institute, the residue of the estate.

Edwards, Jacob, Boston, Mass., gift for library building, with site, at Southbridge, Mass., \$50,000.

Elkins, William L., Philadelphia, gift for a home for orphan daughters of Masons, ground and fund for buildings, total value, \$1,000,000.

Fairbanks, Jacob H., Fitchburg, Mass., bequests to Cushing Academy, Ashburnham, Mass., a legacy estimated at \$200,000 to \$400,000; and the town of Ashburnham for a town hall, \$40,000.

Farnsworth, George, Chicago, gift to the city of Oconto, Wis., for a library, \$15,000.

Farr, George W., Jr., Philadelphia, Pa., bequests to the Ministerial Relief Association of the Presbyterian Church, \$10,000; Presbyterian Board of Home Missions, and Presbyterian Board of Foreign Missions, each \$5,000; French Benevolent Society, \$1,000; and Board of Publication and Sabbath School Work of the Presbyterian Church in the United States, the residue of the estate.

Flannagan, Patrick, Perth Amboy, N. J., bequest to St. Michael's Hospital, Newark, N. J., \$7,000.

Florence Crittenton Mission, New York city, gift from a friend for the establishing of a similar home in a western city, \$15,000.

Floyd-Jones, DeLancey, Massapequa, L. I., bequests to Grace Church, Oyster Bay, L. I., \$2,000; Massapequa, for a school library, \$1,500; St. Mary's School, Garden City, for a botany prize, \$1,000; and the Association of Graduates of West Point and the Aztec Club, each \$500.

Ford, Paul Leicester, New York, bequest to the New York Public Library, on the death of his brother, Worthington C. Ford, his entire library. See OBITUARIES, AMERICAN.

Frick, Henry C., Pittsburg, gift to Wooster (Ohio) University for new building fund, \$35,000.

Friendly Aid Settlement House, New York city, gifts from friends to pay debt, \$47,000; name changed to Warren Goddard House.

Frisbie, Louise, New York, bequest to Vassar College, \$12,000.

Fuller-Gould Syndicate, Baltimore, Md., gift to Johns Hopkins University, toward endowment fund, \$15,000.

Gates, John W., Chicago, Ill., gift to Rural Home and School for Boys, for a site for the school, \$10,000.

Gayley, James, first vice-president, United States Steel Corporation, gift to Lafayette College, a laboratory for chemistry and metallurgy.

George Junior Republic, New York, gift from a woman in Georgia, name withheld, for the Freeville Settlement, \$18,000.

Gladding, Thomas S., New York, gift to the Army Department of the Young Men's Christian Association at Fort Hancock, N. J., for a new building, \$15,000.

Glover, Joseph B., Boston, Mass., bequests to 50 charitable organizations or institutions, all local except Hampton Normal and Agricultural School and Tuskegee Normal and Industrial School, \$237,000; and for benevolent purposes, the reversion of \$100,000 more.

Good-Will Farm School, Fairfield, Mass., gift from a New York friend toward a fund for a manual training-school, \$15,000.

Gould, Helen Miller, New York, gifts to Mount Holyoke College for a chair of Biblical Literature, \$40,000; the War Department Young Men's Christian Association, for a building for soldiers at Fort Monroe, \$15,000; Irvington (N. Y.) Public Library, for furnishings, \$10,000; Mount Holyoke College for Northfield Girls, two scholarships; and Irvington and Tarrytown (N. Y.), a club house for the benefit of the poor, \$9,500.

Grace Episcopal Church, Elizabeth, N. J., joint gift from a New York woman and her 2 sons, a club house, cost from \$50,000 to \$60,000.

Grant, Julia Dent, Washington, D. C., bequest, in unsigned codicil, which her executors promised to carry out, to the trustees of the Metropolitan Museum of Art, New York, "the ancient gold lacquered cabinet presented to me by the Empress of Japan and said to be over one thousand years old; also the bronze and gold vases presented to me by the Mikado; also the toilet set of solid gold presented to me by the King of Siam; also the silver and gold stand and gold set presented to me by the second King of Siam; also the silver perfume case in the form of an Indian temple presented to me; and also such other souvenirs given me in my trip around the world with my late husband, Gen. U. S. Grant, as my executors may think of such value or interest as to be a desirable part of the collection in said museum, if any souvenirs there be."

Greenleaf, Mary Longfellow (sister of Henry W. Longfellow), Cambridge, Mass., bequests to the trustees of donations, Protestant Episcopal Diocese of Massachusetts, \$25,000; and to other benevolent institutions, \$55,000.

Grier, James H., Warrington, Pa., bequests to Hahnemann Medical Hospital and Presbyterian Hospital, each \$10,000; and Presbyterian Orphanage and Old Man's Home, each \$5,000.

Guggenheim, Daniel and Simon, New York, joint gift to Jewish Theological Seminary, \$50,000.

Guggenheim, Meyer, New York, gifts, to Jewish Hospital, Logan, Pa., for additional building, \$80,000; and to Mount Sinai Hospital, New York city, for an electrical ambulance service, \$20,000.

Guggenheim, Simon. See GUGGENHEIM, DANIEL.

Guggenheim, William, New York, gift to United Hebrew Charities, toward endowment fund, \$50,000. He also pledged \$10,000 for each \$50,000 given on or before Jan. 1, 1903.

Guiteau, F. W., New York, gift to the Irvington (N. Y.) Public Library, for books, \$10,000.

Haggin, Mrs. James Ben Ali, New York city, gift to the Episcopal Diocese of Lexington, Ky., conditional on Ashland Seminary being always at Versailles, funds for the Margaret Hall; and to restore the seminary dormitory, at least \$20,000.

Hall, Francis, Elmira, N. Y., bequests to Elington, Conn., for a public library, \$30,000; Elmira College, \$8,000; Orphans' Home in Elmira, Elmira Young Men's Christian Association, the Anchorage, and the Arnot Ogden Hospital, for free beds, each \$5,000; Elmira Industrial Association and Home for the Aged, each \$2,000; and Steele Memorial Library, for books, \$1,500.

Halls, William, Jr., and wife, Brooklyn, N. Y., gift for completion of the Seney Hospital there, \$125,000.

Hamilton College, Clinton, N. Y., gift from alumni, for a new Hall of Commons, \$50,000.

Harkness, Albert, Professor of Greek, Brown University, gift to the university, for a scholarship at the American School in Athens, \$5,500.

Harvard University, gift from a friend for the astronomical department, half to be used in extending the Astronomical Library Building and contents and half in making researches for the benefit of science, \$20,000.

Hatch, Mrs. Walter, Brooklyn, N. Y., gift to Yale University, to found a lectureship in theology, \$5,000.

Havemeyer, Henry O., New York, gifts to Bryn Mawr College, \$20,000; to South Beach School District for a new school, seven acres of land; and the First Presbyterian Church, Greenwich, Conn., \$10,000, supplementing a gift of nearly the entire cost of parsonage (\$20,000) and church edifice.

Hay, John, and wife, Washington, D. C., joint gift to Westminster School, Simsbury Conn., a memorial chapel, cost \$10,000.

Hearst, Mrs. Phoebe A., San Francisco, gifts to the University of California, a mining building, cost \$500,000; and for maintenance of the Department of Anthropology, a pledge of \$50,000 per annum.

Hearst, William B., New York, gift to the University of California, the equipment for an out-of-door amphitheater, cost \$40,000.

Hebrew Benevolent Society, Baltimore, gifts from friends, to aid needy Jews of that city, \$20,000.

Hennessy, John, Archbishop of Dubuque, Iowa (died in 1900), bequest paid in 1902 to the Catholic University of America, Washington, D. C., for 3 scholarships, \$17,000.

Hertter, Christian A., and wife, New York city, gift to Johns Hopkins University, Baltimore, Md., for a lectureship in the Medical Department, \$25,000.

Herzstein, Dr. Max, San Francisco, gift to the University of California, to equip physiological laboratory, \$8,000.

Hoagland, Mrs. Caroline C., New York, gift to St. Bartholomew's Parish, a new clinic building.

Hobart, Mrs. Jennie T., widow of Vice-President Hobart, Paterson, N. J., to the Children's Day Nursery of that city, ground and a building, cost \$25,000.

Hoe, Mrs. Richard M., Irvington, N. Y., gift to Westchester Temporary Home at White Plains, a new school building.

Hoey, Michael J., New York, bequests to Roman Catholic Orphan Asylum Society, Home for the Aged, and Home for Children, Staten Island, each \$500; Female Orphan Asylum, St. Vincent de Paul Society, pastors of the Churches of the Annunciation and of SS. Peter and Paul, for the poor of their parishes, and St. Catherine's Hospital, each \$200; Catholic University at Washington, \$100; and to the foregoing beneficiaries, his residuary estate.

Hoffman, Eugene Augustus, Dean of General Theological Seminary, New York, bequests to that institution, \$100,000; Domestic and Foreign Missionary Society of the Protestant Episcopal Church, to form a permanent fund, and New York Historical Society, each \$50,000; Fund for Relief of Widows and Orphans of Deceased Clergymen and of Aged, Infirm, and Disabled Clergymen of the Protestant Episcopal Church and Protestant Episcopal Public School, each \$25,000; American Museum of Natural History, the Strecker collection of butterflies, valued at \$20,000; and Clergymen's Retiring Fund Society of the Protestant Episcopal Church, \$10,000. See OBITUARIES, AMERICAN.

Hoge, William L., bequest to J. Hood Wright Hospital, \$5,000.

Hogg, J. Benwick, gift to Lafayette College, Brainerd Hall (Young Men's Christian Association building), cost, \$35,000.

Holden, Mrs. E. B., New York, gift to Thousand Island Park Association, a public library, cost from \$10,000 to \$15,000.

Holy Trinity Episcopal Church, Brooklyn Heights, N. Y., gift from a friend for its endowment fund, \$30,000.

Hopkins, Robert E., Tarrytown, N. Y., bequests to Home for Old Ladies, and Onondaga County Orphan Asylum, each \$9,629.

Hubbard, Gen. Thomas H., New York, gifts to Albany Law School for a chair of Legal Ethics, \$10,000; to Bowdoin College, a grand-stand for the Whittier Athletic Field; and with his wife to the same college, the Hubbard Library Building, cost between \$300,000 and \$350,000.

Humphrey, Alexander C., New York, gift to All Angels' Episcopal Church, an equipped summer home near Poughkeepsie, N. Y.

Hunter, Mrs. Frances A., New York, bequests to American Bible Society, Board of Home Missions of the Presbyterian Church, and Board of Foreign Missions of the Presbyterian Church, each \$5,000.

Huntington, Mrs. Collis P., New York, gifts to Harvard University for a Laboratory of Pathology and Bacteriology, \$250,000; General Memorial Hospital for Treatment of Cancer and allied diseases, \$100,000; Hampton (Va.) Institute, a new library building; Tuskegee (Ala.) Institute, an academy building; and the Children's Industrial Home, New Brunswick, N. J., \$5,000.

Hutchinson, Alexander C., president of the Morgan Louisiana and Texas Railroad and Steamship Company, New Orleans, bequests to three charitable institutions in New Orleans, each \$20,000; and to the Medical Department of Tulane University, his residuary estate of \$1,000,000. Mr. Hutchinson's death revealed a philanthropic mystery of long standing, he having made frequent and large contributions to local charities

in the form of "In the name of Josephine," now shown to have been his deceased wife.

Huyler, John S., New York, gift to Syracuse University, to promote the work of its Christian Associations, \$15,000.

Hyde, Mrs. Henry B., New York, gift to Saratoga Hospital, a full equipment of sun-parlors.

Ickelheimer, Henry R., New York, gift to Mount Sinai Hospital, an electrical ambulance.

Inness, George, New York, gift to the Artists' Fund Society, for aiding old, destitute, and sick painters, \$5,000.

Jackson, Huntington W., Chicago, bequests to 6 local institutions, each \$1,000.

Jaffray, Robert, New York, bequests to Board of Foreign Missions of the Presbyterian Church, Board of Domestic Missions of the Presbyterian Church, Board of Church Erection of the Presbyterian Church, Board of Education of the Presbyterian Church, and Presbytery of New York, each \$2,000; and New York Society for Prevention of Cruelty to Children, and Working Women's Protective Union, each \$1,000.

Jarvie, James N., Bloomfield, N. J., gift to the city, a library, cost \$100,000; and for its endowment, \$50,000.

Jencks, Francis M. See WYMAN, WILLIAM.

Jennings, Frederick B., New York, gift to Williams College, 150 shares of United States Steel Corporation stock.

Jesup, Morris K., President of New York Chamber of Commerce, gift to that body, a marble statue of De Witt Clinton, cost about \$12,000; gifts to Princeton University for the library fund, \$10,000; and to Hampton Normal and Agricultural Institute and Tuskegee Normal and Industrial Institute for endowment funds, each \$25,000.

Jewett, Miss Sarah Orne, Boston, Mass., gift to Bowdoin College, a memorial window.

Jewish Residents in the United States, gifts of 25 cents each on Shkel Day, to promote the Zionist movement in Palestine, aggregating \$28,000.

Johns Hopkins University, gift from friends for endowment of new university buildings, \$1,000,000.

Johnson Iron Works, Elyria and Lorain, Ohio, gift to the Young Men's Christian Associations, for the use of their employees, a fully equipped building.

Jones, Frank, Portsmouth, N. H., bequest to the public library, \$5,000.

Keene, James R., New York, gifts for relief of the poor of the city, \$2,500; to Charity Organization Society, and United Hebrew Charities Society, each \$10,000.

Kelly, Howard A., M. D., Professor of Gynecology in Johns Hopkins University, gift to Johns Hopkins Hospital for extension of the gynecological ward, \$10,000.

Kennedy, John S., New York, gift to New York Chamber of Commerce, a marble statue of Alexander Hamilton, cost about \$12,000.

Keyser, William. See WYMAN, WILLIAM.

King, Miss Mary Rhinelander, Great Neck, L. I., gift to All Saints' Church, a pulpit, choir and clergy stalls, reredos, rood-screen, and other furnishings of the chancel.

King's Daughters, St. Christopher Chapter, Dobbs Ferry, N. Y., gift to St. Christopher's Home, \$5,000.

Landreth, Eliza G., Philadelphia, bequests to charitable and religious institutions, an estate of \$47,000.

Laudy, Louis H., New York city, gift to Cooper Union for three scholarships, \$7,440.

Lee, Mrs. Susan P., New York, bequest to Washington and Lee University, \$30,000.

Leese, Mrs. S. P., New York, bequests to Central University of Kentucky, \$25,000; and Leese Institute of Jackson, Ky., \$15,000.

Lent, Mrs. Sarah E., Peekskill, N. Y., bequests to Helping Hand Association (Peekskill Hospital), and First Presbyterian Church, Peekskill, each \$5,000; Board of Home Missions of the Presbyterian Church, \$2,000; Board of Missions for Freedmen of the Presbyterian Church, \$1,500; and American Seaman's Friend Society, Presbyterian Home for Aged Women, and Colored Home and Hospital, New York city, each \$1,000.

Lewisohn, Adolph, New York, gift to Hebrew Technical School for Girls, toward a building-fund, \$75,000.

Lewisohn, Leonard, New York, nine children of, joint gift to Jewish Theological Seminary, \$50,000; and to the Hebrew Sheltering Guardian Society, \$125,000. The children also agreed to give \$100,000 each to charity in memory of their father.

Lincoln Memorial University, Cumberland Gap, Tenn., gifts from friends for endowment, \$200,000.

Lindesmith, Rev. E. W. J., Cleveland, Ohio, gift to the Catholic University of America, Washington, D. C., for a scholarship, \$5,000.

Lines, Augustus E., New Haven, bequests available on the death of his widow, to Yale Law School, \$50,000; Church of the Redeemer, \$20,000; Organized Charities, New Haven Colony Historical Society, City Missionary Society, and Welcome Hall, each \$5,000; and St. Francis and New Haven Orphan Asylums, each \$2,000.

Littlefield, George L., Pawtucket, R. I., gift to Brown University, available on the death of his widow, for a Professorship of American History and a General Fund, his estate, valued at \$500,000.

Loeser, Frederick, and wife, Brooklyn, N. Y., gift to Brooklyn Institute of Arts and Sciences, a trust fund of \$10,000.

Lord, Benjamin, New York, bequests to the Reformed Episcopal Church, available on the death of his daughter, for the Sustentation Fund, \$17,000; the Theological Seminary, \$16,000; the Female Guardian Society, \$12,000; to several church homes, each, from \$1,000 to \$2,000.

Low, Julia Ann, New York, bequests to House of the Holy Comforter, Free Church Home for Incurables, House of Mercy, St. Luke's Home for Indigent Christian Females, Church Mission to Deaf-Mutes, and St. Mary's Free Hospital for Children, each \$1,000.

McClary, William, Philadelphia, Pa., bequests to Grand Masonic Lodge to establish a perpetual fund for support of a home for orphan children of Free Masons, \$30,000; and Pennsylvania Grand Lodge of Free Masons, for support of the Home for Aged Masons in that city, \$20,000.

McCormick, Mr. and Mrs. Harold, Chicago, Ill., gift to Memorial Institute of Infectious Diseases, for endowment, \$1,000,000.

McCormick, Mrs. N. F., Chicago, Ill., gift to University of Wooster (Ohio), toward replacing the burned buildings, \$15,000.

McCormick Theological Seminary, gift from a friend, for a fellowship in New Testament Greek, \$30,000.

McDonnell, E. L., Muskegon, Mich., bequest to establish a home for indigent old women at Fairmount, Ind., \$60,000.

McKay, Gordon, Newport, R. I., gift for a manual training-school for colored children, the Tower Hill House, South Kingston.

McKee, John, Philadelphia, Pa., bequests for the constructing and endowing of an institution in Philadelphia for education of white and colored male orphans, to be known as McKee College, and to McKee City, N. J., for a Catholic church, rectory, and convent, his residuary estate of \$2,000,000.

McMillan, James, Detroit, Mich., bequests to Grace Hospital, \$60,000; and Home of the Friendless, Woman's Hospital, and Foundlings' Home, Children's Free Hospital Association, and Little Sisters of the Poor, each \$1,000. See OBITUARIES, AMERICAN.

Manhattan Eye and Ear Hospital, New York city, gift from a friend, name withheld, toward a new building on a new site, \$50,000.

Mary Katharine, Mother, formerly Miss Mary Katharine Drexel, of Philadelphia, gift for instruction of Indian and negro children, a large school building at Cascade, S. Dak.

Masten, Charles H., M. D., Nyack, N. Y., bequests to Nyack Hospital, \$20,000; and the Methodist Episcopal Churches of Piermont and Palisades, \$2,500.

Maxwell, Henry W., Brooklyn, N. Y., bequests to Long Island College Hospital and the Brooklyn Industrial School Association and Home for Destitute Children, each \$20,000; Brooklyn Association for Improving the Condition of the Poor, Brooklyn Union for Christian Work, Second Unitarian Congregational Society of Brooklyn, American Unitarian Society of Boston, Children's Aid Society, Brooklyn Society for Prevention of Cruelty to Children, American Society for Prevention of Cruelty to Animals, Meadville (Pa.) Unitarian Seminary, Brooklyn Bureau of Charities, and Greenwood Cemetery Association, each \$5,000. See OBITUARIES, AMERICAN.

Maxwell, J. Rogers, Brooklyn, N. Y., gift to Long Island College Hospital, for a new building, \$400,000.

Merchants' Club, Baltimore, Md., gift to Johns Hopkins University, toward endowment fund, \$50,000.

Messiah Women's Branch Alliance, New York city, gift from the Church of the Messiah, New York city, for home missionary work, \$20,000.

Methodist Episcopal Church in New York city, friends of, gifts for the Worn-out Preachers' fund, \$70,000.

Mills, Darius O., New York city, gift to University of California, for the Department of Philosophy, \$50,000, and for an astronomical expedition to the Southern Hemisphere, \$24,000.

Morgan, Henry A., gift to Wells College, for a new building, \$50,000.

Morgan, William B., Hartford, Conn., bequests to South Baptist Church, and Old People's Home, each the income of about \$52,000; and Masonic Home at Wallingford, the income of about \$36,000.

Morris, Mrs. Georgia E., New York city, bequest to the building fund of the Cathedral of St. John the Divine, made available in 1902 by the death of her sister, \$200,000.

Morse, Charles W., New York, gift to the city of Bath, Me., a high-school building, to cost from \$50,000 to \$75,000.

Morse, Samuel Finley Breese, New York city (died April 2, 1872), bequests made available by the death of his widow (Nov. 14, 1901) and the division of his estate (September, 1902), to Home for the Friendless, Poughkeepsie, N. Y., \$3,000; Princeton University for scholarships, \$2,000; Union Theological Seminary, Richmond, Va., \$1,000; Old Ladies' Home, Poughkeepsie,

\$1,000; University of the City of New York, for annual medal for scholarship, \$1,000; his trustees, for medal to encourage geographical research, \$1,000; and the National Museum, Washington, D. C., all his orders, decorations, etc.

Newberry, Mrs. Helen H., New Haven, Conn., gift to Yale University, an organ for Woolsey Hall, cost \$30,000.

New Haven County (Conn.) Anti-Tuberculosis Association, gifts from members and friends, funds for modern hospital for the treatment of consumptives.

Newton Theological Seminary, gift from friends to secure gift of \$150,000 from John D. Rockefeller, \$150,000.

New York Kindergarten Association, gift from a friend, for endowment fund, \$40,000.

Northwestern University, Evanston, Ill., gift from a friend, a school of technology.

Norwegian Residents, New York city, gifts for the erection of a new Norwegian hospital there, aggregating \$140,000.

Oberlin College, Ohio, gift from friend in New England, name withheld, for new endowment fund, \$50,000. The same donor gave a similar sum to the previous fund.

Ogden, Joseph W., New York, gift of a new Presbyterian Church building, in Chatham, N. J.

Oliver, Henry W., Pittsburg, Pa., gift to Lafayette College, the Oliver library.

O'Neill, Matthew, Buffalo, N. Y., bequest to Hobart College, \$30,000.

O'Rourke, John F., New York city, gift to Cooper Union, for two scholarships, \$5,000.

Palmer, Francis A., New York city, bequests to Palmer Christian College, Iowa, \$30,000; Elon College, North Carolina, \$30,000; Union Christian College, Indiana, \$30,000; Hamilton College, \$5,000; Congregational Sunday-School and Publishing Society, \$5,000; Westchester County Temporary Home for Destitute Children, \$5,000; Chapin Home for the Aged and Infirm, \$5,000; the Presbyterian Hospital, New York city, \$5,000; the Presbyterian Church, Bedford, N. Y., \$1,000; and the Francis Asbury Palmer fund, the residue of his estate (\$500,000). See OBITUARIES, AMERICAN.

Palmer, Mrs. L. M., bequests to the hospital of the University of Michigan for a ward for children, \$20,000, and for its endowment, \$15,000.

Park Avenue Methodist Episcopal Church, New York city, gifts from friends, to extinguish debt, \$27,000.

Parker, Cortlandt, Newark, N. J., gift to the city of Perth Amboy, N. J., the old Parker home-stead there, built in 1719, for a site for a Carnegie library.

Parsons, John E., New York, gift to St. Helen Episcopal Church, a new parish building, cost \$5,000.

Patton, Thomas B., treasurer of the Grand Lodge of Masons of Pennsylvania, gift to that body for the relief of widows of Master Masons, \$42,624, making with his previous gifts a fund of \$100,000.

Pearsons, Daniel Kimball, Chicago, Ill., gift to Whitman College at Walla Walla, Wash., \$50,000, making his total gifts to the college, \$250,000; Illinois College, Jacksonville, \$50,000; Fargo (N. Dak.) College, \$50,000; and Fairmount College, Wichita, Kan., \$25,000.

Pennsylvania, University of, gift from a friend, for the building fund of the medical laboratories, \$10,000; and from other friends, the entire amount for the new gymnasium, to cost \$500,000.

Perkins, George W., New York, gift to Buffalo Young Men's Christian Association, for a new home, \$25,000.

Phipps, Henry, Philadelphia, Pa., gift to the city, a clinic for the treatment of poor consumptives; and to the Educational Alliance of New York, \$10,000.

Phipps, Laurence C., Denver, Col., gift to the State of Colorado, a thoroughly equipped hospital for tuberculous patients, cost over \$250,000.

Pitts, William, Taunton, Mass., bequest for Protestant Episcopal mission work in the South, \$32,000.

Plainfield, N. J., citizens of, gifts for a Muhlenberg Hospital there, \$125,000; corner-stone laid Dec. 6, 1902.

Pope, A. A., Cleveland, Ohio., gift to Western Reserve University, \$100,000.

Post-Graduate Hospital, New York, gifts from a friend, conditional on the payment of its debt, \$100,000; and from two other friends for payment on debt, \$35,000.

Potter, Mrs. Henry Codman, New York city, gifts to the Pro-Cathedral District of New York city a club-house, cost \$55,000; and to Grace Episcopal Church, Elizabeth, N. J., a club-house, cost \$65,000.

Power, John J., Worcester, Mass., bequests to the Association of Sisters of Our Lady of Mercy, land, the convent and orphanage; and to Holy Cross College, his library.

Pratt, Mrs. Mary Morris, Brooklyn, N. Y., and **Mrs. Mary Shaw Thompson**, Allegheny, Pa., joint gift to Vassar College, a chapel.

Princeton (N. J.) Theological Seminary, gifts from friends for a William Henry Green chair of Semitic Languages, \$100,000.

Princeton University, gifts from students and alumni, for a new gymnasium, \$250,000; from friends for endowment of the Old Testament Professorship, \$100,000; and from the classes of 1901 and 1902, for special purposes, \$60,000.

Proctor, Ellen O., Brookline, Mass., bequests to Harvard Medical School, to promote the study of chronic diseases, \$50,000; and American Board of Foreign Missions, for medical work, \$10,000.

Proctor, Harley T., Williamstown, Mass., gift to the town, conditional on the raising of \$50,000 more for improvement of the roads, \$10,000.

Proctor, Redfield, United States Senator from Vermont, gift to the Young Men's Christian Association for the use of his employees at Proctor, Vt., a thoroughly equipped building of marble.

Protestant Episcopal Church, members of, names withheld, gifts to start a fund for the erection of a cathedral in Manila (to cost \$1,000,000), \$200,000.

Purrington, George H., Jr., Mattapoisett, Mass., gift to that town for a library, \$10,000.

Radcliffe College, Alumnae of, gifts for a college building, to be a memorial of Mrs. Louis Agassiz, \$100,000.

Rankine, William B., Niagara Falls, N. Y., gift for a parish house for St. Peter's Church, Geneva, N. Y., \$22,000.

Rathbone, Caroline S., New York, bequests for founding and maintaining home for aged and infirm persons, at Evansville, Ind., ground and money, aggregating \$70,000; to the General Clergy Fund, \$8,430; Domestic and Foreign Mission Society of the Protestant Episcopal Church, \$7,375; St. Ann's Deaf-Mute Church, \$1,100; and Church Mission Society for Deaf-Mutes, \$520.

Read, Lucy Richmond, Boston, bequests to charitable institutions in Boston, Bedford, and Wellesley, a total of \$35,000.

Reld, Daniel E., New York city, gift to the United Presbyterian Congregation of Richmond, Ind., a new church edifice, cost with ground, \$100,000.

Reyburn, Mrs. Rebecca, Baltimore, Md., bequest to the Catholic University of America, Washington, D. C., for general expenses, \$20,000.

Rhinclander, Miss Serena, New York city, gift to Church of the Ascension, \$50,000.

Rice, William Marsh, New York, bequest to Rice Institute of Houston, Tex., the bulk of his estate of \$8,000,000.

Riley, Mrs. Crossman, New York, bequest to Brooklyn Home for Aged Men, the bulk of her property, valued at \$4,000,000.

Ripley, Edward Payson, president of the Santa Fé Railroad Company, gift to the Young Men's Christian Association of Topeka, Kan., for a new building, conditioned on the association securing the site and \$10,000, \$20,000.

Roberts, Mrs. Charles, Philadelphia, Pa., gift to Haverford College, a new assembly hall, cost \$50,000; and the same institution, her husband's large collection of autographs.

Robertson, Thomas D., Rockford, Ill., bequests to Rockford College, Beloit College, American Board of Commissioners for Foreign Missions, each \$5,000; Rockford Hospital Association, Chicago Theological Seminary, Congregational Home Missionary Society of New York, and American Missionary Association, each \$3,000; and American Sunday-School Union, American Bible Society, and Congregational Church Building Society, each \$1,000.

Robinson, James F., Rock Island, Ill., bequests to Northwestern University, about \$200,000; and the American University at Washington, a considerable but undetermined part of his property.

Rockefeller, John D., New York, gifts, to the University of Chicago, for real estate, \$1,000,000; and as his regular Christmas offering, \$1,000,000; General Education Board, to promote education in the South, \$1,000,000; Harvard University, for a new medical school, \$1,000,000; Teachers' College, New York, as a thank-offering, \$500,000; Bryn Mawr College and Cornell University, each \$250,000; Rochester Theological Seminary, \$200,000; and a duplication of gifts made to the Seminary by Jan. 1, 1902, which amounted to \$100,000; Newton Theological Seminary, \$150,000; Wellesley College for a heating and ventilating plant, \$150,000; Adelphi College, \$125,000; Barnard College, \$250,000; Brown University, \$75,000; Olivet Baptist Church, \$15,000. The educational gifts were conditional on specified amounts being otherwise raised during 1902, which was done.

Rogers, Henry H., New York, gifts for a home for orphan children adopted by the Unitarian Church of the Messiah, the old Morris Mansion, Morris Heights, valued at over \$150,000; and to the Unitarian Church in Fairhaven, a set of chimes.

Rogers, Jacob S., Paterson, N. J., bequest to Metropolitan Museum of Art, his residuary estate, estimated at \$5,547,922.60.

Root, Anna H., Orange, N. J., bequests to the Society of the New Jerusalem, of Orange, \$5,000; Orange Memorial Hospital, Orange Training-School for Nurses, Orphan Home Society of East Orange, Bureau of Associated Charities, House of the Good Shepherd, and the Woman's Club of Orange, each \$500; and the Society of the New Jerusalem, the income of her residuary estate.

Russell, Charles Hazen, Brooklyn, N. Y., gift to Wells College, memorial windows.

Rust, Mrs. Nancy E., Boston, bequests to Addison Gilbert Hospital, Gloucester, Mass., unconditionally, \$10,000, and the reversion of \$15,000; Children's Hospital, Perkins Institute for the Blind, and Kindergarten for the Blind, all in Boston, each the reversion of \$5,000; and 15 other institutions, an aggregate of \$25,000.

Russian Residents, New York city, gifts for the erection of the Russian Orthodox Church of St. Nicholas there (dedicated Nov. 23, 1902), aggregating about \$100,000.

Ryan, Thomas F., New York, gift to the Roman Catholic diocese of Richmond, Va., for the erection of the Cathedral of the Sacred Heart, \$250,000.

Ryerson, Martin A., Chicago, Ill., gift to the city of Grand Rapids, Mich., for a library, \$20,000.

Byle, Mrs. Mary E., Paterson, N. J., gift to the city, to replace the Paterson Library, originally built by her and destroyed in the great fire of Feb. 15, 1902, \$100,000.

Sage, William H., Albany, N. Y., gift to Cornell University, of a stone pulpit for Sage Chapel.

St. Paul's Methodist Episcopal Church, New York, gifts from friends, toward paying the church debt, \$25,000.

Sather, Mrs. Jane K., San Francisco, gift to the University of California, a gateway and bridge, cost \$10,000.

Sayles, Frederick C., Pawtucket, R. I., gift to the city, the Deborah Cook Sayles Memorial Free Library.

Schiff, Jacob H., New York, gifts to the Jewish Theological Seminary, New York, a site and building for the new seminary; New York Public Library, for the Semitic department, \$20,000; Hebrew Sheltering Guardian Society, \$10,000; and Cooper Union, for scholarships, \$5,000.

Schwab, Charles M., New York and Pittsburgh, President of the United States Steel Corporation, gifts for the erection of a church for St. Thomas's Roman Catholic congregation at Brad-dock, Pa., \$70,000; to Pennsylvania State College, \$65,000; and to Mount Aloysius Academy, Cresson, Pa., an alumni and assembly hall, cost \$25,000.

Scott, Charles, Sr. and Jr., Philadelphia, Pa., joint gift to Wesleyan University, for a physical laboratory, \$75,000.

Scribner, Mrs. John Blair, New York, gift to the Second Presbyterian Church of Saratoga, a parsonage, cost \$10,000.

Seligman, Jefferson, New York, gift to Mount Sinai Hospital, an electrical ambulance.

Severance, L. H., Cleveland, Ohio, gift to the University of Wooster (Ohio), for a new building fund, \$75,000.

Shanley, John F., Newark, N. J., gift to the building fund of the Cathedral of the Sacred Heart there, \$5,000.

Shaw, Alexander, Baltimore, bequests to the Woman's College of Baltimore, \$50,000; and to Pennington Seminary, \$10,000.

Sheffield Scientific School, gift from a friend, a new laboratory of mineralogy, named Kirtland Hall, cost \$150,000.

Sheldon, Henry King, Brooklyn, N. Y., bequests to Silver Lake Presbyterian Church, \$15,000; Brooklyn Philharmonic Society, and Brooklyn Institute, for concerts, each \$10,000; and Brooklyn Institute, unconditionally, \$2,500.

Sherman, Mrs. Hannah N. L., Lawrence, L. I., gift to New York Post-Graduate Hospital and College, for a ward for nervous diseases, \$25,000.

Siegel, Henry, New York, gift to Stony Wold Sanitarium, for a dormitory, \$20,000.

Silliman, H. B., Cohoes, N. Y., gift to Mount Hermon School, Northfield Mass., for improving Silliman Science Hall, \$10,000.

Simon, Mrs. Clara, New York, gift to Lebanon Hospital, \$60,000.

Simons, James D., Jersey City, N. J., gift to Grace Church of that city, \$5,000.

Small, Mrs. William, Leavenworth, Kan., gift for an Old Ladies' Rest in that city, \$50,000.

Smith, George, St. Louis, Mo., bequest to Harvard University, for 3 new dormitories, \$450,000.

Smith, James Henry, New York, gift to the Metropolitan Museum of Art, Rubens's Holy Family, valued at \$50,000.

Smith, James, Newark, N. J., gift to the Cathedral of the Sacred Heart now building there, \$25,000.

South Orange (N. J.) Methodist Episcopal Church, gifts from friends, a total of \$12,000.

Sower, Charles G., Philadelphia, Pa., bequest to charitable institutions, \$30,000.

Spence, W. W., Baltimore, Md., gift to Johns Hopkins University, toward endowment fund, \$50,000.

Spreckels, Claus, San Francisco, gift to the University of California, for special books, \$11,875.

Spreckels, Rudolph, San Francisco, gift to the University of California, for a physiology hall, \$25,000.

Steele, Mrs. Esther Baker, Syracuse, N. Y., gift to Syracuse University, \$10,000.

Stetson, Francis Lynde, New York, gift to Williams College, \$50,000.

Stillman, James, New York, gift to Harvard University, to found a Chair of Anatomy, \$100,000.

Stratton, Winfield Scott, Colorado Springs, Col., bequest for a Home for the Poor, the bulk of his estate, valued at \$14,000,000.

Stuart, William A., Brooklyn, N. Y., bequest for a Masonic building in that borough, \$125,000.

Studebaker, Clem, family of the late, South Bend, Ind., gift to the Epworth Hospital there, to pay for a new building, \$75,000.

Swift, Gustavus F., Chicago, gift to debt-raising fund of local Methodist Episcopal churches, \$10,000.

Swope, Thomas H., Kansas City, Mo., gift to Central University, Danville, Ky., \$25,000.

Teachers College, New York, gift from a friend, for a new gymnasium, \$250,000.

Temple Emanuel, Congregation of, New York, gift to Columbia University, for endowment of a fellowship in honor of the Rev. Dr. Gustav Gottheil, \$15,000.

Thomas, George C., Philadelphia, gift for building for parish work in connection with the projected Protestant cathedral in Manila, \$25,000.

Thompson, Mrs. Mary, New York, gifts to Williams College, a chapel; and to Vassar College, a library building.

Thompson, Mrs. Mary Shaw. See PRATT, Mrs. MARY MORRIS.

Tompkins, Mrs. Cornelia C., New York, bequests to Tuskegee (Ala.) Normal School, \$20,000; Children's Aid Society, \$10,000; and Woman's National Sabbath Alliance, Woman's Executive Committee of Home Missions of the Presbyterian Church, and American Seaman's Friend Society, each \$5,000.

Tousley, Orsen V., Washington, bequest to Williams College, available on the death of his widow, his estate, estimated at \$70,000.

Tower, Charlemagne, gift to the Philadelphia Library, 2,500 Russian books.

Tuck, Edward, an American citizen resident in Paris, France, gift for the benefit of the American colony in Paris and American visitors to that city, the Franklin Hospital, erected on the most approved American models and managed by American physicians and nurses.

Tully, Miss Cecilia, Boston, Mass., bequests to Woodstock College, \$30,000; St. John's Seminary, \$10,000; Apostolic College, County Limerick, Ireland, \$5,000; Boston College, for scholarships, \$4,000; Working Boys' Home, \$2,000; Religious Society of the Sisters of Mount Carmel, and the Oblate Fathers Novitiate at Dublin, each \$1,000; and Little Sisters of the Poor, Home for Destitute Catholic Children, House of the Good Shepherd, and Carney Hospital, each \$500.

Turkey, Sultan of, gift to the University of Pennsylvania, through Prof. Herman V. Hilprecht, a collection of Babylonian antiquities, said to be the richest in the world.

Tuskegee (Ala.) Institute, gift from a friend, for a girls' dormitory, \$25,000.

University of California, gift from friends, \$30,000; the Alumni Association, \$9,000; and a friend for salary of the professor of physiology for three years, \$15,000.

Upson, Dr. Anson Judd, Utica, N. Y., bequest to the public library, \$5,000.

Vanderbilt, Mrs. Cornelius, New York, gift to St. Bartholomew's Church, an entire new front, cost \$200,000.

Vanderbilt, Frederick W., New York, gift to Sheffield Scientific School of Yale University, for a new dormitory, land and money, value about \$500,000.

Van Besselaer, Mrs. Mary Thorn, New York city, bequest to her husband and sister, the interest to be used in aiding the poor and sick, \$25,000.

Vassar College, Poughkeepsie, N. Y., gifts from friends, a library building and a chapel; from Alumnae Endowment Committee, \$9,000; for the Abbot and Beach Scholarships, each \$8,000; and for a scholarship founded by the Association of Students of Miss Hersey's School, Boston, Mass., \$5,000.

Vickery, Percy O., Augusta, Me., bequest to the Winthrop Street Universalist Church, \$10,000.

Von Pape, Ernest, New York, bequest to the German Hospital, \$5,000.

Voorhees, Ralph, Clinton, N. J., gifts to Rutgers College, \$50,000; Coe College, Cedar Rapids, Iowa, \$25,000; and Carroll College, Waukesha, Wis., \$20,000.

Wade, J. H., Cleveland, Ohio., gifts to Cleveland Fresh Air Camp and Lakeside Hospital, each \$100,000; Cleveland Day Nursery and Kindergarten Association, \$50,000; and Salvation Army, \$1,000.

Wales, Mrs. Maria W., Boston, Mass., bequests to the Boston Museum of Fine Arts, \$20,000; Harvard College and the Kindergarten of the Blind, each \$10,000; Home for Aged Colored Women and the Children's Hospital, each \$1,000; and the Tuckerman Circle, \$100.

Walker, Mrs. Mary G., Brooklyn, N. Y., bequests to New York Association for Improving the Condition of the Poor, and St. Luke's Hospital, each \$100,000; New York Association for Improving the Condition of the Poor, for the Fresh Air Fund, and Society of St. Johnland, each \$50,000; Home for Incurables, Fordham, and Children's Aid Society, Orphans' Home and Asylum of the Protestant Episcopal Church, Colored Home and Hospital, Home for Old Men and Aged Couples, New York Institute for the Blind, and St. Luke's Home for Indigent Christian Females, all of New

York city, each \$25,000; New York Society for Relief of the Ruptured and Crippled, \$15,000; and Samaritan Home for the Aged, \$10,000.

Walsh, Mrs. Ann Eliza, Brooklyn, N. Y., gift to Henry McCaddin, Jr., fund for education of candidates for the Catholic priesthood, \$450,000.

Wanamaker, John, Philadelphia, Pa., gift to Bethany College, Philadelphia, Pa., a new building, cost \$300,000.

Warburg, Felix M., New York city, gift to new building fund of the Hebrew Technical School for Girls, \$5,000.

Waters, Mrs. Sarah Ann, New York city, bequests to the American Female Guardian Society and Home for the Friendless, improved real estate valued at \$15,000, and to the Women's Auxiliary of the Guild for Crippled Children of the Poor, \$1,000.

Webb, Mrs. Henrietta A., widow of William H. Webb, founder of Webb Academy and Home for Shipbuilders, New York, bequests to the academy, about \$1,000,000; Hospital for Ruptured and Crippled, and Daisy Fields Home for Crippled Children, at Edgewater, N. J., each \$1,000; and Night Refuge, Children's Aid Society, and Little Mothers of New York, each \$500.

Webb, William Seward, M. D., New York city, gift to the University of Vermont, for purchase of the herbarium of Cyrus G. Pringle, \$6,000.

Webber, Mrs. A. S., Nashville, Tenn., gift for a polytechnic institute there, \$150,000.

Weeks, Mrs. Augusta J. S., Patchogue, L. I., bequest to that village, ground for a public park.

Weeks, George W., Clinton, Mass., bequests to Clinton Hospital, \$30,000; the First Unitarian Church of Clinton, \$22,000; the city of Clinton, for the site of a Carnegie Library, \$15,000, for shade trees, \$3,000, and to provide a course of lectures, \$10,000; the Carnegie Library fund for the purchase of scientific books, \$10,000 (the interest only to be used), and for books and pictures for the Children's Room, \$3,000; and Woodland Cemetery, \$10,000.

Well, Theodore G., New York, bequests to Mount Sinai Hospital, \$2,000; Five Points House of Industry, St. Francis Hospital, Children's Aid Society, and Aguilar Free Library, each \$1,000; St. John's Guild Floating Hospital, Hebrew Orphan Asylum, Montefiore Home for Incurables, Home of the Good Shepherd, Emanuel Sisterhood Day Nursery, Home for Indigent Commercial Travelers, and Skin and Cancer Hospital, each \$500; Society for Prevention of Cruelty to Children, and Society for Prevention of Cruelty to Animals, each \$250; and Actors' Fund, \$200.

Weinstock, H., San Francisco, gift to the University of California, for its College of Commerce, \$5,000.

Wellesley College, gift from Classical Society of, a society house in the style of a Roman villa.

Wells College, Aurora, N. Y., gifts from 8 of the Alumnae, for a recreation hall in honor of Dean Helen Fairchild Smith, \$15,000; from the class of 1902, a memorial window, and other gifts, aggregating \$2,000.

Wells, Daniel, Chicago, Ill., bequests to 6 local charities, each \$1,000.

Wertheim, Henry P., New York, gift to the University Settlement, a new building.

Wesleyan University, gift from the brother of Prof. Van Vleck, an observatory, cost \$50,000; and from a friend, name withheld, for a new science building, \$75,000.

Wharton, Joseph, Philadelphia, Pa., gift to Wharton School of Finance and Economy of the

University of Pennsylvania, an increase of his endowment, \$300,000, making it \$500,000.

Whayne, Robert C., Louisville, Ky., bequests to local charities, \$40,000.

Wheelock, Jerome, Worcester, Mass., bequests to the town of Grafton, Mass., for a town hall, \$100,000; the city of Worcester for a bronze statue of himself, \$100,000; Harvard University and Clark University, each \$100,000; and to local charities, \$50,000.

Whipple, Mrs. Evangeline M., Faribault, Minn., gift to the Episcopal Cathedral of Our Merciful Saviour, as a memorial to Bishop Henry B. Whipple, a set of chimes, cost \$10,000.

White, Francis T., New York, gift to Earlham College, Richmond, Ind., conditional on the raising of \$20,000 more to free the college from debt, \$25,000.

White, Henry, gift to Johns Hopkins University, toward endowment fund, \$5,000.

Widener, Peter A. B., Philadelphia, Pa., gift for building, equipment, and endowment of Widener Memorial Training School for Crippled Children, \$2,000,000.

Wilbur, Warren A., Fountain Hill, Pa., gift to Lehigh University, toward equipment of its mechanical laboratory, \$5,000.

Willis Avenue Methodist Church, Bronx borough, New York, gifts from friends to extinguish debt, \$43,000.

Winthrop, Mrs. Mary J., New York city, bequest to Princeton (N. J.) Theological Seminary, her entire residuary estate, estimated at \$1,500,000.

Woman's Christian Temperance Union, Passaic, N. J., gifts from friends for a hall, \$15,000.

Woman's College, Baltimore, gift from trustees of the great Methodist thank-offering fund, all the contributions paid in the limits of the Baltimore Conference, exceeding \$44,000.

Wood, H. Holton, and wife, Boston, gift to the city of Derby, Conn., a public library, cost \$50,000.

Woodward, Col. Robert B., Brooklyn, N. Y., gift to Brooklyn Institute, for 2 funds, each \$25,000.

Wooster (Ohio) University of, gifts from friends toward rebuilding the university, \$400,000.

Wright, J. Hood, Memorial Hospital, New York city, gift from friends, \$16,929.25.

Wyman, William, Baltimore, Md., and others, joint gift to Johns Hopkins University, for a new site for the university, 175 acres in the northern suburbs of Baltimore, valued at \$1,000,000.

Yale University, gift from the class of 1876, to establish an Arthur Twining Hadley scholarship, \$5,000.

Young Men's Christian Association, Brooklyn, N. Y., gift from friends, for a new building, \$150,000.

Young Men's Christian Association, Douglas island, Alaska, gift from three mining companies there, a furnished building, cost \$6,000; opened on Christmas.

Zabriskie, N. Lansing, gift to Wells College, for equipment of building given by Henry A. Morgan, \$25,000.

Ziegler, William, New York, gift to Barnard College, \$10,000.

GRANGE, NATIONAL. Numerically the Grange reached its highest point about 1875, when it had a paid-up membership of 750,000. Immediately after this a serious decline set in, and by 1888 the membership had been reduced to 100,000. Moreover, by the date last named the Grange

had almost ceased to exist in the South and in the Middle West. Iowa, Missouri, and Indiana, each of which had about 2,000 granges in 1875, had only a few score in 1888. Other organizations came upon the field and took the public eye. These things gave an impression that the Grange was extinct. But its membership never has gone much below the hundred-thousand mark; it never has missed an annual meeting; there has always been a reserve fund in the treasury; and since 1888 there has been a steady, and even a remarkable growth. The present membership is at least 250,000. During the last fiscal year about 16,000 members have been added, and about 350 new subordinate granges organized. In Michigan the order has increased since 1894 from 220 granges, with about 8,000 members, to 550 granges, with 32,000 members. At present New York is the largest grange State, with about 60,000 members; Maine has about 35,000, and New Hampshire ranks fourth with about 26,000. The Grange is still strongest in New England, where it has about 100,000 members; and, considering agricultural resources and population, it is weakest in the Middle West.

The Grange was originally intended to minister to the social and educational needs of the farming class. Its founders never planned that it should be a business agency or a political party. But the so-called "Granger movement"—which ought not to be confounded with the real Grange movement—in the '70s swept the Grange off its feet. Or perhaps it would be more correct to say that the intensity of feeling on the part of the farmers toward the railroads and the middlemen caused the financial and legislative purposes of the Grange to be vastly overemphasized. And the decline of the Grange was largely because of disappointment that it did not yield as prompt returns along these lines as many of its members had looked for. In New England, however, this "Granger movement" did not take place. There the Grange grew more slowly, but it grew on its merits. Its social and educational purposes were constantly emphasized, and it gradually took its place as a recognized social institution. The same kind of growth has more recently taken place in New York, Pennsylvania, Ohio, and Michigan.

The social work of the Grange is maintained through its frequent meetings, through socials, picnics, etc. The subordinate or local grange meets semimonthly, and sometimes weekly. The county or "Pomona" grange meets monthly or quarterly. The State grange is an annual gathering with a large number of delegates and visitors from all parts of the State. The National Grange, although a small body officially, draws a large number of visiting members. All these meetings give ample scope for social entertainment and culture. The more truly educational work of the order is encouraged through the presentation of literary programs at each meeting of the county and subordinate granges. The lecturer is virtually the program committee, and through the efforts of the national and State lecturers this form of work is being rapidly systematized and extended. The Grange also takes an active part in legislative affairs, but always in a non-partizan way. Public questions are constantly discussed at the meetings, and committees present the views and wishes of the order before Legislatures and Congress. Not a little legislation, both State and national, has been secured through the assistance, and often by the initiation of the Grange. The Grange also renders financial assistance to the farmer, largely through cooperative purchases and fire insurance. The State grange makes contracts for goods at reduced rates with wholesale or jobbing houses.

The orders come through the subordinate grange, the goods being paid for on delivery. Binding-twine, fertilizers, farm machinery, are perhaps the leading articles purchased, although trade contracts exist for almost everything the farmer needs. Grange fire-insurance exists in a number of the States, the best example being in New York, where about \$100,000,000 worth of risks is carried by Grange companies, at an average annual rate of about \$1 a thousand.

The annual meeting of the National Grange in 1902 was held in Lansing, Mich., Nov. 12-21. Delegates from 28 States were present. As a whole, the meeting was of interest chiefly because of the showing made in the growth of the order. So far as any reports or resolutions are concerned, there was no unusual or radical action. The nearest approach to this was a resolution favoring Government ownership of railways. This resolution was not

pressed, however, and did not come up for debate. The report of the Committee on Transportation was a vigorous arraignment of railway discrimination, and Attorney-General Knox, Commissioner Prouty, and Prof. Ely were quoted to illustrate the prevalence and results of this discrimination. The Grange had a good deal to do with securing the Interstate

AARON JONES.

Commerce Commission, and is still in favor of giving that commission ample powers. It is undoubtedly the sentiment of the Grange that all possible resources along this line should be exhausted before Government ownership is seriously discussed.

So far as trusts are concerned, the Grange three years ago approved the following recommendations unanimously, and this statement may be said to represent the present Grange sentiment as to trust legislation:

"It must be made impossible for so-called trusts to accumulate millions by selling watered stock without adding to the wealth of the country. Therefore, we recommend:

"First, official inspection of all corporations, as in case of national banks. No corporation should be tolerated whose books can not bear such inspection.

"Second, prohibition of all rebates or discriminations by public carriers.

"Third, taxation of all capital stock.

"Fourth, all capital stock should be paid in full.

"Fifth, severe penalties for violation of law—first, by forfeiture of charter, fine, and imprisonment; second, by impeachment, fine, and imprisonment of all public officials whose duty it may be to enforce the law and who fail to perform that duty."

The National Grange does not prepare a general platform expressing its stand on public questions. The nearest approach to this is contained in the following quotation from the address of National Master Jones at the last session of the National Grange, which may be considered the official state-

ment of the position of the National Grange on the subjects named.

"I again call attention to the legislation demanded by the agricultural interests of the country, considered, approved, and urged at the thirty-third, thirty-fourth, and thirty-fifth annual sessions of the National Grange. For the arguments in support of the legislation demanded I respectfully refer to the Journal of Proceedings of the thirty-third, thirty-fourth, and thirty-fifth annual sessions, and the action of the various committees and the addresses of the Legislative Committee to the Congress of the United States.

"1. Free delivery of mails in the rural districts, and that the service be placed on the same permanent footing as the delivery of mail in the cities, and that appropriations be commensurate with the demands and the benefits of the service.

"2. Provide for postal savings-banks.

"3. Submit an amendment to the Constitution providing for the election of United States Senators by direct vote of the people.

"4. Submit an amendment to the Constitution granting the power to Congress to regulate and control all corporations and combinations, preventing monopoly and the use of their corporate power to restrain trade or arbitrarily establish prices.

"5. Enlarge the powers and duties of the Interstate Commerce Commission as provided in Senate bill No. 1430 [the Cullom bill].

"6. Regulate the use of shoddy.

"7. Enact pure food laws.

"8. Provide for the extension of the markets for farm-products equally with manufactured articles.

"9. The enactment of the antitrust law, clearly defining what acts on the part of any corporation would be detrimental to public welfare.

"10. Speedy construction of the Nicaragua Canal by the United States [secured by the passage of the Isthmian Canal bill].

"11. The speedy construction of a ship-canal connecting the Mississippi river with the Great Lakes and the Great Lakes with the Atlantic Ocean.

"12. Revising the fees and salaries of all Federal officers, and placing them on a basis of similar service in private business.

"13. Protect the dairy interests by the passage of House bill No. 3717 [secured by the enactment into law of the Grout bill]."

To this ought to be added the sturdy opposition of the Grange to the passage of the ship subsidy bill. The Grange at its last meeting also placed itself on record as favoring the gradual introduction of the plan of centralizing the rural schools, and approved a vigorous committee report containing a severe criticism of those agricultural colleges which have failed to give adequate attention to farm problems.

The Master of the National Grange is Aaron Jones, of South Bend, Ind.; the Secretary is John Trimble, No. 514 F Street, Washington, D. C.

GREAT BRITAIN AND IRELAND, a monarchy in western Europe consisting of the Kingdom of England, with the Principality of Wales, united with the Kingdom of Scotland, forming together the Kingdom of Great Britain, with which is united the Kingdom of Ireland, the whole constituting the United Kingdom of Great Britain and Ireland, which holds supreme dominion over the Empire of India and over colonies and dependencies of various classes—self-governing federations and colonies, colonies governed partly by the Crown but having representative institutions, Crown colonies, and protectorates under native laws and rulers—constituting with the United Kingdom the British Empire.

The reigning sovereign is Edward VII, King of the United Kingdom of Great Britain and Ireland and of the British dominions beyond the seas and Emperor of India, eldest son of Victoria I and Prince Albert of Saxe-Coburg-Gotha, born Nov. 9, 1841, who succeeded to the throne on the death of his mother, Jan. 22, 1901. The heir apparent is George, Prince of Wales, son of King Edward and Alexandra, daughter of King Christian IX of Denmark, born June 3, 1865, married on July 6, 1893, to Victoria, daughter of the Duke of Teck.

The power to legislate for the United Kingdom and, except in so far as the power has been delegated to local legislative authorities, for all the members of the British Empire is vested in the British Parliament, consisting of a House of Lords and a House of Commons. Members of the House of Lords are the princes of the royal blood; spiritual lords, who are the metropolitan bishops of ancient English sees; hereditary peers of England, of Great Britain, and of the United Kingdom; representative peers of Scotland, elected by their fellow peers for the duration of Parliament; representative peers of Ireland, elected for life; and life peers and law lords. The number of peers on the roll of Parliament in 1901 was 592. The House of Commons contains 670 members, elected in boroughs, counties, and universities by the votes of all male householders and lodgers, by secret ballot. England, with 5,389,865 electors in 1901, is represented by 495 members, of whom 253 are elected by 3,046,900 county electors, 237 by 2,325,263 borough electors, and 5 by 17,702 university electors; Scotland, with 696,869 electors, by 72 members, of whom 39 are elected by 382,629 county electors, 31 by 294,643 borough electors, and 2 by 19,597 university electors; Ireland, having a total of 735,851 electors, by 103 members, of whom 85 are elected by 622,465 county electors, 16 by 108,667 borough electors, and 2 by 4,719 university electors. The Committee of Ministers, called the Cabinet, representing the majority for the time being in the House of Commons, exercises in reality the executive authority that is nominally vested in the Crown. The Prime Minister chooses his colleagues and dispenses the patronage of the Crown; he initiates the policy of the Government or approves the measures suggested in their several departments by the other ministers, and when his policy or acts encounter the displeasure of Parliament, manifested by an adverse vote on a Cabinet question or by a direct vote of want of confidence, he either resigns with the rest of the Cabinet forthwith or he appeals to the country by dissolving Parliament and ordering new elections. When a Cabinet resigns the retiring Prime Minister advises the sovereign as to the selection of the statesman most competent to form a new Government, usually the leader of the Opposition in the House of Commons. The Cabinet formed on Nov. 1, 1900, and continued in office on the accession of Edward VII, was composed in the beginning of 1902 as follows: Prime Minister and Lord Privy Seal, the Marquis of Salisbury; Lord President of the Council, the Duke of Devonshire; Lord High Chancellor, the Earl of Halsbury; Secretary of State for Foreign Affairs, the Marquis of Lansdowne; Chancellor of the Duchy of Lancaster, Lord James of Hereford; First Lord of the Treasury, Arthur J. Balfour; Secretary of State for the Home Department, C. T. Ritchie; Chancellor of the Exchequer, Sir Michael E. Hicks-Beach; Secretary of State for the Colonies, Joseph Chamberlain; Secretary of State for War, W. St. John F. Brodrick; Secre-

tary of State for India, Lord George Hamilton; First Lord of the Admiralty, the Earl of Selborne; President of the Local Government Board, W. H. Long; President of the Board of Trade, Gerald Balfour; Lord Lieutenant of Ireland, Earl Cadogan; Lord Chancellor of Ireland, Lord Ashbourne; Secretary for Scotland, Lord Balfour, of Burleigh; First Commissioner of Works, A. Akers-Douglas; Lord President of the Board of Agriculture, R. W. Hanbury; Postmaster-General, the Marquis of Londonderry.

Area and Population.—The area of the divisions of the United Kingdom and their population at the census of April 1, 1901, are given in the following table:

DIVISIONS.	Square Miles.	Population.
England and Wales.....	58,809	32,526,075
Scotland.....	29,785	4,472,103
Ireland.....	32,568	4,466,546
Isle of Man.....	227	54,768
Channel Islands.....	75	96,841
Total.....	120,979	41,606,332

The annual rate of increase between 1891 and 1901 was 1.21 per cent. in England, 1.33 per cent. in Wales, 1.11 per cent. in Scotland, and 0.19 per cent. in the Channel Islands, while the population of Ireland decreased at the average rate of 0.53 per cent. per annum. The population in England and Wales consisted of 15,721,728 males and 16,804,347 females; in Scotland, 2,173,755 males and 2,298,348 females; in Ireland, 2,197,739 males and 2,258,807 females; in the Isle of Man, 25,486 males and 29,272 females; in the Channel Islands, 45,205 males and 50,636 females. Of the total population of the United Kingdom in 1900 England contained 74.1 per cent., Wales 4.1 per cent., Scotland 10.8 per cent., Ireland 10.7 per cent., the Isle of Man 0.1 per cent., the Channel Islands 0.2 per cent. In 1851 England contained 61 per cent. of the total population, Wales 3.6 per cent., Scotland 10.4 per cent., Ireland 23.7 per cent., the Isle of Man 0.2 per cent., the Channel Islands 0.3 per cent. Of the total population of England and Wales 24 per cent. in 1901 lived in 9 towns which had 250,000 inhabitants and upward. London had 4,536,541 inhabitants within the registration area, 6,580,616 including the outer ring. The population of the metropolis has increased nearly fivefold in a century, but for the last half-century the rate of increase has declined, except in the suburban districts of greater London, which have grown rapidly. The population of the other towns was: Liverpool, 684,947; Manchester, 543,969; Birmingham, 522,182; Leeds, 428,953; Sheffield, 380,717; Bristol, 328,842; Bradford, 279,809; West Ham, 267,308. Towns having from 100,000 to 250,000 contained 10 per cent. of the population. Kingston-upon-Hull had 240,618 inhabitants; Nottingham, 239,753; Salford, 220,956; Newcastle, 214,803; Leicester, 211,574; Portsmouth, 189,160; Bolton, 168,205; Cardiff, 164,420; Sunderland, 146,565; Oldham, 137,238; Croydon, 133,885; Blackburn, 127,527; Brighton, 123,478; Preston, 112,982; Norwich, 111,728; Birkenhead, 110,926; Gateshead, 109,926; Plymouth, 107,509; Derby, 105,785; Halifax, 104,933; Southampton, 104,911. The urban population of England and Wales was 77 per cent. of the total population, the rural population 23 per cent. In Scotland 75.3 per cent. of the population lived in town districts, 22 per cent. in rural districts on the mainland, and 2.7 per cent. on the islands. The town districts increased 15.12 per cent. in ten years,

and the rural districts of the mainland increased in population 0.87 per cent., but on the islands the population decreased 3.4 per cent., the average increase for the whole of Scotland being 11.09 per cent. Glasgow in 1901 had 735,906 inhabitants; Edinburgh, 316,479; Dundee, 160,871; Aberdeen, 143,722. In Ireland 23.2 per cent. of the people lived in towns of 10,000 inhabitants and over. Dublin had 286,328 inhabitants, but in the metropolitan police district there were 379,861; Belfast had 348,876.

The number of marriages in England and Wales in 1900 was 257,139; of births, 926,304; of deaths, 587,459; excess of births, 338,845. In Scotland the number of marriages was 32,449; of births, 131,355; of deaths, 82,267; excess of births, 49,088. In Ireland the number of marriages was 21,330; of births, 101,459; of deaths, 87,606; excess of births, 13,853. The emigration from the United Kingdom in 1901 was 302,848, against 298,561 in 1900. Of the emigrants 111,922 were English, 20,954 Scotch, 39,194 Irish, and the rest foreigners. The immigration of British and Irish was 172,140, against 168,825 in 1900. Of these 104,257 were bound for the United States, 15,868 for British North America, 15,376 for Australasia, 23,254 for Cape Colony and Natal, and 13,385 for other places. Of the emigrants who sailed in 1900 from British ports, 177,447 were males and 121,114 females. Of those of British and Irish origin, 96,102 were males and 72,723 females. There were 97,637 immigrants of British and Irish origin in 1900, so that the net decrease of native population by emigration was only 71,188. The total number of immigrants was 175,747, leaving the net emigration 122,814.

Finances.—The budget estimate of revenue for the year ending March 31, 1901, was £127,520,000, and the estimated expenditure, including supplementary estimates, was £184,599,627. The actual receipts for the year were £130,384,684, and the actual expenditure was £183,592,264. The year ended with a deficit of £53,207,580 to be added to one of £13,882,502 for 1899. The revenue collected by the Government in 1901 was £140,354,970, of which £9,710,034 were paid to local taxation accounts, leaving for the exchequer £130,384,684. Taxation produced 84 per cent. of the whole. The net receipts from customs were £26,270,959, of which £12,838,578 were collected from tobacco, £6,264,515 from tea, £2,344,907 from rum, £1,417,346 from brandy, £1,007,509 from other spirits, £1,488,453 from wines, £63,846 from currants, £189,783 from coffee, £194,161 from raisins, £175,984 from cocoa, and £285,877 from other articles. The yield of excise duties was £33,286,588, of which £19,206,690 were obtained from spirits, £13,490,620 from beer, £331,214 from railroads, £250,256 from license duties, and £7,808 from other sources. The estate duty produced £8,489,872, the temporary estate duty £20,625, the probate duty £42,529, legacy duty £3,092,380, succession duty £793,016, corporation duty, £44,840; total from death duties, etc., £12,483,262. The yield from stamps, etc., was £7,886,857, of which deeds produced £3,618,437, receipts £1,447,447, bills of exchange £692,660, patent medicines £297,480, licenses £170,302, the duty on the capital of companies £761,974, bonds to bearer £191,180, insurances £260,372, other sources £447,005. The yield of the land tax was £765,869; of the house duty, £1,701,085; of the property and income tax, £27,561,161. Of the non-tax receipts, £20,689,155 in all, £13,776,886 came from the post-office, £3,380,589 from the telegraph service £464,444 from Crown lands, £830,

075 from interest on Suez Canal shares, and £2,237,161 from miscellaneous sources, including £947,553 from fee stamps, £923,997 from the mint, £178,188 from the Bank of England, and £187,423 from various sources. The expenditure in 1901 under the head of consolidated fund charges was £22,557,264, of which £15,106,532 were for interest on the funded debt, £2,756,612 for terminable annuities, £415,254 for interest of unfunded debt, and £174,310 for management of the debt, making the national-debt service £18,452,708, not including £1,382,780 of interest on the war debt outside of the fixed charge. Other consolidated fund charges were £409,452 for the civil list, £259,905 for annuities and pensions, £78,872 for salaries, etc., £515,848 for courts of justice, and £305,330 of miscellaneous payments. The expenditure for the supply services was £161,035,000, of which £91,505,900 went for the army, £204,100 for ordnance factories, £29,520,000 for the navy, £23,500,000 for civil services, £2,834,000 for customs and internal revenue, £8,963,000 for the post-office, £3,737,000 for the telegraph service, and £771,000 for packet service. In addition to the ordinary expenditures, amounting to £183,592,264, there were expenditures under the barracks act of £56,087; under the telegraph acts, £1,060,000; under the naval works act, £2,135,000; under the military works act, £1,200,000; under the land registry act, £25,000; total, £4,914,587. The money raised by creating additional debt under the war loan acts of 1900 amounted to £52,163,300; and bills were renewed to the amount of £24,133,000. The balance in the exchequer on April 1, 1900, was £3,517,047. The gross receipts during 1901 were £241,176,686, and the gross disbursements were £239,096,815, leaving a balance of £5,596,918 on March 31, 1901. The cost of the British army for the year ending March 31, 1902, was estimated at £87,915,000, not including £3,866,539 of appropriations in aid. The expenditure on effective services was £83,970,500, including £15,977,000 for transport and remounts, £18,782,000 for provisions and forage, £13,902,600 for general staff and regimental pay, £13,450,000 for warlike stores, £4,825,000 for clothing, £3,281,000 for works and buildings, £2,650,000 for the South African local forces, £2,540,000 for gratuities to troops, £2,662,000 for the militia, £1,230,000 for the auxiliary volunteer corps, £375,000 for the yeomanry, £660,000 for the colonial contingents, £630,000 for the China expeditionary force, £1,000,000 for yeomanry and volunteers in the reserves, £200,000 for the regular army reserve, £1,088,600 for medical establishments, £84,900 for the chaplains' department, £119,200 for military education, £218,200 for miscellaneous services, and £305,000 for the War Office. For pensions, retired pay, and other non-effective services the disbursements amounted to £3,944,500. The estimated cost of the navy, not including £1,089,473 of appropriations in aid, was £30,875,500 in 1902, of which £14,676,000 went for ship-building and repairs, £5,760,000 for wages of officers, seamen, and marines, £3,919,700 for naval armaments, £1,892,000 for victualing and clothing, £279,600 for the Admiralty Office, £1,023,100 for works and buildings, £219,000 for medical establishments, £292,100 for the naval reserves, £100,600 for educational services, £65,800 for scientific services, £16,200 for martial law, and £359,500 for miscellaneous services, making a total of £28,603,900 for effective services, while for pensions, half-pay, etc., the expenditures were £2,271,000. The estimates for civil

services in 1902 amounted to £23,630,120, of which £2,074,615 were for public works and buildings, £3,857,779 for law and justice, £2,616,614 for salaries and expenses in the civil departments, £12,790,743 for education, £1,651,957 for foreign and colonial services (including £490,052 for the diplomatic and consular service, £538,006 for the colonial service, £546,049 for Cyprus, Uganda, etc., and £77,850 for subsidies to telegraphs), £608,968 for non-effective and charitable services, and £29,444 for miscellaneous expenses. The income tax in 1902 was 14d. in the pound, estimated to produce £33,800,000. The gross amount of the annual value of property and profits assessed to income tax in 1900 was £788,023,603, having grown from £465,594,366 in 1871. The share of England in 1900 was £678,742,789; of Scotland, £75,833,242; of Ireland, £33,447,572. The annual value of lands assessed to income tax in 1900 was £37,110,545 in England, £5,956,530 in Scotland, and £9,747,216 in Ireland; total, £52,814,291. The annual value of houses was £153,193,414 in England, £16,663,967 in Scotland, and £4,573,120 in Ireland; total, £174,430,501. The annual value of railroads assessed to income tax was £39,357,677; of mines and quarries, £11,073,418; of gas-works, £6,503,433; of water-works, £4,614,317; of canals, etc., £3,476,916; of iron-works and other public concerns, £129,398,488. Additional beer and spirit duties, excise licenses, and a share in the probate duty and the estate duty are collected by the Government and paid over to the local authorities. The net receipts for the year ending March 31, 1901, were £9,710,033, of which £1,585,898 were the additional beer and spirit duty, £3,886,269 licenses, and £4,237,867 the share of probate and estate duties. The payments made to local taxation accounts in the same year amounted to £9,739,626, of which £8,310,739 were in England, £1,027,412 in Scotland, and £401,475 in Ireland. Out of a total revenue of £140,353,000 in 1901, including the local taxation revenue, £113,244,000 were contributed by England, £14,919,000 by Scotland, and £9,505,500 by Ireland, while £2,685,000 came from outside sources. Of a total expenditure of £193,331,000 the sum of £146,295,000 went for imperial services and £34,769,000 were expended on English, £4,961,000 on Scottish, and £7,306,000 on Irish services.

The gross liabilities of the state on March 31, 1901, amounted to £705,723,878, of which £551,182,153 were funded debt, £61,677,469 the estimated capital value of terminable annuities, and £78,133,000 unfunded debt, making the total capital of the national debt £690,992,622. Other capital liabilities were £241,115 under the Russian Dutch loan act of 1891, £2,657,801 under the barracks act of 1890, £1,827,130 under telegraph acts, £2,873,324 under the naval works acts of 1895 and 1899, £4,082,662 under the Uganda Railway acts, £450,400 and £509,799 under the public offices acts of 1895 and 1897, £847,942 under the Royal Niger Company act of 1899, £1,216,077 under military works acts, and £25,006 under the land registry act of 1900; total, £14,731,256. The assets of the Government were Suez Canal shares of the market value of £25,806,000 and £712,760 of other assets, besides exchequer balances in bank amounting to £5,596,918.

The revenue for 1902 exceeded the budget estimate of £142,455,000 by £543,000. The budget estimate of expenditure was £184,212,000, to which £12,631,000 of supplementary estimates were added in consequence of the war, but savings

reduced the total expenditure to £195,522,000, leaving a deficit of £52,524,000, which was provided for out of consols issued in the spring of 1901 which produced the net sum of £56,553,000, leaving a balance of £4,029,000. Out of the total expenditure for the year £73,197,000 went for war charges in South Africa and China, including £3,367,000 of interest on the war debt. Deducting this, the expenditure for the war during the year was £69,830,000, of which £63,230,000 were military and £6,600,000 civil expenditure. Toward this £17,306,000 were contributed from the revenue, including £4,681,000 of revenue saved by the suspension of the sinking-fund. The total cost of the wars up to March 31, 1902, was £165,034,000, made up of £4,967,000 of interest on the war debt, £154,407,000 of supply grants for South Africa, and £5,660,000 of supply grants for China. It was defrayed by £119,614,000 of loans and £45,420,000 paid out of revenue. The British share of the Chinese indemnity amounts to £6,000,000. Of the South African War debt, £30,000,000 are expected to be repaid from the wealth of the Transvaal. The receipts from tobacco and spirits in 1902 showed a large falling off owing to forestalments of duty in the previous year. There was a decrease in the consumption of beer, which was counterbalanced by a large increase in the consumption of tea and cocoa. The sugar duty produced £6,390,000, exceeding the estimate by £1,290,000, mainly because of forestalments in anticipation of an increased duty; yet in spite of the duty of 4s. 2d. a hundredweight the additional price of ½d. a pound to the consumer charged at first receded to half as much. The coal duty produced £1,314,000 on a total export of 44,064,000 tons, compared with 45,133,000 tons in the previous year and 43,694,000 tons in 1900. The imports of British coal into Hamburg fell off no more than those from other countries and the competition of American coal in Mediterranean ports, which began with the high prices of 1900, declined with the fall in price. Wine duties fell off £38,000; the tobacco revenue, from £12,839,000 to £10,565,000; excise duties, from £33,100,000 to £31,600,000, beer producing only £13,300,000, the decrease in two consecutive years being attributed to the dilution of beer by the brewers on account of the tax. The death duties amounted to £18,398,000, including £4,198,000 paid over to the local taxation fund. The exchequer receipts from this source were £1,220,000 more than in the previous year and £200,000 more than the estimate. Stamps produced £7,800,000, a falling off of £25,000. The yield of the income tax was £34,800,000, which was £1,000,000 more than the estimate. The exchequer balances on March 31, 1902, amounted to £8,567,000, including surplus receipts from the consols loan of £60,000,000. The national debt was increased by this loan to £768,408,000, including £20,532,000 expended on reproductive works and repaid by annual votes. Deducting this, the dead weight of the debt was £747,876,000, which was £59,884,000 more than in the previous year. Including the amounts paid into the local taxation account and expenditure for military and naval works, the Uganda Railroad, the Pacific cable, and other purposes, the total expenditure for 1902 was £212,783,000. The expenditure for the year ending March 31, 1903, was estimated at £29,450,000 for charges on the consolidated fund, £69,665,000 for army services, £31,255,000 for the navy, £26,448,000 for civil service, £3,039,000 for customs and inland revenue, £14,752,000 for the postal and telegraph services; total, £174,609,000. On the

existing basis of taxation customs duties were expected to yield £32,800,000, excise £32,700,000, death duties £13,200,000, stamps £8,200,000, the land tax £740,000, the house duty £1,760,000, the income tax £36,000,000; total, £126,000,000, besides £21,785,000 of non-tax revenue, which raises the total income to £147,785,000. This left a deficiency of £26,824,000 to provide for, but if the South African War continued this might be swelled by over £16,000,000, and expenses of the South African constabulary and grants to the West Indian colonies pending the abolition of sugar bounties, with interest on new debts to be incurred, would add to the deficit, which was estimated at a total of £45,500,000 on the contingency of the continuance of hostilities, whereas if they ceased gratuities and bounties to soldiers, transportation of reservists home, the maintenance of a considerable force in Africa, and means to be provided for restocking and rebuilding the devastated farms and resettling the two colonies would require large sums, though the new colonies may later repay such advances. Of the estimated deficit £4,500,000 would be obtained by suspending the sinking-fund for another year. Another increase of 1d. in the income tax, making it 1s. 3d. in the pound, was expected to yield £2,000,000. Doubling the stamp tax of 1d. on checks would produce £500,000. Besides these increased taxes a tax on imported grain, a registration duty such as was abolished in 1869, was introduced and fixed at 3d. a hundredweight on all kinds of cereals, dried peas and beans, uncleaned rice, etc., and 5d. on flour, meal, starch, cleaned rice, etc.; and of this the estimated yield is £2,650,000, making the total receipts from new taxation £5,150,000, reducing the estimated deficit to £35,500,000, of which £32,000,000 was to be borrowed and the remainder paid out of the unexpended exchequer balances. The total estimated expenditure is £188,469,000. The estimates of revenue, including the new taxes, were £235,450,000 from customs, £32,700,000 from excise, £13,200,000 from death duties, £8,700,000 from stamps, £2,500,000 from land tax and house duty, £38,600,000 from income tax, £21,785,000 of non-tax revenue; total, £152,935,000.

The Army.—The army estimates for the year ending March 31, 1902, fixed the strength of the regular army of the United Kingdom at 9,745 commissioned officers, 1,485 warrant officers, 19,604 sergeants, 4,533 drummers and musicians, and 184,433 rank and file, making a total of 219,800 men of all ranks, an increase of 7,351 over the authorized strength for 1901. The general and departmental staff consisted of 367 officers, with 130 non-commissioned officers and 6 soldiers, on the general staff, 236 army accountants, 86 officers in the chaplains' department, 96 in the medical department, and 110, with 6 non-commissioned officers and 1 man, in the veterinary department; total, 805 officers, with 136 non-commissioned officers and 7 men. The regimental establishments comprised 555 officers, 1,339 non-commissioned officers, and 12,376 rank and file in the cavalry; 1,541 officers, 3,366 non-commissioned officers, and 34,735 rank and file in the royal artillery; 702 officers, 1,586 non-commissioned officers, and 7,843 rank and file in the royal engineers; 3,501 officers, 8,479 non-commissioned officers, and 106,963 rank and file in the infantry; 419 officers, 934 non-commissioned officers, and 13,082 rank and file in colonial and native Indian corps; 248 officers, 1,172 non-commissioned officers, and 1,400 rank and file in departmental corps; 490 officers, 1,299 non-commissioned officers, and 5,285 rank and file in the army service

corps; and 551 officers, 485 non-commissioned officers, and 2,560 rank and file in the medical corps; total, 8,007 officers, 18,660 non-commissioned officers, and 184,244 rank and file, with 25,402 horses. The army vote provided further for 230,200 imperial, colonial, Indian, and irregular forces during the war in South Africa and for the expeditionary force in China, increasing the total number to 450,000, exclusive of the army in India. The numbers of troops of all ranks maintained for service in the United Kingdom on Jan. 1, 1899, were 11,676 cavalry, 17,572 artillery, 5,351 engineers and 72,087 infantry and special corps; total, 106,686, with 13,892 horses and mules. Of these, 79,057, with 10,642 horses, were stationed in England and Wales; 3,942, with 345 horses, in Scotland; and 23,687, with 2,905 horses, in Ireland. The numbers serving abroad at that date were 4,257, with 769 horses, in Egypt; 44,605, with 2,317 horses, in the colonies; 74,466, with 12,303 horses, in India; and 1,837 in Crete; total, 125,165, with 15,389 horses and mules. The total effective strength of the British regular army on Jan. 1, 1899, was therefore 231,861 officers and men, with 29,281 horses. The reserves and auxiliary forces consist of the army reserve, the militia, the mounted yeomanry, and the volunteers. The authorized strength of the military forces of the empire, according to the estimates for the year ending March 31, 1902, was as follows: Regular forces, home and colonial, 207,215; native Indian regiments, 3,696; army reserve, first class, 90,000; militia, 131,539; new militia reserve, 50,000; militia of the Channel Islands, 3,271; militia of Malta and Bermuda, 2,731; yeomanry, 35,000; volunteers, 375,000; regular forces on the Indian establishment, 73,518; total, 971,970. The effective strength of the various classes of troops as reported on Jan. 1, 1901, was as follows: Regular forces, home and colonial, 335,837, including 9,354 yeomanry and 7,000 enlisted volunteers; native Indian regiments, 22,313, including 19,126 men serving in the China expedition; army reserve, first class, 5,251, including 2,163 enlisted volunteers; militia of the United Kingdom, 100,098; militia of the Channel Islands, 3,428; militia of Malta and Bermuda, 2,098; yeomanry, 8,657; volunteers, 277,900; regular forces on the Indian establishment, 63,023; total effectives, 818,605. This includes the British, but not the colonial forces, serving in South Africa. The strength of the army in South Africa on Feb. 1, 1901, was 141,490 regulars; 28,339 colonials, not including the latest levies not yet reported; 7,995 imperial yeomanry; 7,700 volunteers; and 19,425 militia; total, 204,949. The regular forces consisted of 4,305 officers and 137,085 rank and file, the latter comprising 12,600 cavalry, 12,000 artillery, 99,700 infantry, and 12,885 other troops. Under the old system there were 12 military districts in the United Kingdom, subdivided into 67 regimental districts, each of which was the recruiting ground for a regiment, with which were linked the district militia and volunteers. According to the resolution of the House of Commons adopted on May 16, 1901, the army is to be organized in 6 army corps, with staff, buildings, and stores for each; a militia reserve of 50,000 men will be formed, and the yeomanry will be increased from 12,000 to 35,000; and 8 regiments outside of the army corps are to be recruited for garrison service. The first three army corps, quartered respectively at Aldershot, on Salisbury Plain, and in Ireland, will be available for either home defense or foreign service. The other three, quartered at Colchester, at York, and in Scotland, will have distributed among

them 60 battalions of militia and volunteers. The force to be maintained when the new organization is perfected will comprise 155,000 regulars in the United Kingdom, an army reserve of 90,000 men, 150,000 militia, 35,000 yeomanry, and 250,000 volunteers. Under the short-service system men enlist in the regular army for twelve years, serving in the active army from three to seven years, and for the remainder of the term belonging to the reserve. The number of recruits enlisted in the army during the year ending Nov. 30, 1899, was 36,636, of whom 34.9 per cent. were below standard height; militia recruits, 37,379. The regular army on Jan. 1, 1899, was composed of 165,038 Englishmen, 17,285 Scotchmen, 28,358 Irishmen, 10,015 born in the colonies and India, 97 foreigners, and 1,580 not reported. The strength of the British army has been increased from 70,000 men in 1872 to 212,000 in 1897, 229,000 in 1899, and 250,000 in 1902, with a reserve of 90,000. The effective strength in 1902 was not over 210,000. The number of recruits in 1896 was 27,800; in 1897, 33,700; in 1898, when the standard was lowered, 38,400; in 1899, 40,200; in 1900, when the standard was lowered a second time and the war stimulated enlistment, 46,700; in 1901, with the war still continuing, 45,100. The waste in deserters and invalids was 3,485 in 1899, and in 1900 it rose to 5,484 and in 1901 to 8,822. The available reserves were decreased by the war from 81,000 at the beginning of the war to 20,000 or 30,000. Bounties were paid to 16,000 men in India to induce them to remain with the colors instead of going into the reserve. To fill the ranks, which at the existing rate of recruiting would be 50,000 men short, the Government in 1902 raised the pay, which was nominally 1s. a day, but actually from 8d. to 10d., to a clear shilling. According to the plan adopted soldiers are enlisted for three years. At the end of two years a soldier, if efficient and of good character, is allowed to choose whether at the end of his term of three years he will pass into the reserve for nine years or whether he will serve with the colors for six years longer, making eight years in all, and then go into the reserve for four years. These reenlisted soldiers receive 1s. 6d. a day, except such as are not up to the average in shooting, who when they are reengaged only get 4d. a day extra until they become efficient shots, and after that the full 6d. The extra pay is expected to induce 50 per cent. of the soldiers to reenlist and furnish 50,000 recruits a year, which will keep the army full and give a reserve of 150,000 or 175,000 men. The additional cost is estimated at £1,048,000 to the British and £786,000 to the Indian Government per annum. When the South African War broke out the effectives in the British army, exclusive of India, but including the reserves, were 240,000 men. The regular troops in South Africa, exclusive of colonial troops, militia, volunteers, and yeomanry, have been about 150,000. The total number landed in thirty months was 230,000, of whom 220,000 came from Great Britain. At the close of the war the number drawing rations in South Africa, including army attendants, was over 300,000 men, with 243,000 horses and mules. The estimates voted by Parliament for 1903, amounting to £69,310,000, provided for 420,000 men all told. The program for 1903 included reforms in the volunteer corps in Great Britain, which must be trained so as to stand in the first line of defense in case of invasion if the United Kingdom is to escape the necessity of conscription. Men who have been trained in the volunteers for four years will be allowed to go into a volunteer re-

serve for six years on the condition that they practise shooting at the range once in two years. A yeomanry reserve will be created, of the maximum strength of 5,000 men, who will receive £5 a year each and must be willing to serve abroad in case the whole army reserve is mobilized. Another yeomanry reserve, consisting of men able to ride and shoot, but circumstanced so that they can not go into camp for two weeks every year, will be available, like the volunteer reserve, for home defense. The militia, artillery, and engineers will be improved and increased, and a militia reserve is to be created. Militia officers will be allowed to serve temporarily with line regiments, and the conditions of service in the regular army for officers will be changed by lightening the incidental expenses that keep out men of small means, improving their military education, and rewarding professional work and efficiency. Drill will be changed on the principle that the company, not the battalion, is the practical unit, and companies will be drilled in rifle exercises, bayonet fighting, skirmishing, and signal exercises for eight months of the year, while unnecessary parade drill and manual and bayonet exercises will be abolished. The plan of increasing the yeomanry by 21 regiments adopted in 1901 was carried out to a great extent, two-thirds of them having been raised at the end of the fiscal year 1902, increasing the number of men from 10,000 to 17,500. Of 8 garrison regiments to be recruited among soldiers who had served their time 5 were already formed. The army-corps scheme remained in abeyance while the war was still going on. Buildings and training grounds were being got ready, and a system of decentralization and delegation of powers was being introduced in the organization of the army, but even the 1st army corps at Aldershot still remained on paper only. The concentration camps in South Africa, scandals in the purchase of horses and supplies, and other matters connected with the war gave occasion for investigations. In the concentration camps the military authorities had to provide food, shelter, and clothing for 150,000 persons outside of the army. Provision had to be made, moreover, for prisoners of war in five different colonies and dependencies. The remounts and transport animals shipped to South Africa consisted of 290,000 horses and 126,000 mules, besides 120,000 horses purchased locally.

The Navy.—The British navy on Jan. 1, 1901, comprised 14 first-class, 12 second-class, and 11 third-class battle-ships, 6 armored cruisers, 125 protected cruisers, 33 torpedo-gunboats and others, 96 destroyers, 2 torpedo-ships, and 11 first-class and 71 second-class torpedo-boats. There were 13 obsolete battle-ships, 10 coast-defense vessels, and 95 third-class gunboats which were not counted in the effective navy, and also numerous river gunboats. Already launched, but not yet ready for sea, there were 7 first-class battle-ships, 8 armored cruisers, and 1 destroyer. In process of building or authorized to be built there were 8 more first-class battle-ships, 6 armored cruisers, 2 protected cruisers, 12 destroyers, and 4 first-class torpedo-boats. The *personnel* of the navy, for which the estimates of the year ending March 31, 1902, provided, comprised 85,323 naval officers and seamen, including 3,700 boys serving on the ships, 4,200 in the coast-guard, and 19,590 marines on sea service, 6,200 boys in training, 440 cadets and engineer students, 1,048 pensioners, and 1,824 others; total, 118,625, against 114,880 in 1901. The increase of 4,240 over the previous year included 287 officers, 1,150 seamen,

1,000 marines, 398 miscellaneous, 500 stokers, 100 electricians, 210 other artisans, and 100 apprenticed shipwrights and coopers. The naval reserve numbered 23,000 seamen. Parliament authorized the gradual increase in five years of flag-officers from 68 to 80, of captains from 208 to 245, of commanders from 304 to 350, of lieutenants from 1,150 to 1,550, of engineer officers from 950 to 1,050, of doctors from 450 to 490, of gunners and boatswains from 920 to 1,150, of chief carpenters from 18 to 20, of carpenters from 207 to 240. The canteen system is to be improved, the number of meals on shipboard increased from 3 to 5, and the standard of living for the sailors made to correspond in some degree with the higher standard on land. The system of subsidizing merchant steamers as auxiliary cruisers has been altered, so that 18 of the fastest liners will receive regular subsidies and be ready to be converted at any time into war-ships and 30

frers, their steam-power and nominal speed being the same as in the latest models. The London, Venerable, and Bulwark, of 14,700 tons, launched in 1899, having 12-inch armor, are armed with 4 12-inch guns and 12 6-inch and 18 3-inch quick-firers, and with engines of 15,000 horse-power can make 18 knots an hour. Of the same size and speed are the Formidable, Irresistible, and Implacable, launched in 1898 and 1899, which carry, besides pairs of 12-inch guns, 12 6-inch quick-firers, 16 3-inch quick-firers. These are of the same type as the Canopus, launched in 1897, of 12,950 tons, whose secondary armament consists of 12 6-inch and 10 3-inch quick-firers and whose speed, with engines of 13,500 horse-power, is 18½ knots, with 12 inches of armor amidships and a 2-inch belt extending to the bow. Of the same class are the Ocean, Goliath, Albion, Glory, and Vengeance, the last of which was launched in 1899. This class was an improvement on the

THE NEW ADMIRALTY HARBOR, AT DOVER.

others will be held at the disposal of the Government.

The latest type of battle-ship, adopted for the King Edward, Dominion, and Commonwealth, of 16,500 tons, with armor of 12 inches thickness and engines of 18,000 horse-power, designed to give a speed of 19 knots, has an armament of 4 12-inch breech-loaders in turrets on the main deck, 4 9.2-inch quick-firers in smaller turrets above, and 10 6-inch and 28 3-inch quick-firers. The Queen and Prince of Wales, of 15,000 tons, with 12-inch armor at the water-line and engines of 18,000 horse-power, giving a speed of 19 knots, carry 4 12-inch guns in fore and aft turrets, 12 6-inch quick-firers in armored casemates, and 18 3-inch quick-firers. This arrangement was followed in all battle-ships from the Royal Sovereign, launched in 1891, and her predecessor, the Hood, and sisters, the Empress of India, Repulse, Royal Oak, Ramillies, Resolution, and Revenge, until it was changed in the King Edward class, which has a complete armored battery on the main deck. The Duncan, Cornwallis, Russell, Exmouth, Montagu, and Albemarle, of 14,000 tons, have 11 inches of armor and, besides pairs of 12-inch guns, carry 12 6-inch and 12 3-inch quick-

Majestic, of 14,900 tons, launched in 1895 and 1896, including the Magnificent, Prince George, Victorious, Jupiter, Caesar, Hannibal, Illustrious, and Mars, which have 14 inches of armor amidships, can steam 17½ knots with engines of 12,000 horse-power, and carry 12 6-inch and 16 3-inch quick-firers besides 4 12-inch guns in the turrets, which were first introduced in this class.

The newest type of armored cruiser is that of the Drake, King Alfred, Leviathan, and Good Hope, of 14,100 tons, which with engines of 30,000 horse-power are designed to steam 23 knots an hour, and are armed with 2 9.2-inch guns and 16 6-inch and 14 3-inch quick-firers. The Berwick, Cornwall, Cumberland, Donegal, Lancaster, and Suffolk, of 9,800 tons, will carry 14 7.5-inch and numerous small quick-firers. The Kent, Monmouth, Bedford, and Essex, of 9,800 tons, will carry 14 6-inch and numerous smaller quick-firers and with engines of 22,000 horse-power are expected to make 22 knots. The Cressy, Hogue, Aboukir, Sutlej, Euryalus, and Bacchante, launched in 1899 and 1900, of 12,000 tons displacement, with an armament of 2 9.2-inch guns in turrets and 12 6-inch and 14 3-inch quick-firers protected by casemates, have engines

of 21,000 horse-power, giving a speed of 21 knots. The *Diadem*, *Andromeda*, *Niobe*, *Europa*, *Spartiate*, *Argonaut*, *Amphitrite*, and *Ariadne*, launched in 1896, 1897, and 1898, are the largest deck-protected cruisers, having a displacement of 11,000 tons, with a quick-firing armament of 16 6-inch, 14 3-inch, and 20 small guns well protected and disposed as in the *Majestic*, and capable of steaming 20½ knots with engines of 16,500 horse-power. The new protected cruisers *Encounter* and *Challenger*, of 5,600 tons, the same size as the *Hermes*, *Hyacinth*, and *Highflyer*, launched in 1898, will carry 12 6-inch and 15 smaller quick-firers and with engines of 9,600 horse-power are designed to make 19½ knots. The latest destroyers made 36 and 37 knots in their trials. In 1901 the *Viper* and *Cobra* went to pieces at sea and an official investigation was ordered for the purpose of determining what was the cause of their weakness. The British Government, while engaged in experiments on the best means of destroying submarine boats or warding off their attacks, begun in 1900 to build submarines of its own, adopting the Holland design, of which type 5 boats were ordered.

The navy estimates for 1903, amounting to £31,255,000, show an increase of £380,000 over 1902, while for new construction £9,058,000 were voted, compared with £9,003,000. The program of new construction includes 2 battle-ships, 2 armored cruisers, 2 third-class cruisers, 4 scouts, 9 destroyers, 4 torpedo-boats, and 4 submarines. The battle-ships of the *Powerful* and *Terrible* class will receive additional guns, and ships of the *Barfleur* and *Centurion* classes will have 4.7-inch replaced by 6-inch guns. The naval scouts or fleet messengers are a new type and class of vessels. The increase in the *personnel* for 1903 is 3,875, making a total of 122,500 officers and men. During the fiscal year ending March 31, 1902, the battle-ships *Formidable*, *Implacable*, *Irresistible*, *Bulwark*, and *Vengeance* and the armored cruisers *Aboukir*, *Cressy*, *Hogue*, and *Sutlej* were completed, together with the protected cruisers *Spartiate* and *Pandora*, 2 royal yachts, 4 sloops, 2 river steamers, 22 destroyers, 4 torpedo-boats, and 5 submarines.

There were under construction on April 1, 1902, 13 battle-ships, 22 armored cruisers, 4 protected cruisers, 4 sloops, 2 auxiliary vessels, 10 destroyers, and 5 torpedo-boats. The vessels to be completed during the year ending March 31, 1903, are 5 battle-ships, 7 armored cruisers, 2 sloops, 2 auxiliary vessels, and 2 destroyers. The future destroyers are to be stronger and to have sea-keeping power to enable them to accompany fleets. The scouts will be still stronger. The existing destroyers, the type of which has proved unseaworthy, will be reconstructed. The *Viper* and the *Cobra*, the first destroyers that foundered, were driven by steam-turbines. Vessels of the ordinary type with ordinary engines afterward proved as weak, and the prejudice against turbines therefore passed away. This kind of propeller, however, operates most economically at high speed and can not be as easily regulated as the steam-engine. Hence a type of destroyer has been tried, the *Velox*, in which auxiliary triple-expansion steam-engines are used for moderate, the turbines alone for the maximum speed. Two third-class cruisers have been ordered also with turbines coupled in the same way with steam-engines, driven at ordinary speed by their exhaust steam.

Commerce and Production.—Of the total area of England, 76.1 per cent. is under crops and grass, 6.9 per cent. is grazing land, 5.1 per cent.

is forest, and 11.9 per cent. is bare mountain, marsh, roads, etc.; in Wales 59.3 per cent. of the land is under crops and meadow, 24.8 per cent. grazing land, 3.8 per cent. forest, and 12.1 per cent. uncultivated; in Scotland crops and grass cover 25.2 per cent., grazing heath and hills 48.4 per cent., woods 4.5 per cent., and bare mountain, water, etc., 21.9 per cent.; in Ireland 22.9 per cent. is under crops and grass, 52 per cent. grazing, 1.5 per cent. woodland, and 23.6 per cent. waste or uncultivated. Of the total area of the United Kingdom, 37,156,000 acres are under crops and meadows, or 48.2 per cent.; 23,412,000 acres, or 30.3 per cent., consist of hills and heaths for grazing; 3,038,000 acres, or 3.9 per cent., are woodland; and 13,504,000 acres, or 17.6 per cent., are uncultivated. In 1901 there were in Great Britain 7,133,708 acres under grain, 3,129,198 acres under green crops, 51,127 acres under hops, 672 acres under flax, 74,999 acres planted to small fruits, 344,105 acres of bare fallow, 4,856,387 acres in clover and hay crops, and 16,827,249 acres of permanent pasture. In Ireland there were 1,317,590 acres of grain, 1,079,429 acres of green crops, 55,471 acres of flax, 10,967 acres of bare fallow, 1,233,699 acres of clover and grass, and 11,522,700 acres of pasture. The area of wheat was 1,700,828 acres in Great Britain and 53,821 acres in Ireland; of barley, 1,972,448 acres in Great Britain and 174,173 acres in Ireland; of oats, 2,996,902 acres in Great Britain and 1,105,050 acres in Ireland; of turnips, 1,664,525 acres in Great Britain and 297,859 acres in Ireland; of potatoes, 577,260 acres in Great Britain and 654,079 acres in Ireland; of beans, 251,613 acres in Great Britain and 2,297 acres in Ireland; of peas, 155,130 acres in Great Britain and 441 acres in Ireland, for 1901 and 1900 respectively. The crop of wheat was 52,458,000 bushels in Great Britain and 1,682,000 bushels in Ireland; of barley, 61,108,000 bushels in Great Britain and 6,231,000 bushels in Ireland; of oats, 110,106,000 bushels in Great Britain and 50,290,000 bushels in Ireland; of beans, 7,388,000 bushels in Great Britain in 1900 and 81,000 bushels in Ireland; of peas, 4,061,000 bushels in Great Britain in 1900 and 11,000 bushels in Ireland; of potatoes, 2,735,000 bushels in Great Britain in 1900 and 1,842,000 bushels in Ireland; of turnips, 23,960,000 bushels in Great Britain in 1900 and 4,226,000 bushels in Ireland.

The live stock in Great Britain in 1901 comprised 1,511,431 horses, 6,763,894 cattle, 26,377,200 sheep, and 2,179,925 hogs; in Ireland, 491,380 horses, 4,672,035 cattle, 4,378,645 sheep, and 1,219,046 hogs. There were 786,939 tons of fish, valued at £9,044,502, landed on the British and Irish coasts during 1901, and the value of shell-fish raises the total value to £9,492,379. The number of registered fishing-boats in 1899 was 26,466, and the number of men engaged in sea fishing was 109,015, of whom 40,472 were English, 38,177 Scotch, and 28,541 Irish. The quantity of fish conveyed inland from the ports in 1900 was 516,613 tons for the United Kingdom, 385,694 tons in England and Wales, 115,104 tons in Scotland, and 15,815 tons in Ireland. The net imports of fish were 91,880 tons, valued at £2,925,025; value of herring exported, £2,328,647; of other fish, £666,801. The quantity of iron ore mined in the United Kingdom during 1900 was 14,028,208 tons, valued at £4,224,400, containing 4,666,942 tons of metal valued at £19,596,910; iron pyrites, 12,279 tons valued at £5,788; lead ore, 32,010 tons, valued at £349,094, containing 24,364 tons of metal valued at £418,960; tin ore, 6,800 tons, valued at £523-

604, containing 4,268 tons of metal, valued at £587,869; copper ore, 9,108 tons, valued at £34,503, containing 765 tons of metal, valued at £59,995; copper precipitate, 380 tons, valued at £2,450; zinc ore, 24,675 tons, valued at £97,606, containing 9,066 tons of metal, valued at £118,573; bog-iron ore, 4,153 tons, valued at £1,038; alum clay and shale, 7,087 tons, valued at £1,514, containing 560 tons of metal, valued at £72,800; gold ore, 20,802 tons, valued at £42,925, containing 14,004 ounces of metal, valued at £52,147; silver, 190,850 ounces, valued at £22,465; total value of minerals, £5,282,922; total value of metals extracted from British ores, £21,030,719. The quantity of coal produced in 1900 was 225,181,300 tons, value £121,652,596; clays, 14,040,694 tons, value £1,571,043; sandstone, 5,019,874 tons, value £1,586,045; slate, 585,859 tons, value £1,528,336; limestone, 11,905,477 tons, value £1,300,314; salt, 1,861,347 tons, value £611,920; oil shale, 2,282,221 tons, value £627,844; granite, 4,634,301 tons, value £1,238,747; chalk, 4,373,331 tons, value £208,032; gravel and sand, 1,837,202 tons, value £138,163; gypsum, 208,038 tons, value £69,642; arsenic and pyrites, 13,654 tons, value £75,738; barytes, 29,456 tons, value £29,244; ochre, 15,200 tons, value £13,398; value of other minerals £23,692; total non-metallic minerals, 130,674,754 tons, value £135,957,676. Of the total mineral product the value of £93,722,160 was mined in England, £21,736,719 in Wales, £20,198,599 in Scotland, and £239,840 in Ireland. The total number of persons employed in mining was 814,517, of whom 780,052 worked in 3,384 coal-mines and 34,465 in 764 metalliferous mines. In quarries 93,895 persons were employed. The exportation of coal in 1900 was 46,098,228 tons, value £38,619,856. Of the exports of coal and coke, 8,635,030 tons went to France, 5,336,157 tons to Italy, 5,985,161 tons to Germany, 3,229,294 tons to Russia, 3,048,458 tons to Sweden, 2,619,681 tons to Spain, 1,125,493 tons to Denmark, 1,971,121 tons to Egypt, 1,901,550 tons to the Netherlands, 1,436,958 tons to Norway, 1,191,649 tons to Belgium, and smaller quantities to Brazil, the Argentine Republic, Portugal, and Algeria. The importation of iron ore in 1900 was 6,297,963 tons, valued at £5,639,003; exportation, 3,414 tons, valued at £7,461. Of the iron ore imported, 5,551,559 tons came from Spain, value £4,914,239. The total net supply available for smelting in 1900 was 20,873,670 tons. The quantity smelted in 403 furnaces was 22,100,774 tons. The quantity of pig iron made was 8,959,691 tons. Imports of pig and puddled iron were 181,151 tons, and exports 1,427,525 tons; exports of bar and angle iron, 157,164 tons; of railroad iron, 463,731 tons; of wire, 38,441 tons; of plates for tinning, 66,278 tons; of tin plates, 272,877 tons; of cast and wrought iron, 338,637 tons; of hoops and plates, 331,957 tons; of old iron, 93,937 tons; of unwrought steel, 308,448 tons; of iron and steel, 41,694 tons; total, 3,540,689 tons. The importation of copper ore and regulus was 188,492 tons; of unmanufactured copper, 78,643 tons; of lead, 195,380 tons; of tin, 33,118 tons; of zinc, 69,536 tons. The quantity of raw cotton imported into the United Kingdom in 1901 was 1,830,305,904 pounds; exports, 206,566,976 pounds; retained for consumption, 1,623,738,928 pounds. The imports of wool in 1900 were 558,950,528 pounds; exports, 196,207,261 pounds; retained for consumption, 362,743,267 pounds. Of the wool imports 386,387,117 pounds came from Australia. The imports in 1901 were 696,000,000 pounds, in addition to which 30,000,000 pounds were clipped from imported sheepskins, 20,000,000

pounds of goats' hair were imported, and 67,000,000 pounds of woollen rags, and 138,000,000 pounds of wool were produced in the United Kingdom, making the total supply 951,000,000 pounds, less 293,000,000 pounds of foreign and 20,000,000 pounds of domestic wool exported, leaving for consumption 638,000,000 pounds. Imports of cotton in 1901 were 1,830,000,000 pounds, and exports 206,000,000 pounds, leaving for consumption 1,624,000,000 pounds; actual consumption, 1,647,000,000 pounds. The imports of flax were 160,000,000 pounds, the home product 18,000,000 pounds, and the exports 3,000,000 pounds, leaving for consumption 175,000,000 pounds. The exports of cotton piece goods in 1901 were 5,365,000,000 yards; of cotton yarn, 170,000,000 pounds; of woollen piece goods, 157,000,000 yards; of woollen yarn, 48,000,000 pounds; of linen piece goods, 150,000,000 yards; of linen yarn, 13,000,000 pounds; value of cotton manufactures exported, £73,700,000; of woollen manufactures, £19,500,000; of linen manufactures, £5,800,000; total textile manufactures, £99,000,000.

The total value of imports of merchandise into the United Kingdom in 1901 was £522,238,986; exports of British products, £280,498,889; exports of foreign and colonial products, £87,846,843. In 1900 the merchandise imports were £523,075,163 in value; exports of British products, £291,191,996; exports of foreign and colonial products, £63,181,758. Of the total imports, England and Wales received £472,370,000, Scotland £38,691,000, and Ireland £12,015,000. Of the exports, England and Wales exported £258,681,000 British and £61,475,000 foreign, Scotland £32,167,000 British and £738,000 foreign, and Ireland £344,000 British and £968,000 foreign. The share of England in the total trade was 90.3 per cent., the share of Scotland 8.2 per cent., and that of Ireland 1.5 per cent. The imports of live animals for food in 1901 were £9,400,033 in value; of articles of food and drink free of duty, £162,949,666; of dutiable articles of food and drink, £47,505,501; of tobacco, £4,819,473; of metals, £30,787,452; of chemicals, dyes, and tanning substances, £6,129,559; of oils, £11,030,606; of textile materials, £79,401,772; of materials for various manufactures, £57,954,510; of manufactured articles, £93,609,754; of miscellaneous articles, £17,298,198; by parcel post, £1,262,462. The quantity of imports of bacon and hams retained for home consumption in 1900 was 19,620,000 pounds; of fresh mutton, 9,280,000 pounds; of butter, 9,110,000 pounds; of cheese, 7,260,000 pounds; of eggs, 49,480,000 in number; of wheat and flour, 245,240,000 pounds; of potatoes, 24,130,000 pounds; of sugar, 87,710,000 pounds; of tea, 6,110,000 pounds; of rice, 10,200,000 pounds; of tobacco, 1,960,000 pounds. The imports of wheat in 1901 were 16,296,220 quarters, against 16,044,270 quarters in 1900. The imports of cereals and flour were 196,388,807 hundredweight; of potatoes, 7,076,882 hundredweight; of rice, 6,757,323 hundredweight; of bacon and hams, 7,633,018 hundredweight; of fish, 2,301,315 hundredweight; of refined sugar, 21,591,051 hundredweight; of raw sugar, 13,419,775 hundredweight; of tea for consumption, 255,873,087 pounds; of butter, 3,702,810 hundredweight; of margarine, 960,082 hundredweight; of cheese, 2,586,885 hundredweight; of beef, 4,715,260 hundredweight; of preserved meat, 769,364 hundredweight; of fresh mutton, 3,608,229 hundredweight; of sheep and lambs, 381,481 in number; of cattle, 494,225 in number; of eggs, 17,072,795 great hundreds; of spirits for consumption, 8,837,185 proof gallons; of wine for consumption, 15,280,576 gal-

lons. Of the wheat imports in 1901 British possessions furnished 18,859,010 hundredweight, including 6,896,710 hundredweight from Canada, 6,820,800 hundredweight from Australasia, and 3,341,500 hundredweight from India, and 52,888,820 hundredweight came from foreign countries, of which the United States supplied 40,466,300 hundredweight, the Argentine Republic 8,080,000 hundredweight, Russia 2,541,500 hundredweight, Germany 594,700 hundredweight, Roumania 512,100 hundredweight, Turkey 440,700 hundredweight, and other countries 253,120 hundredweight. Of the tea imports in 1900 India supplied 51.38 per cent., Ceylon 38.30 per cent., China 7.13 per cent., the Netherlands 2.21 per cent., and other countries 0.98 per cent. The value of cereals and flour imported in 1901 for domestic consumption was £61,241,027; of raw cotton, £41,985,174; of meat, £39,987,806; of lumber and wood, £24,558,862; of butter and margarine, £21,853,687; of wool, £21,503,960; of sugar, raw and refined, £19,507,037; of silk manufactures, £13,025,204; of woolen manufactures and yarn, £11,894,552; of flax, hemp, and jute, £11,620,420; of oils, £11,030,606; of tea, £9,487,793; of animals for food, £9,400,033; of dressed hides and leather, £8,318,910; of fruit and hops, £8,082,568; of seeds, £7,872,858; of cheese, £6,227,277; of chemicals, dyestuffs, and tans, £6,129,559; of eggs, £5,495,776; of iron manufactures, £5,104,502; of wine, £4,937,343; of copper ore, £4,920,800; of tobacco, £4,819,473; of copper, £4,733,686; of iron ore, £4,551,429; of tin, £4,215,645; of machinery, £3,962,068; of coffee, £3,044,404; of lead, £2,843,996; of currants and raisins, £1,925,051; of zinc and zinc manufactures, £1,667,068; of pig, puddled, and bar iron, £1,527,573; of unwrought steel, £1,106,364. The value of cotton fabrics exported in 1900 was £65,712,756, and of cotton yarn £7,977,330; total cotton manufactures, £73,690,086. The value of woolen fabrics was £14,255,293, and of woolen and worsted yarn £5,238,638; total, £19,494,931. The value of linen fabrics was £5,012,834; of linen yarn, £824,900; of jute fabrics, £2,213,078; of jute yarn, £514,378; of apparel and haberdashery, £7,056,925. The value of pig iron was £2,631,746; of bar, bolt, angle, and rod iron, £1,041,367; of railroad iron, £3,654,421; of wire, £967,132; of tin plates, £3,706,958; of hoops, sheets, and plates, £3,949,218; of cast and wrought iron, £5,043,795; of old iron, £274,194; of steel and manufactures of steel or steel and iron, £4,036,842; total iron and steel, £25,305,673. The value of new ships sold abroad was £9,159,876. The exports of hardware and cutlery were £2,079,087 in value; of copper, £3,512,947; of machinery, £17,855,335; of coal, cinders, and patent fuel, £30,336,582; of chemicals, £8,942,109. The values of imports of merchandise from and of exports of British and Irish produce to the different British possessions in 1900 are here given:

BRITISH POSSESSIONS.	Imports.	Exports.
Australasia	£26,434,421	£27,068,158
India	27,269,106	30,115,788
British North America	22,940,886	8,196,710
South and East Africa	4,122,425	12,965,449
Straits Settlements	7,085,099	3,180,199
Ceylon	5,473,111	1,882,876
West Africa	2,187,088	2,146,149
Hong-Kong	1,086,046	2,782,892
British West Indies	1,670,806	1,771,860
Channel Islands	1,478,978	981,621
Malta	74,717	1,118,694
British Guiana	600,114	696,989
Mauritius	292,566	277,174
All other possessions	568,566	1,767,058
Total	£108,880,626	£294,379,586

The imports of merchandise from various foreign countries in 1900 and the exports to them of British and Irish produce were valued as follows:

COUNTRIES.	Imports.	Exports.
United States	101	£19,780,881
France	96	19,677,913
Germany	87	27,990,718
Netherlands	88	10,937,401
Belgium	98	10,773,703
Russia	88	11,001,800
Spain	106	2,885,594
Argentine Republic	106	7,148,786
Egypt	178	6,000,409
Denmark	87	4,268,586
Sweden	100	5,421,746
Chile	87	6,254,746
Brazil	107	5,880,258
Italy	90	8,778,114
Japan	105	8,775,188
Turkey	107	3,015,458
Norway	119	2,527,062
China	100	5,574,147
Portugal	107	2,065,570
Austria-Hungary	105	2,516,889
Greece	119	1,054,861
Philippine Islands	101	1,148,886
Java	104	2,547,406
West Africa	105	1,988,566
Mexico	84	1,298,503
Peru	104	948,827
Uruguay	101	1,680,861
Roumania	100	568,179
Canary Islands	106	919,496
Central America	106	908,998
Algeria	102	871,187
Morocco	101	575,588
East Africa	96	708,513
Venezuela	104	564,861
Colombia	106	344,886
Peru	104	948,827
Ecuador	107	286,579
Tunis	101	265,068
Haiti and Santo Domingo	106	287,198
Siam	106	301,541
Indo-China	107	68,708
Bulgaria	170	126,818
Madagascar	79	37,816
All other countries	100	2,365,270
Total	£412,544,588	£196,812,400

The value of merchandise transhipped in transit in 1900 was £11,016,516. The imports of gold coin and bullion in 1901 were £20,715,628, and exports £13,965,265; imports of silver coin and bullion were £11,501,678 in value, and exports £12,049,837.

Navigation.—The total number of vessels entered at the ports of the United Kingdom during 1900 was 363,462, of 105,051,375 tons; the total number cleared was 348,179, of 103,726,553 tons. These numbers include 284,908, of 55,828,569 tons, entered and 280,037, of 54,425,666 tons, cleared coastwise. The tonnage of vessels engaged in foreign trade entered at British and Irish ports in 1900 was 49,223,000 tons, of which 31,445,000 tons were British and 17,777,000 tons were foreign; cleared in the foreign trade, 49,301,000 tons, of which 31,266,000 tons were British and 18,035,000 tons foreign. The tonnage of vessels entered with cargoes from foreign ports was 36,186,000 tons, of which 24,426,000 tons were British and 11,760,000 tons were foreign; cleared with cargoes, 43,672,000 tons, of which 21,906,000 tons were British and 15,766,000 tons foreign, total tonnage entered and cleared with cargoes, 79,858,000 tons, of which 52,332,000 tons were British and 27,526,000 tons foreign. With cargoes and in ballast the total foreign tonnage entered was 35,812,857 tons, of which 7,661,571 tons were Norwegian, 8,027,208 tons German, 3,597,198 tons Swedish, 3,494,797 tons Danish, 3,213,767 tons Dutch, 2,822,375 tons French, 2,709,247 tons Spanish, 1,601,606 tons Belgian, 1,419,078 tons Italian, 1,179,497 tons Russian, 559,552 tons

American, and 491,222 tons Austrian. The tonnage entered and cleared at the principal ports of the United Kingdom was as follows: London, 16,700,527; Cardiff, 12,769,240; Liverpool, 11,677,708; Tyne ports, 8,791,299; Hull, 4,940,735; Glasgow, 3,681,597; Southampton, 3,009,389; Newport, 2,603,451; Blyth, 2,487,217; Swansea, 2,446,051; Kirkcaldy, 2,039,433; Leith, 2,037,600; Middlesbrough, 1,978,286; Sunderland, 1,959,932; Dover, 1,937,550; Grimsby, 1,891,474; Grangemouth, 1,728,641; Manchester, 1,383,254; Harwich, 1,366,021; Goole, 1,170,604; Bristol, 1,121,245; Hartlepool, 999,036; Folkestone, 777,813; Belfast, 685,750.

The British registered shipping at the beginning of 1901 comprised 10,773 sailing vessels, of 2,096,498 tons, and 9,209 steamers, of 7,207,610 tons. There were engaged in the home and foreign trade 7,480 sailing vessels, of 1,989,731 tons, and 7,455 steamers, of 7,405,476 tons; total tonnage, 9,395,207. The total number of men employed in the commercial navy was 247,448, including 36,893 foreign sailors and 36,023 lascars. Of the total number of vessels engaged in trade 6,203 sailing, of 378,957 tons, employing 23,734 men, were in the home trade; 134 sailing vessels, of 15,936 tons, employing 719 men, were engaged both in the home trade, including ports between Brest and the Elbe, and in the foreign trade; and 1,143 sailing vessels, of 1,594,838 tons, employing 25,856 men, were engaged exclusively in the foreign trade; 3,545 steam vessels, of 508,359 tons, employing 40,288 men, were engaged in the home trade; 267 steam vessels, of 201,542 tons, employing 4,930 men, were engaged both in the home and the foreign trade; and 3,648 steam vessels, of 6,695,575 tons, were engaged exclusively in the foreign trade. The numbers of vessels built and first registered during 1900 were 504 sailing vessels, of 38,576 tons, and 667 steamers, of 698,330 tons. Besides these, 66 sailing vessels, of 7,546 tons, and 196 steam vessels, of 199,815 tons, were built for foreigners, including 20 war-vessels, of which 2, of 112 tons, were sailing vessels and 18, of 11,630 tons, were steamers. The total number of vessels belonging to the United Kingdom was 19,982, of 9,304,108 tons. The total number belonging to the British Empire in 1900 was 34,875, of 10,751,392 tons, the sailing tonnage being 3,011,594 and steam tonnage 7,739,798 tons.

Shipping Trust.—In the spring of 1902 a trust of British and American lines of steamships engaged in the north Atlantic shipping trade was formed with American and British capital amounting to \$170,000,000. The company, which acquired a majority of the stock of the British lines and entered into an agreement for the division of traffic and establishment of equal rates with the two great German lines, was domiciled in New York, but the British ships retained their nationality, and the obligation to serve England as auxiliary naval vessels in case of war that had been assumed for some of them was not canceled. For some years previous to the combination the steamships engaged in passenger transportation between American and European ports had in competition provided more and more luxurious accommodation, and freight rates had declined, owing to the extraordinary activity in ship-building which began in 1898 after a period of quiescence and continued till the close of 1901. Dividends and profits shrank or ceased in consequence of the competition, so that Englishmen largely interested in shipping were willing to enter or sell out to the trust formed to keep up rates and reduce expenses by J. P. Morgan. British lines which did not enter the

American combination formed an alliance among themselves and sought subsidies from the British and Canadian governments to enable them to compete with the other syndicate and develop trade with Canada and with the East through Canada. The Australian Government was asked also to assist an all-British combination that would promote commerce between the different parts of the British Empire. In the United States the American syndicate controlled railroads and various facilities that gave it an advantage over the rival combination.

Railroads, Posts, and Telegraphs.—The total length of railroads open to traffic in the United Kingdom on Jan. 1, 1901, was 21,885 miles, of which 15,187 miles were in England and Wales, 3,485 miles in Scotland, and 3,183 miles in Ireland. The total share and loan capital was £1,176,001,890. The number of passengers conveyed in 1900 was 1,142,276,686, paying £45,383,988; freight receipts, £53,470,564; total gross earnings, £104,801,858. The capital of English railroads was £970,147,581, and receipts were £89,392,501; the capital of Scottish railroads was £166,088,736, and receipts were £11,603,010; the capital of Irish railroads was £39,765,573, and receipts were £3,806,347. The total operating expenses were 64,743,520, being 62 per cent. of the gross earnings. The length of street-railroads in the United Kingdom on July 1, 1900, was 1,177 miles; the capital expenditure was £20,582,692; receipts for the previous year, £5,445,620; expenses, £4,075,352; net earnings, £1,370,277; number of passengers carried, 1,065,374,347.

The post-office in 1901 delivered 1,970,000,000 letters in England and Wales, 202,400,000 in Scotland, and 144,200,000 in Ireland; total, 2,323,600,000. The number of postal cards was 359,400,000 in England and Wales, 41,600,000 in Scotland, and 18,000,000 in Ireland; total, 419,000,000. The number of book packets was 619,300,000 in England and Wales, 77,800,000 in Scotland, and 35,300,000 in Ireland; total, 732,400,000. The number of newspapers was 127,800,000 in England and Wales, 19,300,000 in Scotland, and 20,700,000 in Ireland; total, 167,800,000. The number of parcels was 67,200,000 in England and Wales, 8,600,000 in Scotland, and 5,200,000 in Ireland; total, 81,000,000. The total number of inland money-orders was 11,375,518, for £34,454,859, of which 9,638,474, for £29,213,745, were issued in England and Wales, 1,094,431, for £3,344,601, in Scotland, and 642,613, for £1,896,423, in Ireland. The total number of postal orders was 85,390,029; total amount, £29,881,726. The British postal authorities, having in vain endeavored to establish a parcel post with the United States by agreement with the Post-Office Department at Washington, although such a service has been in operation between Great Britain and British colonies since 1885, arranged with a private corporation, the American Express Company, to deliver anywhere in the United States and receive for delivery by the British post-office in the United Kingdom parcels under 3 pounds for 2s. or 50 cents, from that to 7 pounds for 3s. or 75 cents, from 7 to 11 pounds for 4s. or \$1. For New York and adjoining cities the rates are 1s. or 25 cents, 2s. or 50 cents, and 3s. or 75 cents, but for all parcels entering the United States an additional charge of 25 cents goes to the Government for clearance at the custom-house besides import duties at regular rates, and another fee of 25 cents to the custom-house broker.

The British postal telegraphs on March 31, 1901, had a total length of 46,295 miles, with

347,680 miles of wire. The number of messages sent in the year ending March 31, 1901, was 89,576,961, of which 75,384,867 were despatched in England and Wales, 9,289,019 in Scotland, and 4,903,075 in Ireland.

There were 76,831 miles of telephone-lines belonging to the Government on March 31, 1901, and 7,700 miles were under construction. The number of conversations during the previous year was 17,950,296. The post-office had contracted for the construction of 34,356 miles more. The National Telephone Company had 1,019 exchanges, and the number of conversations over its wires was 723,246,368. The net receipts of the post-office from postal traffic in 1901 were £13,995,470, and expenses £10,064,903; telegraph receipts were £3,459,353, and expenses £3,812,569; net deficit, £353,216, not counting £298,888 of interest on the purchase price, net postal and telegraph revenue, £3,557,351.

The demand for all-British cable communications with colonies and naval stations in all parts of the world, which was based on strategic considerations, led to the Pacific cable which was laid between Canada and Australia in 1902. British lines connect Australia, Cape Colony, and Canada with the British Islands, and one has lately been laid between Cape Colony and Australia. A committee appointed to consider the cable communications of the British Empire considered it desirable that every important colony or naval base should have one cable to England which touches only on British territory or the territory of a friendly neutral, and also desirable that there should be as many alternative routes as possible. An all-British line is not so safe and sure in war as one touching the territory of a friendly neutral, since cables are most vulnerable in territorial waters, and the presumption is that in a war with a naval power a large proportion of the all-British lines would be cut. The free development of commercial lines is therefore of greater strategical importance than state-owned all-British cables that would check such development.

The Parliamentary Session.—The second session of the first Parliament of Edward VII was opened by the King in person on Jan. 16, 1902. In the speech from the throne operations in South Africa were said to have been favorable to British arms, the area of the war largely reduced, industries resumed in the new colonies, the soldiers cheerful in the endurance of hardships incident to guerrilla warfare and humane to their own detriment, and the colonies loyally offering further contingents, shortly to arrive in South Africa from Canada, Australia, and New Zealand. The Brussels international conference on sugar bounties was expected to lead to their abolition and the consequent relief of the sugar-producing colonies and home manufacturers of sugar. The canal treaty with the United States was designed to facilitate the construction of an interoceanic canal under guarantees that its neutrality will be maintained and that it will be open to the commerce and shipping of all nations. A treaty with Brazil provided for the delimitation of the frontier between British Guiana and Brazil by the King of Italy. A rainfall still deficient in India necessitated the continuance of relief, though on a less extensive scale, in parts of Bombay and adjoining native states, and in future famine relief would be improved in method and efficiency as a result of the commission that had investigated the subject. The new Ameer of Afghanistan was desirous of maintaining the friendly relations of his country with the Indian Em-

pire. The legislative program embraced proposals for the coordination and improvement of primary and secondary education, for administering the water-supply of London, for facilitating the sale and purchase of land in Ireland, for improving the law of valuation, for amending the law relating to the sale of intoxicating liquors and for the registration of clubs, for amending the patent law, and for reforms in the law of lunacy.

The proposal to impose a duty on imported grain and flour, which the Chancellor of the Exchequer described as too slight to be protective or to affect the price of bread, was carried by a vote of 254 to 135, and Sir William Harcourt's amendment proposing to reject the duty was rejected by a majority of 296 to 188. A loan of £30,000,000 was only opposed by 49 Nationalists and Radicals. The previous loan of £32,000,000 was issued at 93½ and the lowest price for the 2½-per-cent. consols, which will pay only 2½ per cent. after April, 1903, was 91 during the war. Sir Michael Hicks-Beach did not alter his financial calculations after the close of the war except in regard to further borrowings. He added to the estimate £750,000 for the South African constabulary, £750,000 for interest on new debt, and £250,000 for a grant to the West Indies, making the total expenditure £176,359,000. The deficit of £19,500,000 would be paid out of the loan, and at the end of the year the remainder of the loan could be returned to pay off debt and the sinking-fund, suspended during the war, be restored.

New rules of procedure were introduced early in the session. Some of these were opposed by the whole Liberal party and with all means of resistance in their power by Irish Nationalists and Radicals. The discussion took up a great part of the session. Though the house sat through whole nights and the Government applied the closure freely, slow progress was made. Under the rules that were adopted questions of privilege are referred to a committee; a motion for adjournment, the favorite weapon of a minority bent on hindering the advancement of a Government measure, can not be debated until the hours reserved to the Government have passed; the time reserved for questions is limited to the first hour on Friday and the last half-hour of each other sitting, unless the midnight rule has been suspended, when printed answers must suffice, but no question need be answered unless notice has been given, and the member who has given notice is alone entitled to ask the representative of the Government to explain his answer and must be satisfied with one explanation; the Government can continue debate after the appointed hour for the close of each afternoon and evening sitting by moving closure, but private members can not make dilatory motions to adjourn or report progress or that the chairman leave the chair; a minister may move to have any debate resumed after midnight, otherwise the evening sitting terminates one hour after midnight, on Fridays at six o'clock in the afternoon, but discussions of supply can be continued into the night by the Government without the concurrence of the house; the speaker has power in case of gross disorder to suspend any sitting for a time to be named by him; the first twenty-five minutes of Government days and the sitting of Friday, from twelve till six o'clock, are the only times allowed for private bills, petitions, and motions, except two evening sittings before and one only after the Easter recess, when notices of motion take precedence, but after Whitsuntide all the evenings and all the Fridays save two belong

also to the Government; the estimates must be voted before Aug. 5, and their discussion must not occupy more than twenty days, the closure being applied to carry in a lump without discussion all items not yet voted, unless a minister asks and the house allows three days more, and any vote on account must be disposed of in one day; when a member is named by the speaker or the chairman of committees for disregarding his authority or for abusing the rules for purposes of obstruction or for other reasons he can, on a simple motion put without debate, be suspended for twenty sitting days for the first, forty days for the second, and eighty days for the third or any subsequent offense, and the suspended member can not resume his seat for forty days more unless he apologizes in writing, but if a member or members acting jointly refuse to obey the speaker so that force must be used to compel obedience he or they are suspended for the remainder of the session or for eighty days on which the house sits, whichever is the longer period; the house can not be counted out before ten o'clock in the evening, though a division when fewer than 40 members are present is not valid.

A licensing bill dealing with some of the evils arising from intemperance provides for the arrest of any person found helplessly intoxicated in a public place; makes it a punishable offense to be found drunk while in charge of a child; requires a man who has been repeatedly convicted of drunkenness to give security for his future behavior, otherwise he is confined in jail; makes it a penal offense for the keeper of a public house to sell knowingly to a habitual drunkard or an intoxicated person, and when charged with permitting drunkenness on his premises it lies with him to prove that he or persons employed by him took reasonable precautions to prevent drunkenness; provides that convictions against a licensed place be recorded for the information of the magistrates when considering the renewal of the license, and if the justices do renew a license after 5 convictions within five years they must report their reasons; places grocers' licenses, which have been freely issued on payment of £10, under the control of the licensing justices; compels all clubs in which liquor is sold to register under stringent penalties and provides for the suppression of spurious clubs established for sale of drink or other immoral purposes; enables the husband of a woman who is a habitual inebriate to apply to a court of summary jurisdiction for a judicial separation with an order for maintenance; a woman whose husband is a habitual drunkard is entitled to a protection order against him; any habitual drunkard who is convicted of a crime in which drunkenness is an element can not purchase liquor without being liable to arrest and punishment, and if a publican who has been notified of the facts sells it to him he also incurs a penalty. The most important clause was that for the supervision of clubs, which must furnish particulars every year of the objects, rules, and number of members. When the membership falls below 25, when the objects and rules are not carried out in good faith, when there is much drunkenness on the premises, when persons are admitted as members without any delay, when the supply of liquor is not under the control of an officer or committee of the club, and in other suspicious circumstances, the club can be stricken from the register. Wide discretion is given to the courts to declare a club a sham.

A bill to restrict labor in coal-mines to eight hours from bank to bank, which the House of

Commons had agreed to in the previous session by a majority of 12, was rejected by a majority of 1 vote. Another bill of the mining representatives to introduce the eight-hour day in coal-mines for persons under twenty-one years of age was rejected by 66 votes, it being coupled with the proposal, which the authors wished too late to withdraw, that no one should be employed underground who had not entered the mines before he was eighteen. The highest court having decided that trade-unions can be sued on account of any injury they may inflict, their representatives moved to relieve them of this liability, which was intended to be fastened on them, in the act permitting their incorporation. The Government considered their liability to be sued and the correlative right to sue equitable, and yet could muster no greater majority than 29 to defeat the motion.

The Board of Education, instituted on April 1, 1900, has control over elementary education in England and Wales and authority to inspect secondary schools. By the elementary education act of 1870 school accommodation must be provided in every district for all children between the ages of five and fourteen. In 1900 the local authorities were empowered to allow children over twelve to leave school for a part or the whole of the year for industrial employment; in agricultural districts children over eleven were exempted during the busy season. Groups of boroughs and parishes form school districts to elect school boards, of which there are 2,545 in England and Wales, besides 788 school-attendance committees in places where there are no board schools. Parents are compelled to send their children to school by these local educational authorities. In the board schools unsectarian religious instruction is given. In the voluntary schools sectarian teaching is allowed. Voluntary schools were supported in the beginning by voluntary subscriptions. Fees were charged in the public schools until 1891, when Parliament made elementary schools free and voted an annual grant of 10s. for every child in average. In 1897 an annual grant of 5s. for each pupil was extended to voluntary schools which conformed to the standards set in the annual code of the Education Department, the central body which preceded the Board of Education. Of the associations which receive and distribute the parliamentary grant among 14,188 voluntary schools, 46 are Church of England, 11 Roman Catholic, 11 undenominational, 6 Wesleyan, and 1 Jewish. The cost of maintaining the board schools is raised by the school rates levied on all householders, while voluntary schools have to depend partly on subscribers belonging to the religious denominations which support these schools in order to give their particular doctrinal cast to the education of their children and inculcate the children of others with their religion. There were 5,758 board schools with 2,201,049 pupils, 11,777 schools of the national society of the Church of England with 1,885,802 pupils, 458 Wesleyan with 125,727 pupils, 1,045 Roman Catholic with 255,036 pupils, and 1,079 British, undenominational, etc., with 220,032 pupils. In 1901 only 91 of the schools belonging to the denominational associations declined the parliamentary fee grant which was ostensibly voted for necessitous voluntary schools.

The elementary schools of England and Wales in 1901 had accommodation for 6,610,416 pupils, 20.27 per cent. of the total population, the actual population of school age being 9,608,757, whereas in 1870 the school accommodation was sufficient

only for 8.75 per cent. of the population. There were 5,797 board schools, with accommodation for 2,881,155, having 2,703,434 scholars on the rolls and 2,239,375 in average attendance. The number of voluntary schools was 14,319, with accommodation for 3,729,261, having 3,054,709 scholars registered and 2,239,375 in actual average attendance. The number in average attendance in all the schools was 70,574 more than in 1900 and reached 82.17 per cent. of the total number on the registers. Of the total number of scholars, 5,116,384 were free and 644,275 paid fees. The schools were taught by 66,149 certificated or provisionally certificated teachers, 28,002 pupil teachers, 34,716 assistant or provisional assistant, and 17,956 additional women teachers. The number of women teachers doubled in seven years. The cost of the schools in 1901 was £3 0s. 2d. per child in average attendance in the board schools and £2 6s. 8½d. in the voluntary schools. The elementary schools have made progress under the dual system by which church schools, first independent rivals of the unsectarian public schools, have latterly been partly supported by the state and subject to inspection and examination. Intermediate education, on the other hand, has remained unorganized and has made no progress. The defects in secondary education have engaged the attention of the public and of legislators because the greater industrial and commercial progress of the United States and Germany has been ascribed in a great measure to the scientific and practical character of their systems of secondary and higher education. An educational commission in 1897 ascertained that there were in England 6,209 secondary schools in which 68,785 boarders and 207,759 day pupils were taught, a total of 276,544, of whom 122,313 were in boys', 114,239 in girls', and 21,252 boys and 18,740 girls in mixed schools. Of the total number, 5,167 were proprietary or private schools, with 152,930 pupils; 197 were schools maintained by religious and other communities and city companies, with 18,666 pupils; 308 belonged to limited liability companies, with 18,734 pupils; 619 were endowed schools founded by royal charters, acts of Parliament, etc., with 76,671 pupils; and 76 were established by local authorities, with 9,543 pupils.

Wales and Monmouth have had since 1889 a public board to examine intermediate schools, of which 94, with 7,445 pupils, were inspected in 1900. The English Board of Education when created was authorized to inspect secondary schools desiring inspection, of which there were only 27 in 1901. The education act introduced in the House of Commons by Mr. Balfour was intended to coordinate the board and voluntary schools and elementary and secondary schools and lead up to a system of national education, which is universally desiderated, which the Liberals when in power sought to develop out of the board schools, and which has made no advance on secular lines on account of the religious temper prevailing in the Church of England and dominating Tory politics. The Protestant dissenters upheld the board schools as earnestly as the Anglicans opposed them. The education act of 1897 was the first step of the English clergy toward regaining control of popular education. By their efforts and the sacrifices of their lay supporters they had built up a rival system of schools as extensive if not as efficient as the public system created and fostered by the Government and supported by rates and taxes assessed upon them as well as upon the classes whose children were educated in the board

schools, of which, indeed, they paid the larger proportion. Having obtained recognition for their schools as a branch of the national system, a public standing for them alongside of the board schools, with partial relief from their pecuniary sacrifice in the form of the 5s. grant, they now demanded an equal status and an equal share of the school rates, relieving them entirely of paying voluntary subscriptions to keep up their own schools while bearing their full share of the cost of the board schools. The non-conformists, having witnessed what the church schools had done as private institutions supported by charitable contributions, not only in competing with the board schools in education and arresting their growth as a national system of public schools, but in proselyting the people, in building up the state church while their own bodies were not increasing, regarded this proposal as a blow aimed at their religious doctrines and communities as well as at the principle of unsectarian national education. The voluntary schools were inferior in teaching staff, equipment, and buildings to the board schools, and the subscriptions that supported them were falling off, so that those more interested in the education of the people than in religious conflicts viewed with regret the inferior education that half the children received and with foreboding the prospect that this would deteriorate.

Mr. Balfour's education bill places board and voluntary schools on an equal footing, to be maintained by rates assessed by the county and borough councils. The local authority in matters pertaining to education is a committee, a majority of which must be appointed by the council and will be chosen from among its members, and the others will be persons of experience in education or acquainted with the needs of the various kinds of schools in the county or borough to be appointed also by the council, but on the nomination, where it appears desirable, of other bodies. All appointments to the educational committees are subject to the approval of the Board of Education, which has far more control and power than the central educational authority has exercised under previous acts merely by virtue of the aid granted out of the taxes and has the assistance and advice of a consultative council of experts.

In most country districts there are no schools except the church schools, and people of other denominations besides the Church of England help to support these in preference to paying rates for board schools that would be necessary if the voluntary schools went out of existence. The bill proposed that country schools, where in most cases the parish clergyman has been the only manager, should be managed by a committee composed of the clergyman, three laymen of his parish, and two representatives of the public authority. The question of the management and control of the voluntary schools was bitterly contested in the House of Commons. The clergy retained the direction of their schools in the towns, and, as it seemed to non-conformists, of the country schools as well, and this was regarded as boding a return to the age when all education was prescribed and supervised by the clergy. Non-conformist assemblies formed a solemn league and covenant to refuse to pay school rates or that part of them falling to the share of church schools, and labor organizations resolved to elect municipal bodies pledged to render the bill inoperative. The bill gives the local education authority one-third of the representation on the board of voluntary managers, but the

other two-thirds are likely to accept the control of the clergyman, and thus the one-man clerical management will be preserved. The buildings of the voluntary schools, now held by trustees for the managers, are to be handed over to the education authorities, which have power to direct what repairs or improvements shall be made by the managers and to veto any acts of the board of managers. The rate for elementary education is 2*d.* in the pound, and this can be increased wherever it is found necessary.

Not the non-conformists alone, but a considerable section of the laity of the Church of England objected to the religious instruction which the clergy who were most zealous in education insisted on giving in the parish schools, in which ecclesiastical and ritualistic ideas pervade the secular studies and the children are weaned away from Protestant views of religion. The proposal to give the clergy four votes to two in the management was regarded as unfair because under the provisions of the bill not more than one-twelfth of the expenses of the schools would fall upon the owners and subscribers.

The education bill was read the second time on May 8 by the great majority of 237. As Roman Catholics are even more devoted than Anglicans to the principle of religious education, the Irish Nationalist party voted with the Government. In committee the discussion was endless. The abolition of the school boards that had developed elementary education in England was a matter for grave consideration. The uncertainty of how the county and borough councils would act and how the people would receive the certain demand for increased school rates and for rates where none were collected before caused misgivings even among the supporters of the Government, and the undefined character, composition, powers, and functions of the educational committees made the prospect still more obscure. Under the previous education laws no board schools could be erected in districts sufficiently provided with voluntary schools, but where there was insufficient accommodation for all the children in a district the Board of Education was enjoined to call upon the district to supply the deficiency and had power to enforce its demand. Board schools have been erected wherever denominational schools did not exist and children of Church of England parents attended them, just as children of non-conformists attended Church schools where these held the field. Under the new bill the local educational authorities will not be permitted to erect new schools if persons are willing to build voluntary schools. There were optional clauses in Mr. Balfour's bill that were generally condemned. The town councils were not compelled to assume authority over education, and if they did not the elective school boards retained their functions. It was optional also for the local education authority to appoint 2 additional managers to the voluntary school committees or to leave the 4 private managers in unrestricted control. The secular education in these schools is under the control of the local educational authority, which can veto the appointment or dismissal of any teacher. The guiding principle of the bill was that there shall be one local authority for elementary, secondary, and technical education within each county or borough, and that this shall be the rating authority, which shall have at its disposal the best local expert assistance. The bill provides that the local education authorities shall consider the needs not only of elementary education, but shall take such steps

as seem desirable, after consultation with the Board of Education, to supply or aid in the supply of education other than elementary, including the training of teachers and the general co-ordination of all forms of education. The power that the bill gives them is the optional one of levying a rate of 1*d.* in the pound for secondary education in addition to the 1*d.* they can already levy for technical education, and the money raised by this 2*d.* rate, together with the local taxation fund received from the Government, may be divided as they see fit between secondary, normal, technical, scientific, and evening schools. London was excluded from the operation of the bill.

On July 11 the Marquis of Salisbury tendered his resignation as Prime Minister. The King on the following day offered the post to Mr. Balfour. Sir Michael Hicks-Beach, Lord Cadogan, and Lord James also retired. The Cabinet was reconstituted on Aug. 8 as follows: Prime Minister, First Lord of the Treasury, and Lord Privy Seal, Arthur Balfour; Lord High Chancellor, Lord Halsbury; Lord President of the Council, the Duke of Devonshire; Secretary of State for Foreign Affairs, the Marquis of Lansdowne; Home Secretary, A. Akers-Douglas; Colonial Secretary, Joseph Chamberlain; Secretary of State for War, W. St. John F. Brodrick; Secretary of State for India, Lord George Hamilton; First Lord of the Admiralty, the Earl of Selborne; Chancellor of the Exchequer, C. T. Ritchie; Lord Chancellor of Ireland, Lord Ashbourne; Chief Secretary for Ireland, George Wyndham; Secretary for Scotland, Lord Balfour of Burleigh; President of the Board of Trade, Gerald Balfour; President of the Local Government Board, Walter H. Long; President of the Board of Agriculture, R. W. Hanbury; President of the Board of Education, the Marquis of Londonderry; Postmaster-General, J. Austen Chamberlain. The Secretary for Ireland went into the Cabinet instead of the new Lord Lieutenant, the Earl of Dudley. Sir William H. Wairond, who was appointed Chancellor of the Duchy of Lancaster, did not receive a seat in the Cabinet, nor Lord Windsor, the First Commissioner of Works, but the new Postmaster-General did and the President of the Board of Education. Serious trouble in Ireland was the reason for making the Chief Secretary a Cabinet minister once more.

An intended visit of the King to Dublin was given up in consequence of the excited state of the country and of pro-Boer demonstrations in Parliament of the Irish members. The Congested Districts Board having reduced rents by one-third on one estate it had acquired in County Roscommon for resale to tenants, the Land League upheld the tenants on the neighboring estates in their determination to pay only on the same scale. The estate purchased by the board was the vast estate of Lord Dillon, an absentee landlord. The instalments were fixed at a far lower figure than the judicial rents on the adjoining Murphy and De Freyne estates, but the tenants would not complete the purchase unless they could have the shooting and fishing rights. Evictions followed on the estate of Lord De Freyne, and these were attended with violence on the spot and stirred the passions of the Irish people as of old. In other counties of the west and south there were complaints of rackrenting. In Connaught, where the disaffection arose because the Government refused to readjust rents that were much higher than the annual payments of purchase money asked for the same kind of land, the peasants earned the £4 or £5 rent for their little holdings by going to the better districts of

Ireland or to England to work as laborers in the summer time. The United Irish League, which succeeded the Land League, became active and the Home Rulers in Parliament aggressive. Lord Cadogan in April, under the crimes act of 1887, revived in 9 counties the summary jurisdiction of stipendiary magistrates, special juries, and change of venue. Convictions under the coercion act were innumerable. When the Irish members went home in the parliamentary recess they took the lead in the attack on the Government, and were brought one after another before the resident magistrates for conspiracy until ten were convicted without juries and sentenced to various terms of imprisonment. For the first time hard labor was added to the punishment and they were treated as common criminals. Mr. Wyndham's land bill was intended for the mutual benefit of landlords and tenants. Its aim was to accelerate the transfer of the land to the latter, and hence contained a clause providing that in future the land courts would not reduce rents unless the tenant agrees to a purchase option. The Irish members considered if a landlord's bill, yet the landlords looked with apprehension upon a clause which gave the land commissioners power to fix prices as well as rents. Sales under the previous land bill decreased rapidly in four years, while fixing of rents has become more involved and expensive. Litigation flourishes while the land is going to decay and the landlords can not sell for enough to clear off encumbrances. The bill, which had no chance of passing unless both the landlords and the Irish members accepted it, would enable a landlord desirous of selling to apply to the Land Commission to fix a price, and if he accept it and three-quarters of the tenants agree to purchase, the commission advances the money and divides the land among the tenantry, to be paid for in instalments, reselling, if desired, the immediate demesne to the landlord. Lands overcrowded with tenants, with holdings less than 10 acres rated at less than £5 a year, lands where tenants cultivated patches in different places, and mountain and bog lands Mr. Wyndham proposed to treat as congested districts and to buy and re-appportion the land at a loss to the Government. When tenants on an estate apply to have a fair rent fixed the Land Commission would value the estate, if the owner is willing to sell, and if the tenants are unwilling to purchase with the aid of Government advances they must continue to pay the rent they have been paying for fifteen years longer and are charged with the costs. Mr. Wyndham, who had endeavored to follow Gerald Balfour's policy of killing Home Rule with kindness, refrained from proclaiming the Land League a dangerous association and attempting to suppress it with the powers the crimes act gave, which no Government had attempted to apply to their full extent, was constrained to proclaim more districts when Ireland was inflamed by the Nationalist orators more widely than ever was known, even in Leinster and Munster. In September he made Dublin one of the proclaimed districts and prohibited public meetings in that city, not because any violence occurred there, but because that was the headquarters of the agitation and, unless he grasped the despotic powers of coercion, the inviolable asylum of the agitators. Although the land courts had twice reduced rents, there was much distress in the western and southern counties, of which the confusion and litigation arising from the land laws was a contributory cause. The purchase clauses had failed because the ma-

jority of the gentry were as loath to give up their ancestral estates as the peasantry were to leave their bit of land, even when landlord and tenant were both insolvent and plunging deeper into debt. Some of the landlords proposed a conference for the settlement of the land question by agreement with the tenants and their advocates. The Chief Secretary approved the suggestion of a mutual agreement without committing himself in regard to the unexplained basis of the settlement. Ireland has long been paying an unequal share of the imperial taxes, the amount of the excess having been estimated in the report of the commission on financial relations. The Irish of all parties have demanded a readjustment of taxation and are not satisfied with the reply that Ireland has a proportionately larger representation in Parliament. The hundreds of millions that Ireland has inequitably been made to contribute to the imperial treasury beyond her true share seems to the Irish a debt due from Great Britain which ought to be repaid in some way. In the parts of Ireland where agrarian troubles are chronic, though rents are reduced every fifteen years, bankrupting the owners of the encumbered estates, yet the tenants are still impoverished, and the land, left undrained, unfertilized, stripped of its trees, is constantly deteriorating. Representatives and friends of the debt-ridden landlords thought that the British Government, through whose interference they had become financially ruined, should make them whole by buying their estates at the former renting value and place the peasants on a safe financial footing by reselling the land to them at its actual productive value. On such a basis most of the landlords would agree to compulsory sale, but not the great proprietors like the Duke of Abercorn and the Marquis of Londonderry. The Irish Nationalist party was unanimous in demanding the compulsory expropriation of the landlords in whatever way and the creation of a proprietary peasantry on terms fair to the peasants. The evictions on the De Freyne estate were carried out. The Land Leaguers prevented the vacant farms from being taken for grazing purposes and broke up the practise of shopkeepers in many Irish towns who made a profitable speculation in renting grass lands each year to fatten stock for market. Some of the landlords met in a convention and raised a fund to assist and protect persons attacked or threatened by boycotting, blackmailing, or intimidation. The law of conspiracy under a new interpretation brought to prison many speakers who threatened to make those who opposed them uncomfortable and miserable even by means which they themselves considered moral and lawful. Col. Arthur Lynch, who commanded an Irish legion that fought on the side of the Boers in South Africa, was elected to Parliament in Galway when the war ended. As soon as he landed on British soil he was arrested on the charge of high treason. Boycotting in the form of exclusive dealing with shopkeepers in towns and with others who did not join the United Irish League was the principal ground on which members of Parliament and of the county and borough councils were sentenced for criminal conspiracy to imprisonment with hard labor, which deprives them of civil rights for five years. Most of the newspapers of the country were suppressed for printing lists of those who had joined the league and those who had not. The civil court in Dublin gave damages, which a special jury fixed at a high figure, to a small trader who sued several members of the United Irish League for ruining his business

because he had taken a vacant farm. The Chief Secretary endeavored to bring about a conference between representatives of the landlords' convention and of the United Irish League respectively with a view to settling the general terms on which the land could be transferred to the farmers. The landlords refused to take part in such a conference. In the sales which the Land Commission had effected the instalments paid annually were 4 per cent., extinguishing the debt in from forty to fifty years, but the purchaser was required to pay at once 25 per cent. of the purchase money in cash. The instalments were considerably lower than the rents. The tenants were willing to pay eighteen years' purchase, but the landlords wanted twenty-seven years' purchase.

In August Parliament adjourned for an autumn session to begin in October. The conflict over the education bill was fiercer than ever and raged fiercer yet out of doors during the recess. Of the new rules of procedure only half had been carried, and the remaining ones had little chance of going through in the face of the obstinate resistance of the Opposition. The London water bill was still in an incipient stage. The education bill was carried through the Commons by application of the closure. The Government accepted the amendment of Col. Kenyon-Slaney according to which a majority of the board of managers under a trust deed can control the religious education in a voluntary school by dismissing teachers and preventing the parson from giving instruction if it is contrary to the doctrines and usages of the Church of England. In the House of Lords the Bishop of Manchester introduced an amendment throwing upon the school rates the expense of keeping the schoolhouses in repair.

Coronation of Edward VII.—The coronation of the King was appointed to take place in June. Great preparations were made, not only by the Government in fitting up Westminster Abbey for the ceremony, in decorating the streets of London, and in arranging processions, pageants, and feasts, but by the persons who were to take part in the spectacle, and especially by the business people who provided food, raiment, and stocks of goods of many kinds, lodging-places, and stands on the route of the procession for the multitudes that would gather from the various parts of the United Kingdom, from British colonies and dependencies, and from many foreign countries. Many speculative traders who involved their capital and credit deeply secured themselves against the King's death by insuring his life. A few weeks before the appointed date the King was seized with an acute attack of perityphlitis or appendicitis. An operation was necessary which kept him confined to his bed, and in place of the festivities there was general anxiety and gloom, instead of thriving trade there was loss and stagnation in the retail business of London. The Australian Premiers, the Indian princes, the royal guests from European courts, the special envoys of foreign governments who had already arrived, with the nobility and gentry of the three kingdoms and throngs of visitors from abroad, disappeared into the country or scattered themselves over the Continent. All official plans of presentations and conferences were disarranged and missions and credentials lapsed or were abandoned. The King recovered and the coronation took place on Aug. 9 with the same ceremonial that was originally planned, but with less brilliant pomp and display and a smaller concourse of participants and

onlookers. King Edward was presented by the Archbishop of Canterbury and greeted with the homage of the people as the undoubted King of the realm, after which he swore to govern according to the statutes of Parliament and the laws and customs of the United Kingdom of Great Britain and Ireland and dominions thereto belonging; to cause law and justice to be executed in all his judgments; and to maintain the laws of God, the profession of the Gospel, the Protestant Reformed religion, the settlement of the Church of England, its doctrine, worship, discipline, and government, and the rights and privileges of the bishops and clergy. The coronation oath was followed by the ceremonies of anointing, presenting with spurs and sword, oblation of the sword, investment with the orb, cross, and ring, presentation with the scepters, the solemn crowning, enthronement on St. Edward's chair, and homage by bishops, the princes of the blood, and the orders of the peerage. Then Queen Alexandra was anointed and crowned with Queen Edith's crown and invested with the scepter and ivory rod, insignia of the Queen Consort.

A review of the Channel squadron, the home squadron, and the recently formed cruiser squadron by the King at Spithead a week later ended the coronation festivities. The three squadrons massed there were the force maintained for the defense of British shores in the event of a conflict on the seas. The Channel squadron consisted of 6 battle-ships and 4 cruisers, the home fleet of 10 battle-ships and 6 cruisers, and a cruiser squadron of 6 ships. There were also 3 flotillas of destroyers which exhibited their speed and maneuvers. On coronation day the King presented to the nation Osborne house and estate, in the Isle of Wight, the private property and favorite residence of the late Queen, left to him by her will, and in making the gift he expressed a hope that it be converted into a convalescent home for invalid officers of the navy and army. Parliament subsequently voted the sum necessary to carry out this purpose. Many peers were created or elevated in the peerage and other distinctions were conferred. A new order of merit was instituted, the Imperial Service order, to which 250 companions can be appointed from the home civil service and 175 from the colonies and protectorates after twenty-five years of meritorious service or sixteen years in unhealthful colonies or protectorates.

The Autumn Session.—When Parliament reassembled the Government demanded all the time for its own measures. The Irish members demanded a day for reviewing the conduct of the Irish executive. This Mr. Balfour would not promise unless the leader of the Opposition, Sir Henry Campbell-Bannerman, was prepared to move a vote of censure. A violent demonstration accompanied the adoption under the closure of the Government motion, resulting in the suspension of an Irish member who had already been sentenced in Ireland to six months' hard labor. The Nationalists in Ireland were in a different situation than they were when the former land war brought them into conflict with the authorities of Dublin Castle. Now, through the county councils, they controlled the whole local administration. Their indignation was the greater at the suspension of trial by jury and *habeas corpus* and the application of the other despotic features of the crimes act throughout the greater part of Ireland where there were no agrarian or political disturbances, though the excitement was rendered intense by the action of the Government.

Colonies and Dependencies.—British colonies are broadly distinguished as colonies having responsible government, colonies having representative legislative bodies, but an executive responsible to the Crown, and Crown colonies. In the first class the executive power resides in the ministers, who are responsible to the colonial Parliament, and the Imperial Government assumes no right of veto or interference excepting for grave imperial reasons. In the second class the governor appointed by the Crown and the officials of his own selection forming his council have varying degrees of initiative and control in legislation according to the terms of the colonial charter. In Crown colonies the governor and his council are the legislative and executive authority under the British Colonial Office. The rights of the Crown in all colonial affairs are committed to the Secretary of State for the Colonies. The British Government spends about £2,000,000 on the colonies, mainly for military and naval purposes. From the colonial revenues Ceylon contributes £128,000 a year for defense; Mauritius, £26,000; Hong-Kong, £70,000; Straits Settlements, £126,000; Malta, £5,000; Natal, £4,000; West Africa, £10,000; Canada, £21,000; total, £390,000. India pays £270,000 a year for home charges and £335,000 for deferred pay of British troops serving in India. Egypt pays £87,000 for the army of occupation. The number of British garrison troops in the colonies in 1902 was 63,456, of which 5,466 were in Gibraltar, 10,840 in Malta, 135 in Cyprus, 15,185 in Cape Colony and Natal, 3,583 in Mauritius, including 2,048 colonial troops, 727 in St. Helena, including 517 colonials, 2,262 in Sierra Leone, including 2,100 colonials, 5,436 in Egypt, 1,783 in Halifax, 327 in Esquimault, 3,068 in Bermuda, including 1,011 colonials, 1,774 in Jamaica, including 1,050 colonials, 1,529 in Barbados and St. Lucia, including 600 colonials, 1,778 in Ceylon, including 265 colonials, 2,719 in Straits Settlements, including 1,215 colonials, 4,425 in Hong-Kong, including 2,463 colonials, 1,289 in Wei-Hai-Wei, including 1,083 colonials, 1,130 not detailed, including 1,100 colonials. The British forces in India numbered 73,518 officers and men.

The prime ministers of the self-governing colonies held a conference in London in the summer of 1902 under the presidency of the Colonial Secretary. They decided that it would be of advantage to the empire to have conferences every four years, at which the Secretary of State for the Colonies and the prime ministers of self-governing colonies could discuss and consider questions of common interest affecting the mother country and the British dominions over the seas; that in negotiating treaties the Imperial Government should obtain the views of colonies affected; that greater facilities should be given to young colonists to enter the British army and navy; that in Government contracts, either of the imperial or colonial governments, the products of the empire should be preferred to those of foreign countries; that shipping subsidies should be increased on condition that no excessive freight charges should be made nor any preference given to foreigners, and that the steamers shall be at the service of the Government in war time; that the privilege of coastwise trade, including the trade between the mother country and the colonies or between one possession and another, should be denied to countries in which the corresponding trade is confined to ships of their own nationality; that it is advisable to adopt the metric system of weights and measures throughout the empire; that there should be mutual protection of patents in the

various parts of the empire; that in future cable franchises a clause should be inserted reserving to the government or governments concerned the right of purchasing the cables; that cheap postage for newspapers and periodicals between different parts of the empire should be adopted. The contribution of Australia to imperial naval defense was increased to £200,000 per annum, that of New Zealand to £40,000, both to be applied to an improved Australasian squadron and the establishment of branches of the royal navy reserve; Cape Colony's contribution toward the general maintenance of the navy was increased to £50,000 a year, and Natal contributes £35,000 for the same purpose; Newfoundland gives £3,000 a year and will build a training-ship for a branch of the navy reserve; with other colonies correspondence was continued. The conference considered that the principle of preferential trade between Great Britain and the colonies would stimulate and facilitate mutual commercial intercourse and strengthen the empire by promoting the development of the resources and industries of the several parts, but recognized that in the present circumstances of the colonies it is not practicable to adopt a general system of free trade within the empire; it was considered desirable, however, that those colonies which have not already adopted such a policy should as far as their circumstances permit give substantial preferential treatment to the products and manufactures of the United Kingdom. The representatives of Canada were prepared to recommend to their Parliament the existing preference of 33½ per cent. and an additional preference on lists of selected articles to be given either by further reducing duties on British goods or by raising the duties on foreign imports or imposing duties on such as are now free. New Zealand's Premier proposed for his colony a general reduction of 10 per cent. on British manufactured goods, or a reduction of duties in favor of Great Britain, or an increase or imposition of duties against foreign countries on lists of selected articles. The representatives of the Cape of Good Hope and Natal proposed for South Africa a preference of 25 per cent. in favor of Great Britain or an equivalent increase in the duties on foreign imports except articles on which there are special rates. In discussing the naval defense of the empire the premiers and the British ministers could not agree on a general resolution. Lord Selborne promised that Australia and New Zealand should have the privilege of manning one of the ships of the new Australasian squadron and that 10 cadet ships in the royal navy should be allotted annually to them, but he insisted that the British navy must be all one and praised Cape Colony and Natal for contributing money for its support unreservedly. In the discussion of military defense the Secretary of State for War recommended the colonies to raise special corps for imperial defense, to be trained by British officers or so trained at any rate that they could be put in line with British regulars against European troops. The Premier of New Zealand approved special bodies of troops set apart for imperial service. The representatives of Cape Colony and Natal were disposed to fall in with this policy. The Canadian and Australian premiers, on the other hand, believed in raising the standard of training in the general body of the colonial forces and organizing the departmental services and the equipment required for the mobilization of a field force, leaving it to the colony to determine how and to what extent it should render assistance; whereas, to estab-

lish a special force for imperial service, practically under the control of the Imperial Government, would derogate from the powers of colonial self-government and tend to impede the general improvement of the defense forces in training and organization.

Great Britain possesses in Europe naval bases in the Mediterranean at Gibraltar, Malta, and Cyprus. *Gibraltar* is a naval and military fortress over which a military officer is invariably appointed Governor, Gen. Sir George Stewart White in 1902, in whom are vested all legislative and executive powers. The area is less than 2 square miles, with a population in 1901 of 27,460, including the garrison. The local revenue in 1900 was £61,418, and expenditure £61,812; military expenditure of the Imperial Government, £305,903. The aggregate tonnage entered in 1900 was 4,408,197, of which 3,017,565 tons were British.

The island of *Malta* has an area of 117 square miles, including Gozo and Comino, with a population of 188,141 in 1901. The Governor, Lieut.-Gen. Sir Francis Wallace Grenfell in 1902, is assisted by a Council of 6 official and 13 elected members. The revenue in 1900 was £356,758, and expenditure £365,943. The chief sources of revenue are customs, yielding £193,367; land, £12,900; rents, £27,627; post-office, £15,219; interest, £29,390; licenses, £78,255. The expenditure was £135,334 for administration and £223,868 for other purposes. The debt is £79,168. Cotton goods, potatoes, oranges, figs, honey, and wheat are exported. The production of wine is the largest industry. The total value of imports in 1900 was £7,434,289, and of exports £6,471,567. This trade is for the most part in transit, only £1,026,829 of the imports being landed in the island, of which £48,802 were reexported. The number of vessels entered was 3,814, of 3,538,088 tons; cleared, 3,801, of 3,531,542 tons. The imports of foodstuffs and manufactured goods from the United States have increased since the establishment of direct steam navigation. Only one-third of the imports come from Great Britain. The British fleet and garrison have been greatly increased and a great number of families of British soldiers and of officers and men of the navy are living there. The military and naval works that are in progress have given profitable employment to the laboring class on the island. The British Parliament in 1901 voted £1,000,000 for a breakwater. The elect members of the Council refused to vote supplies for public improvements, upon which the Governor imposed taxes to carry them out. The proclamation threatening to abolish Italian as the language of the courts in fifteen years roused excitement and resentment in Italy as well as in Malta, and consequently Mr. Chamberlain withdrew it in January, 1902. In cases where a British subject is tried criminally English is used, and in civil cases where a British subject is a party English may be used by either of the parties, the judge, or any one of the counsel, witnesses, or jury. Children in the schools have been taught for the first two years in Maltese, a dialect of Italian, with elements derived from Arabic and other languages. After two years parents were given the option of Italian or English as the language of instruction for their children. Nearly all chose English as of greater value in business and not to be learned outside of school as Italian could be. As the result of the agitation against the Anglicizing policy of the Government, Italian again became the choice of about a quarter of the people. At the same time when he announced the withdrawal of the proclamation Mr.

Chamberlain threatened that if the Council persisted in vetoing taxes and expenditures which, as far as they were needed for the benefit of the garrison or fortress were afterward decreed by orders in council, the Constitution would be modified so as to give the official members a majority over the elective members in the Council of Government. The Governor conveyed this warning to the Council, which voted only a month's supplies at a time, but refused the education vote, awaiting the decision of the Government as to the school language. The elective members resigned on Feb. 16 as a protest against the coercion and autocracy implied in the Governor's threat. The official members voted supplies for schools and other purposes up to the end of the fiscal year. All the members who resigned were reelected on March 11 unopposed on a program protesting against the new taxes and the substitution of English for Italian in the schools, but leaving room for conciliation. When the Council of Government assembled on March 21 the elective members refused to consider the estimates until the Government declared its policy on the language question. The Government announced that Maltese would be used only in the first year instead of two years. The Council would vote no money for education. Mr. Chamberlain refused to alter his policy. The Legislative Council passed an education bill to maintain only the Italian language in the schools and voted the estimates with this proviso. The Government disallowed the bill.

Cyprus is still a part of the Ottoman Empire, but the island is administered by Great Britain under a convention concluded at Constantinople on June 4, 1878. The British High Commissioner, who has all the powers of a governor, is Sir William F. Haynes Smith. There is a Legislative Council of 6 official and 12 elective members. The area is 3,584 square miles, and the population in 1901 was 237,022, exclusive of the garrison, comprising 121,066 males and 115,956 females, 182,739 of the total number members of the Greek Oriental Church, 51,309 Moslems, and 2,974 Jews and others. Nicosia, the capital, had 14,752 inhabitants. The revenue, derived from tithes collected in kind, a building tax, licenses, military exemption, a tax on pigs, sheep, and goats, customs and excise duties, stamps, and the salt monopoly, amounted in the year ending March 31, 1901, to £215,268; expenditure, £135,388. The public debt is £314,000, advanced by the British Government in 1899 for harbor works, railroads, and irrigation. A grant of £32,000 was given by the British Government for 1901. In 1902 a grant of £30,000 was voted. An annual tribute of £92,000 is paid to the Sublime Porte. The crop of wheat in 1899 was 53,973 tons; of barley, 61,010 tons; of olives, 3,423 tons; of cotton, 838 tons in 1898. Various fruits are raised, and grapes are made into wine. Other products are carobs, linseed, silk, cheese, wool, and hides and skins. Sponges of the value of £20,000 or more are obtained off the coasts, but the fishers are foreigners. Gypsum, amber, and copper are the mineral products. The value of imports in 1900 was £289,874; exports, £338,371. The tonnage entered and cleared was 509,826. Irrigation wells have been dug, but so far the people do not use the water in ordinary seasons; and therefore the Government delays completing the scheme of irrigation.

Aden, a peninsula on the coast of Arabia, is a coaling station on the Suez Canal route to the East. The area is 75 square miles, and that of the island of Perim is 5 square miles. The total

population in 1901 was 41,222, consisting of 28,180 males and 13,042 females. The imports in 1901 were 34,941,592 rupees by sea and 2,960,994 rupees by land, besides 2,461,323 rupees of specie; exports, 28,770,554 rupees by sea and 1,140,755 rupees by land, besides 3,643,502 rupees of specie. In 1900 the port was visited by 1,224 steamers, of 2,467,665 tons. The number of local vessels was 1,687, of 52,906 tons. At Perim 648 merchant vessels called. Coffee, gums, hides and skins, piece goods, grain, and tobacco are imported and exported. The local revenue is raised by duties on opium, liquor, and salt. The Political Resident at the head of the administration is subordinate to the Governor of Bombay. The island of *Socotra*, with an area of 1,382 square miles and 12,000 of population, produce gums, dates, butter, and animal products. The *Kuria Muria Isles* are leased to a guano company. The *Bahrein Islands*, about 200 square miles in area, with a population of 80,000, have valuable pearl fisheries. Dates, reed mats, sailcloth, and donkeys are also exported. The chief part of the trade is with India. The value of imports in 1900 was £450,775; exports, £486,142. The tonnage entered was 60,307; cleared, 58,619 tons. Exports of pearls were £264,114, a smaller sum than in former years owing to disease among the oysters.

British North Borneo has an area of 31,106 square miles and about 175,000 inhabitants. The territory is exploited by a chartered company. *Tembunan*, having an area of 500 square miles and 25,000 inhabitants, was occupied in 1899. The lands near the coast have been sold to planters who raise tobacco, pepper, coconuts, Manila hemp, and gambier. The revenue for 1900 was \$588,026 in silver; expenditure, \$1,386,055, including \$983,186 of capital expenditure on railroads and public works. The value of imports was \$3,336,621; exports, \$3,178,929. The exports of tobacco were 8,625 bales, valued at £92,000. Other exports are timber, trepang, pearls, gutta-percha, sago, coconuts, rattan, edible birds'-nests, and various sea and jungle products. *Labuan* has been under the jurisdiction of the British North Borneo Company since 1889. The Governor of British Borneo is Edward Woodford Birch. *Brunei* is a native state in Borneo under British protection, having an area of 15,000 square miles and 45,000 population. Sago is the chief exportable product. *Sarawak*, another native state, has an area of 50,000 square miles and 600,000 population. The Rajah is Sir Charles Johnson Brooke, born June 3, 1829, nephew of the founder of the state, an Englishman who obtained the cession of territory from the Sultan of Brunei. Much of the land has been sold to planters who raise the same products as in North Borneo. There are large beds of coal and deposits of gold, silver, diamonds, quicksilver, and antimony. The value of imports in 1900 was \$6,159,125; exports, \$6,865,861; revenue, \$915,966; expenditure, \$901,172. A railroad from Jesselton, on the west coast, will be carried across the island, and has been completed for 92 miles. In eight years, during which the tobacco culture has been developed, the revenue has trebled and imports and exports have kept pace. In June, 1902, an expedition of 12,000 men which went up the Batang Lupar river to punish a tribe of Dyak head-hunters had to return because cholera suddenly broke out and caused 2,000 deaths in four days.

Ceylon has a Legislative Council of 9 official members and 8 representing the different races and classes. The Governor is Sir Joseph West Ridgeway. The area of the island is 25,333

square miles. The population on March 1, 1901, was 3,576,990, showing an increase of 1.87 per cent. per annum since 1891, consisting of 9,583 Europeans, 23,312 Burghers, 2,334,817 Singhalese, 952,237 Tamils, 224,719 Moors, 11,207 Malays, and 21,115 others, including 4,913 Boer prisoners, 3,215 Veddahs, and a few Egyptian exiles. The Tamil immigrants employed on the tea plantations numbered 441,523, an increase of 68.4 per cent. in ten years. The population of Colombo, the capital and chief port, was 158,093. The revenue in 1900 was 27,325,930 rupees; expenditure, 25,321,988 rupees, exclusive of 3,626,939 rupees expended from the surplus on railroads. The revenue from customs was 7,228,293 rupees; from land sales, 818,796 rupees; from liquor licenses, 3,233,574 rupees; from stamps, 2,037,052 rupees; from Government timber and salt, 1,485,506 rupees; from port dues, 1,319,378 rupees; from railroads, 8,239,679 rupees. The chief expenses were 6,049,057 rupees for civil establishments; 2,366,350 rupees of military expenditure, including the cost of the volunteer force and the fortifications at Colombo, of which the Imperial Government paid 1,887,768 rupees; pensions and retiring allowances, 1,147,878 rupees; interest on loans, 2,802,422 rupees; expenditure on public works, 3,493,902 rupees. The public debt on Jan. 1, 1901, amounted to £3,419,451 sterling and 3,239,585 rupees, all of it incurred for public works, especially the railroads, the Colombo water-works, and the breakwater. Besides the fortifications at Colombo, the Imperial Government maintains a naval harbor at Trincomalee, the headquarters of the fleet on this station. The colony has the erection of modern fortifications at Colombo and the Imperial Government has furnished the guns. The British garrison numbers 2,982 men, and for its maintenance the colony pays the Imperial Government 1,845,095 rupees a year. The volunteer force numbers 2,112, costing 229,614 rupees in 1900. The total value of imports in 1900 was 122,339,758 rupees; exports, 108,926,257 rupees. The exports of tea were 53,735,257 rupees in value; of plumbago, 9,792,495 rupees; of coconut products, 16,438,308 rupees; of cacao, 1,651,146 rupees; of areca-nuts, 1,597,755 rupees; of coffee, 593,634 rupees; of cinchona, 64,976 rupees. The exports of tea were 129,661,908 pounds in 1899, having grown from 2,392,975 pounds in 1884. The export of cacao in 1899 was 42,527 hundredweight, having increased nearly sixfold since 1885. Coffee exports declined from 824,509 hundredweight in 1879 to 12,692 hundredweight in 1898 owing to disease among the plants. When the British import duty on tea was raised in 1900 from 4d. to 6d. a pound the principal market for Ceylon tea, which was selling at an average price of 8d., was contracted and the export price declined. The area under tea in 1902, owing to this, was 6,000 acres less than in the preceding year, while the acreage of rubber, cinchona, cardamoms, and cacao increased correspondingly. The tea-crop of 1902 was abundant. The tonnage entered and cleared during 1900 was 8,487,940. The registered shipping on Jan. 1, 1901, consisted of 185 sailing vessels, of 13,830 tons, and 6 steamers, of 1,001 tons.

The railroads completed in 1900 had a length of 297 miles, and 215 miles more were projected. There were 1,438 miles of telegraph and 205 miles of telephone lines. Tributary to the Ceylon Government are the *Maldiv Islands*, having a population of 30,000 Mussulmans who are enterprising traders and sailors governed by a hereditary Sultan. The breakwaters at Colombo will make that port a harbor of refuge between Bombay and

Calcutta, one of the largest artificial harbors in the world, with a slipway, a graving-dock, and a coal depot. About 3,300 workmen are employed on these works. The trade of the island is thriving, and a further extension of the harbor is contemplated. Great progress has been made in railroads and irrigation works. Pearl fishing has been extended by the Government. Exploration for gold was started by mining experts among the 5,000 Boer prisoners under Government auspices. All these prisoners, including some Americans, were returned to their own countries before the end of 1902.

The *Straits Settlements* comprise Singapore, Penang, and Malacca. The island of Singapore has an area of 206 square miles. The island of Penang has an area of 107 square miles. Province Wellesley, on the Malay peninsula, the Dindings, which belong to Penang, and Malacca, on the western coast, make the total area of the Straits Settlements 1,472 square miles. The population of Singapore in 1901 was 228,555, comprising 2,619 male and 1,205 female Europeans and Americans, 2,015 male and 2,015 female Eurasians, and 166,241 male and 54,370 female Asiatics; the population of Penang was 248,207, comprising 706 male and 451 female Europeans, 929 male and 1,016 female Eurasians, and 155,169 male and 89,933 female Asiatics; the population of Malacca was 95,487, comprising 54 male and 20 female Europeans and Americans, 754 male and 844 female Eurasians, and 50,661 male and 43,154 female Asiatics; total population of the Straits Settlements, 572,249, comprising 3,382 male and 1,676 female Europeans and Americans, 3,698 male and 3,965 female Eurasians, and 372,071 male and 187,457 female Asiatics. The Asiatic population included 215,058 Malays, 281,933 Chinese, and 57,150 British Indians. The births recorded in Singapore in 1900 were 4,280, and deaths 9,785; in Penang, 2,377 births and 5,085 deaths; in the Dindings, 112 births and 125 deaths; in Province Wellesley, 3,969 births and 3,662 deaths; in Malacca, 4,076 births and 3,128 deaths. In 1900 the number of Chinese immigrants who arrived in the colony was 200,947; of Indian immigrants, 35,351, of whom 7,615 were indentured laborers; returned to India, 10,995. The acting Governor in 1902 was Sir F. A. Swettenham. The Governor of the Straits Settlements is also High Commissioner for the Federated Malay States and High Commissioner and Consul-General for Borneo. There is a Legislative Council of 9 official members, 5 other members appointed by the Governor, and 2 members representing the Chambers of Commerce in Singapore and Penang. The revenue of the colony in 1900 was \$5,386,557, and expenditure \$6,030,744. Of the revenue \$3,317,698 came from licenses, \$449,898 from stamps, \$235,405 from the post-office, \$199,552 from port dues, and \$288,540 from land. Of the expenditure \$1,775,771 went for salaries, \$1,814,621 for public works, \$110,675 for education, \$131,109 for police, \$90,801 for the marine department, \$10,383 for transport, and \$956,051 for military expenses. Of the total revenue the sum of \$3,244,090 was collected in Singapore, \$1,736,113 in Penang, and \$406,354 in Malacca. The debts of the colony on Jan. 1, 1901, were \$8,085,290, and the assets were valued at \$10,183,163. There is an armed police of 38 officers and 1,188 men. There is a volunteer artillery battery numbering 111 officers and men, and volunteer rifle companies of 150 men have been formed in Singapore and Penang. The newly constructed harbor at Singapore is defended by modern forts built entirely at the cost of the colony, the expenditure having been £100,000.

The Imperial Government furnished the guns and maintains a garrison of 1 battalion of infantry, 2 batteries of artillery, engineers, submarine miners, etc. The value of imports in 1900 was \$314,089,860, of which \$32,890,847 came from Great Britain, \$99,063,660 from British colonies, and \$182,135,353 from other countries. The value of exports was \$262,617,345, of which \$60,402,056 went to Great Britain, \$33,778,914 to British colonies, and \$168,436,375 to other countries. Of the imports, \$251,709,000 went to Singapore, \$71,220,412 to Penang, and \$2,322,036 to Malacca, and of the exports, Singapore shipped \$205,534,527, Penang \$68,133,165, and Malacca \$2,787,128. The imports of rice were \$25,101,160; of opium, \$15,496,401; of cotton goods, \$14,789,391; of coal, \$7,979,070; of fish, \$6,756,731; of tobacco, \$4,380,741; of petroleum, \$4,365,130. The exports of tin were \$60,767,602; of gums, \$19,135,903; of spices, \$14,526,785; of rattan, \$6,780,206; of tapioca and sago, \$6,779,564; of gambier, \$6,681,136; of copra, \$4,574,193. The number of vessels entered in 1900 was 8,720, of 7,238,185 tons, besides 16,855 native vessels, of 721,359 tons; the number cleared was 8,722, of 7,231,220 tons, and 17,986 native vessels, of 724,189 tons.

The Federated Malay States are under British protection. Sir F. A. Swettenham has been Resident-General since 1896. British residents and other officials have directed affairs in Perak, Selangor, and Sungei Ujong since 1874. The British officials and the superior native authorities form in each state a state council which has supreme control. Pahang was taken under British protection in 1887. In 1889 the states on the frontier of Malacca were confederated under the name of Negri Sembilan, to which was joined Sungei Ujong in 1895. When a Resident-General for the four protected states was appointed the states agreed to furnish troops for service in the colony in case of war between Great Britain and any other nation. Perak, with an area of 10,000 square miles, had in 1901 a population of 328,801, composed of 243,022 males and 85,779 females. Selangor, which has an area of 3,500 square miles, had 167,890 inhabitants, 135,977 males and 31,916 females. Negri Sembilan, having an area of 3,000 square miles, had a population of 96,028, divided into 64,565 males and 31,463 females. The area of Pahang is 10,000 square miles, and the population was 83,419, of whom 47,749 were males and 35,670 females. The total population was 676,138, comprising 1,361 Europeans, 1,531 Eurasians, 313,763 Malays, 303,364 Chinese, and 52,501 East Indians. The military force, called the Malay States guides, has 12 European officers and a strength of 632 men. There is a police force of 1,970 men officered by 39 Europeans. The revenue of Perak in 1900 was \$7,636,126, and expenditure \$6,144,744; the revenue of Selangor was \$6,303,165, and expenditure \$4,944,160; the revenue of Negri Sembilan was \$1,251,366, and expenditure \$1,009,318; the revenue of Pahang was \$419,150, and expenditure \$630,678; total revenue of the Federated States, \$15,609,807; total expenditure, \$12,728,900. Of the revenue, \$7,050,382 came from the duty on tin, \$2,092,420 from railroads, \$3,079,755 from licenses, \$712,898 from land, and \$191,525 from posts and telegraphs. Of the expenditures, \$1,971,971 went for emoluments, \$4,694,500 for railroads, and about \$2,800,000 for public works. Negri Sembilan has a debt of \$39,452, Pahang one of \$3,643,271. The British Government proposed to loan £500,000 to the federation in 1899 for railroad construction, but the redundant revenue has provided all the money needed. The exportation

of tin in 1900 was 21,166 tons from Perak, 16,041 tons from Selangor, 4,300 tons from Negri Sembilan, and 935 tons from Pahang. The average export price was £130 a ton. From Pahang 17,048 ounces of gold were exported. Liberian coffee is cultivated in most of the states, and pepper, gambier, sugar, rice, and tapioca are valuable products. The trade of Perak in 1900 amounted to \$14,741,148 of imports and \$29,190,663 of exports; of Selangor, \$18,406,571 of imports and \$21,798,444 of exports; of Negri Sembilan, \$4,281,457 of imports and \$7,048,988 of exports; of Pahang, \$973,405 of imports and \$2,322,950 of exports; total imports, \$38,402,581; total exports, \$60,361,045. There were 114 miles of railroads in Perak, 97 miles in Selangor, and 25 miles in Negri Sembilan on Dec. 31, 1900. Johor, a native state which has placed its foreign relations in the hands of the British, produces pepper, coffee, tea, gambier, sago, and gutta-percha.

The *Cocos Islands*, having a population of 554, have been administered from Singapore since 1886. They produce coconuts in abundance and export oil and copra. *Christmas Island*, containing immense quantities of phosphate, were annexed to Singapore in 1900, when 550 Chinese, Malays, and Sikhs were taken to the island to dig phosphate, of which 37,000 tons were shipped the first year and in 1901 as much as 200,000 tons.

Hong-Kong, a Crown colony on the coast of China, has an area of 29 square miles and a population of 283,975 in 1901, exclusive of 13,237 soldiers and sailors. The white population in 1891 was 8,545, of whom nearly half were of Portuguese origin, one-third British, and the rest Germans, Americans, French, Spanish, etc. In 1900 the immigration from China was 121,322 and the number of Chinese emigrants was 83,643. In a convention signed on June 9, 1898, China leased to Great Britain for ninety-nine years the Chinese port of Kaulung and territory adjoining Mira Bay having an area of 376 square miles and a Chinese population of 100,000. A police force of 27 Europeans and 105 Indians has been organized for the new territory, where in 1900 a revenue from Crown rents of \$17,530 was collected, while expenditure on police was \$102,292 and on public works and other objects \$243,362. The revenue of Hong-Kong in 1900 was \$3,235,329 from ordinary sources and \$967,257 from premiums on land and water account; the expenditure was \$3,155,242 for ordinary purposes and \$473,205 for defensive works, water, and other extraordinary purposes. On civil establishments the expenditure was \$1,532,909. The British garrison is about 3,600 strong, and the volunteers number 366. The contribution of the colony in aid of military expenditure was \$655,686 in 1900. The debt incurred for water-supply, fortifications, and sanitary works is £341,800. The assets of the colony exceeded the liabilities by \$1,532,909 on Jan. 1, 1901. The imports are about £4,000,000 and exports £2,000,000. The free port of Hong-Kong is the distributing point for the trade in Indian opium with China and for the trade in kerosene, salt, cotton goods, and many other imports, and it is the port from which much of the tea, silk, and other Chinese products are shipped. The registered shipping on Jan. 1, 1901, consisted of 17 sailing vessels, of 6,590 tons, and 40 steamers, of 23,507 tons. During 1900 the number of merchant vessels entered was 5,473, of 7,021,982 tons, besides 17,732 junks, of 1,604,632 tons. About half the foreign trade is English, and the rest is mainly with India, Australia, the United States, and Germany. The Governor in 1902 was Sir Henry A. Blake.

Wei-Hai-Wei, a port on the peninsula of Shantung in China, was leased on July 1, 1898, to Great Britain for as long a period as the Russians shall retain possession of Port Arthur. The area of the leased district is 270 square miles, with 123,750 inhabitants. In a neutral zone beyond the leased territory Great Britain has the right to erect fortifications and post troops for the defense of Wei-Hai-Wei, but Chinese administration must not be disturbed. Parliament voted £130,000 in 1899 for the defense of Wei-Hai-Wei. A battery of royal artillery 128 strong is garrisoned there, with 58 engineers, and 8 companies of Chinese infantry, 1,083 men, have been recruited and trained. The British Commissioner is J. H. Stewart Lockhart. The natives are fishermen and farmers. Salt fish of the value of \$60,000 are exported. The British Government after building two forts abandoned the plan of making Wei-Hai-Wei a naval base. Early in 1902 the intention was announced of converting it into a sanatorium for officers and men of the fleet and a seaside resort for Europeans in Chinese ports.

Mauritius is an island in the Indian Ocean, having an area of 705 square miles and a population according to the census of 1901 of 367,472, exclusive of 2,935 soldiers living in barracks and non-resident seamen. The Governor is Sir Charles Bruce. There is a Council of Government consisting of 8 official, 9 nominated, and 10 elected members. There were 209,079 Hindus and 34,763 Mohammedans in 1891. The number of Chinese was estimated in 1900 at 3,226. The Orientals are displacing the white creoles as proprietors and planters. The revenue in 1900 was 9,179,975 rupees; expenditure, 8,568,943 rupees; debt, £1,189,284, besides which a loan of £32,820 was authorized in 1899 for public works and one of £100,000 in 1901 for reforestation. The imperial garrison in 1900 was 2,139 men. The colony contributed £31,753 for military expenses. The value of imports in 1900 was 18,276,360 rupees; of exports, 31,403,286 rupees, of which 28,836,354 rupees represent raw sugar; 224,086 rupees, rum; vanilla, 169,821 rupees; aloe fiber, 940,432 rupees; coconut-oil, 46,479 rupees. There were 266 vessels, of 337,834 tons, entered in 1900 and 268, of 333,706 tons, cleared. The registered shipping of the colony consisted of 63 sailing vessels, of 5,103 tons, and 3 steamers, of 497 tons. There are 105 miles of railroads and 135 miles of telegraph-line, with cable connection with Zanzibar by way of the Seychelles and with Australia and Natal. The dependent island of Rodriguez has a population estimated at 3,163. Diego Garcia, the largest of the Chagos Islands, has 700 inhabitants, mostly negroes from Mauritius who extract coconut-oil, of which 4,806 hectoliters was exported in 1900. The *Seychelles* and dependent islands have an area of 148 square miles, with 20,275 inhabitants. The revenue in 1900 was 399,312 rupees; expenditure, 351,920 rupees, including a debt of 55,000 rupees repaid to the Mauritius Government. The imports in 1900 were 980,911 rupees in value; exports, 1,036,161. Coconut-oil, soap, vanilla, guano, fish, coffee, cacao, and tortoise-shell are exported.

Most of the small islands and groups in the Pacific have been annexed by Great Britain, even the uninhabited rocks in the ocean. *Fiji* was annexed in 1874, and the rule of the native queen and chiefs was replaced by that of a Crown Governor, Sir G. T. M. O'Brien in 1902, assisted by a Legislative Council of 6 official and 6 nominated members. The chiefs still administer as salaried officials two-thirds of the provinces and

preserve many of the native laws and customs. The islands have an area of 8,045 square miles, including Rotumah. The population of Fiji in 1901 was 117,870, comprising 2,447 Europeans, 17,105 East Indians, 94,397 Fijians, and 3,921 Polynesians and others. The revenue for 1900 was £111,569, the expenditure £100,022. The imports were £349,890 in value; exports, £619,836. European planters grow bananas, coconuts, and sugar, and the exports in the order of their importance are sugar, copra, rum, and bananas. The Governor of Fiji is High Commissioner of the Western Pacific, having authority to enforce the acts of Parliament for the protection of Pacific islanders and to settle disputes between British subjects living in the islands.

Tonga is a group ruled still by a native king, George II, born in 1874, who was under the joint protection of Germany, Great Britain, and the United States until in accordance with the Anglo-German agreement of Nov. 14, 1899, England proclaimed a protectorate on May 19, 1900. The Legislative Assembly is composed half of nobles and half of elected representatives of the people. The islands have an area of 174 square miles and a population of 20,677, including 239 Europeans. The revenue is about \$100,000. The imports in 1899 amounted to £70,911. The exports are copra, bananas, fungus, mats, and fishnets. The neighboring Savage island was made a British protectorate on April 20, 1900. The Pitcairn Islands, a British settlement, produce coconuts, fruit, coffee, corn, and arrowroot. *Norfolk Island*, with an area of 10 square miles and 870 population, settled by Pitcairn Islanders in 1856, was attached to New South Wales in 1896. The New Hebrides are under the joint protection of France and Great Britain. A mixed naval commission was created in 1888 for the protection of natives and the adjudication of disputes between French and British. In 1902 each Government appointed a resident deputy commissioner to look after the interests of its nationals and keep them in order. French planters have acquired lands which British missionaries say the natives should not in their own interest sell. Australia and New Zealand are jealous of any progress that the French make, desiring to annex the islands themselves. England is negotiating for a joint commission to settle land disputes.

The *British Solomon Islands*, having an area of 8,357 square miles, were annexed in 1897 and 1898 and extended in 1900 by the addition of Choiseul and Isabel under the Anglo-German agreement. The revenue in 1900 was £1,454, to which the Imperial Government added £2,500 to cover an expenditure of £3,120. About 850 of the islanders were engaged in 1900 as contract laborers on the Queensland sugar plantations and 90 went to Fiji, while 500 returned. The exports in 1900 were £21,380, consisting of copra, tortoise-shell, ivory-nuts, etc. In the *Manihiki* group, about 1,000 natives live on an area of 12 square miles. The *Tokelau* group has an area of 7 square miles, with 1,050 inhabitants. The *Ellice Islands*, with an area of 14 square miles, have 2,400. The *Gilbert Islands* have an area of 166 square miles and a population of 35,200 and in 1900 exported £21,165 worth of copra. *Suvaroff*, *Dudoza*, *Victoria*, *Duce*, *Santa Cruz*, *Duff*, *Starbuck*, *Malden*, *Jarvis*, *Christmas*, *Fanning*, *Washington*, *Palmyra*, *Baker*, *Phoenix*, and other islands are mostly coral atolls on which the coconut-palm flourishes on rocky eminences covered with guano.

Ascension, an island in the Atlantic, is used as a coaling and victualing station and health re-

sort for the naval forces stationed on the west coast of Africa; it has an area of 35 square miles and a population of about 250 British sailors and marines and officers with their families and 180 Kroomen. *St. Helena*, a volcanic island farther south, has an area of 47 square miles and had in 1901 a population of 9,850, including 1,532 soldiers of the garrison, 321 sailors, and 4,655 Boer prisoners. The resident population, of British descent, has been diminished by emigration to Cape Colony and the United States. The number of marriages in 1900 was 35; of births, 116; of deaths, 165. The revenue in 1901 was £15,394, and expenditure £12,603; imports were £168,282, and exports £4,215. The tonnage entered and cleared was 162,032. The Governor is R. A. Sterndale. *Tristan da Cunha*, a small island in the middle of the South Atlantic, with Gough's island, and Inaccessible and Nightingale islands, is a British possession of no military or commercial importance. About 60 persons, descendants of shipwrecked sailors who found wives in St. Helena, raise cattle, sheep, pigs, geese, beans, and potatoes for food and are visited every year by a British war-vessel. The *Falkland Islands*, near the coast of Patagonia, have an area of 6,500 square miles and a population in 1901 of 2,043, consisting of 1,203 males and 840 females. The Governor, William Grey Wilson, is assisted by an Executive Council and an elective Legislative Council. Wool, skins, and tallow are exported. The value of imports in 1900 was £66,948, and of exports £111,539. The revenue was £15,576; expenditure, £15,501. There are 762,000 sheep on the islands.

The *Bermuda Islands*, in the north Atlantic, have an area of 20 square miles and a population in 1901 of 17,535, of whom 6,383 are whites and the rest colored and negroes. The number of marriages in 1900 was 162; of births, 681; of deaths, 423. The Governor is Lieut.-Gen. Sir H. Le G. Geary. There is a Legislative Council of 9 nominated members and a House of Assembly of 36 members elected by 1,124 registered voters. The revenue in 1900 was £40,124, and expenditure £47,532. The Imperial Government contributed £2,200 in 1902, when revenue was estimated at £41,469, and expenditure at £41,481. The public debt in 1900 was £49,600. The value of imports in 1900 was £397,136; exports, £93,769. The value of onions exported was £43,486; potatoes, £25,207; lily-bulbs, £11,382. The tonnage entered and cleared in 1900 was 729,832. The registered shipping of the colony consisted of 24 sailing vessels, of 6,506 tons, and 2 steamers, of 64 tons. There are 167 miles of land telegraph and 15 miles of cable, and the telephone company has 700 miles of wire.

British Guiana has an area estimated at 120,000 square miles, with 278,328 inhabitants, of whom 2,533 are Europeans, 105,463 East Indians, 3,714 Chinese, and 99,615 of negro descent. In 1901 the number of Indian coolies arriving was 4,464, while 1,017 returned to India. The Governor is Sir James Alexander Swettenham. There is a Court of Policy consisting of 7 officials and 8 elective members, to which are added 6 elective financial representatives to form the Combined Court. There are 2,467 registered voters. The revenue in 1901 was £509,950, and expenditure £505,492. Of the revenue, customs yielded £310,606; licenses, £87,760; duty on rum, £18,991; royalty on gold, £16,639. Of the expenditures, the civil establishments consumed £105,443; ecclesiastical expenditure, £21,942; judiciary, £28,730; introduction of immigrants, £28,865; education, £27,833; public works, £21,-

568. The public debt in 1900 was £754,780. There were only 79,954 acres cultivated in 1900, of which 66,954 acres were planted to sugar-cane. The gold-mines, first opened in 1886, yielded in ten years the value of £2,796,300. In 1897 there were 126,702 ounces taken out, 125,080 ounces in 1898, 112,464 ounces in 1899, 112,823 ounces in 1900, and 108,522 ounces in 1901, in which year 906 carats of diamonds were exported, value £12,876. The total value of imports was £1,393,529, and of exports £2,068,406. The importation of flour was £123,180 in value, 179,745 barrels in quantity; cloth, £218,242; rice, £79,512; tobacco, £17,278; machinery, £77,368; fertilizers, £100,927; fish, £59,728; coal, £36,061; hardware, £48,766. The exportation of sugar was £1,153,808; molasses, £12,371; rum, £300,583; balata, £19,585; timber, £22,928; charcoal, £7,336; gold, £393,926; rough diamonds, £2,683. The tonnage entered and cleared in 1901 was 709,928. The registered shipping of the colony consisted of 33 sailing vessels, of 1,622 tons, and 15 steamers, of 1,171 tons. There are 74 miles of railroads, 559 miles of telegraph-lines and cable, and 677 miles of telephone-wire. The gold-mining industry is languishing, though alluvial gold is now mined at half the cost that the sanguine operators expended ten years ago. Hydraulic mining at Omai, on the Essequibo, may give a fresh impetus to this industry, which speculative capitalists have abandoned for diamond-mining. Americans are working the diamond deposits and German and Dutch companies the gold-mines.

British Honduras is a settlement in Central America governed as a Crown colony, having an area of 7,562 square miles and a population estimated at 36,998, divided into 18,889 males and 18,109 females. The number of births in 1900 was 1,478; deaths, 890; marriages, 339. The Governor is Sir David Wilson. The revenue in 1900 was £59,700; expenditure, £50,800; imports, £246,950; exports, £267,900. The debt in 1900 was £34,736. The export of logwood was 7,994,378 feet in 1900. Some sugar is exported and fruit to New Orleans, and in transit from Yucatan rubber, coffee, and sarsaparilla. The tonnage entered and cleared in 1900 was 340,097. The shipping registered in the colony comprised 203 sailing-vessels, of 4,480 tons, and 6 steamers, of 1,326 tons. The more important British possessions are elsewhere described (see AUSTRALIA, CANADA, EAST AFRICA, INDIA, NEWFOUNDLAND, NEW ZEALAND, SOUTH AFRICA, WEST AFRICA, WEST INDIES):

GREECE, a monarchy in southeastern Europe. The legislative authority is exercised in a single chamber called the Boule, composed of 235 members, 1 to 12,000 inhabitants, elected for four years by direct universal male suffrage. The reigning King is Georgios I, son of Prince Christian of Schleswig-Holstein-Sonderburg-Glücksburg, now King of Denmark, born Dec. 24, 1845, elected King of the Hellenes by the National Assembly on March 30, 1863, married on Oct. 27, 1867, to Olga, daughter of the Grand-Duke Constantine of Russia. The heir apparent is Prince Konstantinos, Duke of Sparta, born Aug. 2, 1868, married on Oct. 27, 1889, to Princess Sophia, daughter of the late German Emperor Friedrich I. The Cabinet constituted on Nov. 25, 1901, was composed as follows: President of the Council and Minister of Foreign Affairs, Alexander T. Zaimis; Minister of the Interior, N. Triantaphyllakas; Minister of Worship and Education, A. Mempherratos; Minister of War and Minister of Marine, *ad interim*, Col. G. Korpas; Minister of

Finance, P. Negrís; Minister of Justice, C. Topalis.

Area and Population.—The area of Greece is 25,014 square miles. The population in 1896 was 2,433,806, divided into 1,266,816 males and 1,166,990 females. Athens, the capital, had 111,486 inhabitants. The chief political divisions are nomarchies, the number of which was increased by the law of July 17, 1899, from 16 to 26: Attica, Boeotia, Phthiotis, Phocis, Ætolia and Acarnania, Eurytania, Larisa, Magnesia, Trikkala, Karditsa, Arta, Achaia, Elis, Triphylia, Messenia, Lacedæmon, Laconia, Arcadia, Argolis, Corinthia, Eubœa, Cyclades, Corfu, Leucas, Cephalonia, Zante.

Finances.—The revenue in 1900 was 112,206,849 drachmas, and expenditure 114,088,468 drachmas. For 1901 the revenue was estimated at 115,734,159 drachmas, of which direct taxes produce 23,683,300 drachmas, customs and excise 41,295,728 drachmas, stamps and dues 17,305,100 drachmas, monopolies 13,840,250 drachmas, revenue from state property 5,935,250 drachmas, sales of state property 1,231,300 drachmas, deductions, etc., 2,220,272 drachmas, various sources 5,020,000 drachmas, lighthouses 880,000 drachmas, other revenue 258,950 drachmas. The expenditures for 1901 were estimated at 113,646,302 drachmas, of which the public debt consumed 32,344,624 drachmas, pensions 6,560,343 drachmas, allowances 103,800 drachmas, various obligations 185,000 drachmas, the civil list 1,325,000 drachmas, the Boule 584,820 drachmas, the Ministry of Foreign Affairs 2,846,018 drachmas, the Ministry of Justice 6,243,573 drachmas, the Ministry of the Interior 15,140,567 drachmas, the Ministry of Worship and Education 5,392,457 drachmas, the Ministry of War 17,393,015 drachmas, the Ministry of Marine 7,129,948 drachmas, the Ministry of Finance 2,048,472 drachmas, collection of taxes 9,438,236 drachmas, various expenses 6,910,628 drachmas.

The national debt on Jan. 1, 1901, amounted to 697,554,000 drachmas in gold, 79,649,005 drachmas of paper obligations, and 91,775,975 drachmas of forced paper currency. A financial commission composed of delegates of Germany, Austria-Hungary, France, Great Britain, Italy, and Russia was established by the law of control enacted in 1898, and to this commission the revenues from monopolies, tobacco, stamps, and customs duties collected at the Piræus were assigned for the payment of interest on the foreign debt. The rate of interest was altered and provision was made for the extinction of the debt. A loan of 226,000,000 drachmas to pay the war indemnity to Turkey, redeem the floating debt in paper, and cover deficits was guaranteed by these powers, through whose diplomatic intervention peace had been arranged with Turkey. The service of the various debts in 1901 required 33,553,768 drachmas. The revenue from customs in 1900 was 30,650,776 drachmas. Of the assigned revenues the receipts from the Piræus customs were 17,468,135 drachmas in paper; from Naxos emery, 673,997 drachmas in gold; from the salt monopoly, 2,807,473 drachmas; from petroleum, 6,368,490 drachmas; from matches, 1,329,247 drachmas; from playing-cards, 311,755 drachmas; from cigarette paper, 2,620,529 drachmas; from tobacco, 8,436,719 drachmas; from stamps, 10,232,940 drachmas; total, 49,575,288 drachmas in paper and 673,997 drachmas in gold. The international commission in the year ending Jan. 13, 1902, took in 1,131,705 drachmas in gold and 58,041,476 drachmas in paper and paid out 950,004 drachmas in gold and 48,893,563 drachmas in paper. The pay-

ments in gold on the public debt amounted to 15,036,669 drachmas, of which 12,251,952 drachmas went to holders of coupons, 6,087,000 drachmas of this to England, 3,131,000 drachmas to France, and 524,229 drachmas to Greek bondholders. The mean rate of exchange was 165.

The Army and Navy.—The authorized strength of the regular army in 1901 was 61 officers and 1 man on the general staff and in the Ministry of War, 101 officers and 1,285 men in the engineer corps, 218 officers and 2,247 men in the artillery, 96 officers and 1,265 men in the cavalry, 873 officers and 9,995 men in the infantry and rifles, 355 officers and 417 men in general services, 28 officers and 75 men in military schools, and 144 officers and 3,918 men in the gendarmerie; total, 1,876 officers and 19,203 men, with 3,216 horses, 703 mules, and 180 guns. The period of service is two years with the colors and ten years in the reserve, and in case of war 82,000 men could be mobilized, and 96,000 more in the National Guard, which comprises able-bodied Hellenes between the ages of thirty-three and fifty-one.

The naval force consists of the belted cruisers *Hydra*, *Spetsai*, and *Psara*, of 4,885 tons, built in 1889 and 1890, which carry 3 10.6-inch guns in turrets and 28 smaller guns; 2 old ironclads armed with a pair of 6.6-inch Krupps and 10 small guns; 16 unprotected cruisers and gunboats; and 7 large torpedo-boats and 44 small ones. The navy was manned in 1901 by 363 officers, 40 cadets, and 3,379 petty officers, stokers, and seamen. Conscripts among the seafaring population are drafted into the navy and other sailors are enlisted.

Production and Industry.—Of the total area of Greece about 2,300,000 acres are under crops, vineyards, or orchards, 1,200,000 acres are fallow, 2,000,000 acres are forest, 5,000,000 acres are pasture, and 3,000,000 acres are unproductive. About 7,000,000 bushels of wheat, 3,000,000 bushels of barley, 2,700,000 bushels of corn, and 7,000,000 bushels of other grain are raised. Cereals occupy 1,111,500 acres; cotton is grown on 14,800 acres, and tobacco on 12,000 acres; the area under currants, the peculiar crop of Greece, on which its prosperity has largely depended, is 168,000 acres, while olives cover 432,000 acres, vineyards 336,000 acres, and figs and other fruits 52,000 acres. The average crop of currants is 150,000 tons. Under the retention law of 1895, renewed for ten years in 1899, the Government retains 10 per cent. or more of the currant-crop, which is used for wine or brandy. The crop in 1900 was 51,300 tons, of which 45,700 tons were available for export and 40,255 tons were exported. The crop of valonia was 7,700 tons. In Mesenia, where the silkworm is grown, 44,000 pounds of cocoons were produced and 37,400 pounds of silk were spun. About 8,240 tons of olive-oil soap are manufactured annually. In the Laurium district, where French capital has been invested, the mining products in 1900 included 320,245 tons of manganese ore, 171,377 tons of hematite, 18,505 tons of zinc ore, 1,552 tons of galena, and 264,614 tons of inferior lead ore yielding 16,719 tons of silver lead.

The total value of special imports in 1900 was 129,986,066 drachmas in gold; of exports, 102,089,318 drachmas. The imports of cereals were 33,594,882 drachmas in value; of tissues and yarn, 16,484,828 drachmas; of coal and minerals, 14,951,885 drachmas; of lumber, 11,142,801 drachmas; of fish and caviar, 6,166,305 drachmas; of metals and ores, 5,644,493 drachmas; of chemicals, 4,164,055 drachmas; of hides and skins,

3,388,853 drachmas; of live animals, 3,370,954 drachmas; of paper, 3,898,032 drachmas; of coffee, 2,748,584 drachmas; of sugar, 2,569,526 drachmas; of earthenware and glass, 2,020,885 drachmas; of rice, 1,642,630 drachmas; of colors, 1,294,367 drachmas. The exports of dried currants were 52,890,540 drachmas in value; of ores, 20,810,742 drachmas; of wine, 4,812,675 drachmas; of tobacco, 3,564,843 drachmas; of figs, 2,429,768 drachmas; of olive-oil, 2,344,225 drachmas; of valonia, 1,619,101 drachmas; of silk and cocoons, 1,418,140 drachmas; of sponges, 884,760 drachmas; of brandy, 709,707 drachmas; of emery, 633,088 drachmas; of gunpowder, 605,225 drachmas; of fruits, 286,782 drachmas; of olives, 281,834 drachmas; of soap, 187,530 drachmas; of cement, 181,458 drachmas.

Navigation.—During 1900 there were 5,394 vessels, of 3,113,688 tons, entered and 5,223, of 3,101,066 tons, cleared at Greek ports. The merchant navy on Jan. 1, 1901, comprised 927 sailing vessels, of 183,877 tons, and 137 steamers, of 115,530 tons.

Railroads and Telegraphs.—The length of railroads open in 1900 was 603 miles, and 300 miles were building. A line from the Piræus to the Turkish frontier, to be built with a loan of 44,000,000 drachmas guaranteed by the Government, was begun in 1902 and is expected to be completed in 1905.

The telegraph-lines, inclusive of cables, had a total length on Jan. 1, 1899, of 5,300 miles, and the length of wire was 6,200 miles. The number of despatches in 1899 was 1,771,506, of which 1,380,468 were paid internal, 25,124 official, and 365,914 international; receipts were 1,312,000 drachmas. The length of telephone-lines was 590 miles; number of conversations, 373,000.

Politics and Legislation.—The Chamber, although the Government had a majority of 132 to 51, could transact no business in the early months of the year on account of the obstruction of the Opposition, which declared the formation of the Zaimis ministry to have been unconstitutional and demanded a dissolution. The budget was voted on April 18 after the Chamber had remained in session through the night, and on April 21 the Chamber was prorogued without having dealt with the bill for army reorganization or effected any useful legislation, though for the fatigues of the debates protracted into the nights the members voted themselves extra compensation.

GUAM, the principal island of the Ladrone, or Marianne, group, a possession of the United States since 1898, used as a coaling station on the route to the Philippines. It has an area of about 200 square miles and a population of 9,000, two-thirds of whom live in Agaña, the capital. The people are descendants of immigrants from the Philippines. The island is wooded and fertile. The Governor in 1902 was Commander Seaton Schroeder, who was relieved in November by Commander W. Sewell. The property of the naval station was damaged on Sept. 22 by an earthquake that destroyed most of the masonry houses in Agaña and the other towns, inflicting heavy loss on the people of the island, who had not yet repaired the serious losses resulting from the hurricane of 1900.

GUATEMALA, a republic in Central America. The Congress is composed of a National Assembly containing 69 members, 1 to 20,000 inhabitants, elected for four years by adult male suffrage, and a Council of State of 13 members, part of whom are elected by the Assembly and part appointed by the President. The President

of the republic is elected for six years by the direct vote of the people, and is ineligible for the next succeeding term. Manuel Estrada Cabrera was elected for the term that began on Feb. 8, 1899. The Secretary of the Interior and Justice in 1902 was Juan J. Argueta; Secretary of Foreign Affairs, Juan Barrios; Secretary of War, Luis Molina; Secretary of Public Works and Agriculture, Rafael Spinola; Secretary of Finance, Guillermo Aguirre; Secretary of Public Instruction, J. A. Mandujano.

Area and Population.—The area of Guatemala is estimated at 48,290 square miles. The population in 1900 was 1,574,340. The capital is Guatemala la Nueva, which has 72,102 inhabitants, of whom over 80 per cent. are of European origin. Of the indigenous population the majority are pure Indians and the rest mostly of mixed blood.

Finances.—The ordinary revenue in 1900 amounted to \$9,139,872 in currency, and expenditure to \$11,870,667. The deficit was met by means of an extraordinary revenue of \$3,709,806, making the total revenue \$11,964,168. For 1901 the revenue was estimated at \$9,770,000, of which \$4,340,000 came from customs, \$3,760,000 from stamps and taxes, and \$1,370,000 from monopolies. The expenditure was estimated at \$9,611,200, of which \$3,157,856 were for finance and public credit, \$1,998,200 for war, \$1,513,915 for education, and \$1,421,524 for the interior and justice. The military force, which absorbs 10 per cent. of the revenue, consists of a standing army of about 7,000 officers and men.

The foreign debt was adjusted in 1895, and in 1901 the Corporation of Foreign Bondholders in London found the amount of the 4-per-cent. bonds outstanding to be £1,482,800, on which there were £29,656 of certificates of unpaid interest for £29,656 and later arrears from 1899 to 1901 amounting to £118,624, making a total of £1,631,080. There were besides £144,390 outstanding of loans raised in 1897 and 1898. The total gold debt was officially stated to be \$9,352,694. The internal debt on Jan. 1, 1901, amounted to \$28,118,068 in silver. Great Britain made a naval demonstration to enforce payment of the debt to English creditors, and on April 18, 1902, landed bluejackets at San José to suppress the threatened resistance of the people and soldiers. France and Germany also sent men-of-war to San José to demand the payment of debts.

Commerce and Production.—The total value of imports in 1898 was \$4,850,471 in gold, and of exports \$15,377,461 in currency, equal to \$4,881,730 in gold. In 1899 the value of imports

was \$4,117,659 in gold, and of exports \$8,370,556. The value of coffee exported in 1899 was \$7,390,477; of rubber, \$256,921; of hides and skins, \$267,970; of sugar, \$250,360. The public lands are offered for sale to settlers at from \$250 to \$500 per caballeria of 112½ acres. Free grants are made for school purposes or to villages or immigration companies which undertake to make roads. Under the decree of Jan. 14, 1899, every landowner who plants 20,000 rubber-trees will receive 1 caballeria of the national domain. There are plantations of cacao and tobacco, and on the seashore bananas are cultivated. About 200,000 cattle graze on the high plateaus, where there are 750,000 acres of rich pasture. Lead, tin, copper, manganese, antimony, sulfur, and lignite have been found. Salt is mined, and gold- and silver-mines have been opened.

Earthquakes occurring in succession from April 8 till April 24 did damage in all parts of the republic and destroyed Patzum, Amatitlan, San Marcos, Santa Lucia, Mazatenango, Solola, and San Felipe. Quezaltenango was left in ruins. The buildings and machinery on the plantations in the largest coffee-growing district were wrecked. Hundreds of persons were killed, and the property loss amounted to millions of dollars. On Oct. 24 the volcano of Santa Maria burst forth, covering with ashes the country for 30 miles around, the best coffee district in Guatemala. The money loss is estimated at \$5,000,000. The inhabitants were suffocated by sulfurous gases, about 7,000 in all, including the population of 10 Indian villages. Over 300,000 hundredweight of coffee was destroyed with the plantations, buildings, and cattle. Most of these properties belonged to Germans. Distress and partial famine afflicted the central and western parts of the republic as a result of the disaster. Eruptions from new craters in November extended the area of desolation. (See EARTHQUAKES AND VOLCANIC ERUPTIONS.)

Navigation.—Fruit steamers from New Orleans call at Puerto Barrios and other ports. The number of vessels entered in 1898 was 825; cleared, 815.

Railroads.—There is a line of railroad from the capital to San José, 75 miles, and a branch runs from Santa Maria to Ratulul, 33 miles, which will be carried to Mazatenango, 34 miles, to connect with a new line which is being built from Puerto Barrios to the capital, 210 miles, of which 134 miles have been completed. When the two railroads meet they will afford continuous transit between the Atlantic and Pacific coasts.

H

HAWAII. (See under UNITED STATES.)

HAYTI, a republic in the West Indies, occupying the western third of the island of Hayti. The legislative power is vested in the National Assembly, consisting of a Senate and a House of Representatives. The Senate has 39 members, chosen for six years by the lower house from lists submitted by the President and a college of electors. The members of the House of Representatives, 95 in number, are elected for three years by the votes of all adult male citizens having visible means of support. The President is elected by the National Assembly for seven years. Gen. Tiresias Simon Sam was elected on April 1, 1896, for the remainder of Gen. Hippolyte's term, expiring May 15, 1902. The Cabinet in the be-

ginning of 1902 contained the following members: Secretary of State for Foreign Affairs and War, Brutus San Victor; Secretary of Finance and Commerce, P. Faine; Secretary of the Interior and Police, Tancrede Auguste; Secretary of Agriculture and Public Works, C. Leconte; Secretary of Justice and Public Instruction, Gédéon Gédéon; Secretary of War and Marine, V. Guillaume.

Area and Population.—The area of the republic is estimated at 10,204 square miles. The population was 1,210,625 in 1894, according to an ecclesiastical enumeration. Port-au-Prince, the capital, has an estimated population of 61,000; Cape Haitien, 29,000; Les Cayes, 25,000. Of the total population about 90 per cent. are

blacks and the rest, with few exceptions, are mulattoes.

Finances.—The revenue for 1901 was estimated at \$4,198,337 in paper and \$2,536,100 in gold. The estimated expenditure was \$4,200,264 in paper and \$2,536,226 in gold, of which \$24,124 in paper and \$79,159 in gold were for the Ministry of Foreign Affairs, \$514,932 in paper and \$10,622 in gold for the Ministry of Finance and Commerce, \$1,325,870 in paper and \$12,500 in gold for the Ministry of the Interior, \$216,278 in paper and \$60,400 in gold for the Ministry of Public Works, \$222,294 in paper and \$5,000 in gold for the Ministry of Agriculture, \$600,769 in paper and \$4,885 in gold for the Ministry of Public Instruction, \$393,000 in paper for the Ministry of Justice, \$31,352 in paper and \$57,365 in gold for the Ministry of Worship, \$66,815 in paper and \$69,572 in gold for the National Bank, and \$47,819 in paper and \$2,187,143 in gold for the public debt. The debt on Jan. 1, 1901, consisted of \$12,960,642 of 5- and 6-per-cent. external gold bonds and \$9,372,183 of currency and \$6,115,091 of gold internal bonds, part of which are secured on the export duty on coffee. There were \$3,749,000 of paper money in circulation in 1899 and \$3,500,000 of silver, and there were believed to be about \$1,200,000 of American gold.

The Army and Navy.—There is a Government guard of 650 men, consisting of 1 battalion of artillery, 1 battalion of rifles, 1 regiment of infantry, and 1 squadron of cavalry. The troops of the line number 6,178, consisting of 4 battalions of artillery, 6 regiments of infantry, and 46 companies of gendarmes.

The navy in 1901 comprised 4 small cruisers and 2 gunboats. The gunboat *Crête-à-Pierrot*, of 940 tons, built in England in 1895, was capable of a speed of 15½ knots and was armed with 1 6.3-inch, 1 4.7-inch, 4 4-inch, and 6 smaller rapid-fire guns. The *Capois la Mort* was built in France in 1893. The *Toussaint l'Ouverture* was built in 1886; the *Dessalines*, of 1,200 tons, in 1883. The gunboat *22^{me}* Decembre has a displacement of 900 tons. The *1804* and *St.-Michel* are much smaller.

Commerce and Production.—The value of imports in 1900 was estimated at \$7,180,000, and that of exports at \$14,000,000, compared with \$4,312,000 for imports and \$11,800,000 for exports in 1899. The exportation of coffee reached 72,122,781 pounds in 1900; cacao, 4,656,997 pounds; logwood, 116,884,700 pounds; cotton, 2,260,000 pounds; hides, 374,800 pounds; copper, 41,500 pounds. Logwood roots, cabinet woods, honey, goatskins, and beeswax are exported. Of the imports in 1899 the value of \$2,833,192 came from the United States, \$490,510 from France, \$325,411 from Great Britain, and \$272,906 from Germany. Mining copper is an enterprise not long established. Concessions of coal and iron-mines have been granted. Gold, silver, tin, antimony, nickel, kaolin, and gypsum are found. The coffee trade is retarded and the exportation of cattle has been checked by the imposition of heavy export duties.

Navigation.—The number of vessels entered and cleared at Port-au-Prince during 1900 was 183, of 285,092 tons; at Les Cayes, 161, of 185,725 tons; at Cape Haitien, 162, of 194,360 tons.

Railroads.—Only 10 miles of railroad have been built in Hayti, running from Cape Haitien in the direction of Grande Rivière, 15 miles distant. Branches will connect the port also with Ouanaminté, 35 miles, and Limbe, 19 miles. A concession was granted in 1900 for a railroad from Port-au-Prince to Salt Lake, 50 miles, which

will be the first section of a line connecting the Haytian capital with Santo Domingo, the capital of the Dominican Republic.

Revolutionary Disturbances.—The election of a President of Hayti was not possible without a revolutionary struggle. The National Assembly had declared that Gen. Tiresias Simon Sam's term would not expire till May, 1903. The rival politicians held the view that his powers ended at the close of the regular term in May, 1902. Toward the end of March an expedition landed on the south coast, captured Barahona after a fight, marched inland when a Government gunboat bombarded and recaptured the town, and began to raise a revolutionary army. Congress decreed martial law and the suspension of constitutional guarantees throughout the republic. On May 9 President Sam resigned and took refuge on a French steamer. On May 12 the National Assembly met to choose his successor. The contest between Anténor Firmin, Maxi Monplaisir, candidate of the National party of the negroes, and other aspirants who still concealed their intentions could not be peacefully decided. As soon as Congress was opened one Deputy called for the removal of the troops in the hall, others shouted that Congress had not the confidence of the people and raised a cry for revolution, in which the soldiers joined. All then rushed to their arms and fought in the streets. A national election was announced, to take place on June 28. Meanwhile a Provisional Government was proclaimed, composed as follows: Provisional President, ex-President Boisrond Canal; Minister of War, Gen. Alexis Nord; Minister of Foreign Affairs, M. Jeremis; Minister of Finance, M. Deunéry; Minister of Agriculture, M. Césarion; Minister of the Interior, M. Saint-Foix Colin; Minister of Justice, M. Lallanes. Committees of safety were formed in every town to preserve order. Gen. Firmin with an army raised in the north marched upon Port-au-Prince expecting the adherence of the Provisional Government and the 4,000 troops, under Gen. Alexis Nord. The latter, however, transferred his allegiance to the exiled Calisthène Fouchard, who with another expedition from Kingston, Jamaica, landed at Port-au-Prince on May 17. Admiral Killick declared for Gen. Firmin and departed for the north with the two vessels that constituted the effective navy of the republic. The Firminist army under Gen. Albert Salnave marched upon Cape Haitien, where the gunboat *Crête-à-Pierrot* landed marines. Gen. Nord attempted to cut off the Firminist troops at Limbe, but was defeated by them, losing his large guns and many of his soldiers, killed and taken prisoners. At various points fights occurred between partisans of the rival candidates. The officials of Cape Haitien refused to hand over the town to Admiral Killick, whereupon he threatened bombardment. Adherents of the rival candidates fought in the streets. The foreign consuls protested against bombardment. Gen. Alexis Nord with his troops occupied the city, from which Gen. Firmin attempted to dislodge him. Admiral Killick landed troops and machine-guns on June 29, but they returned to the ships with the partisans of Gen. Firmin after an unsuccessful engagement. The United States gunboat *Machias* was the only foreign war-vessel there. Commander McCrea protested against bombardment and declared he would land sailors, if necessary, to protect American or other foreign interests if they were threatened. Admiral Killick fired some shots without effect, and then desisted. The Provisional Government was recognized by

the foreign representatives, but it was powerless to assert its authority in any of the towns. The congressional elections, wherever an attempt was made to hold them, ended in disorder and bloodshed. In the Artabonite provinces Gen. Firmin was proclaimed President, and with his army he marched once more on Port-au-Prince, while Admiral Killick again threatened to bombard Cape Haitien. The Provisional Government declared Admiral Killick a pirate and invited foreign vessels to capture him. Soon afterward the Provisional Government dissolved, its authority over the country and cohesion among its members having vanished. Civil war was declared throughout the country. The Provisional Government was afterward reconstituted, some of its former members having taken to flight. Gen. Salnave with Firminist troops advanced to attack Cape Haitien and again repulsed Gen. Alexis Nord, who marched out to meet him. Commander McCrea arrived with the *Machias*, which had been at Colon. He warned Admiral Killick against bombarding without notice. Coal for the *Crête-à-Pierrot* was seized by the Provisional Government at Port-au-Prince. Admiral Killick declared a blockade at Cape Haitien, but he did not remain there constantly with his vessel, and Commander McCrea and the foreign consuls refused to recognize a blockade. The American naval commander, who was charged with the protection of all European interests as well as those of the United States, informed Admiral Killick that the blockade was not effective and warned him against searching any foreign vessel. *Petit Goave* was entirely destroyed on Aug. 8, having been set on fire by Gen. Chicoye, the revolutionary commander, before he retreated. On Aug. 28 Gen. Nord fought another hard battle for the defense of Cape Haitien, this time with Gen. Jean Jumeau, another Firminist commander. The German merchant steamer *Marcomannia* was stopped at the entrance of Cape Haitien harbor by the *Crête-à-Pierrot*, and arms and ammunition for Gen. Nord were confiscated. The German cruiser *Panther* arrived from Port-au-Prince, pursued the Haytian vessel on Sept. 5 to Gonaïves, and there signaled to her commander to strike his flag and abandon the ship. This was done, but a powder-magazine exploded, and Commander Eckermann, instead of capturing the vessel, which was now burning, sank her by firing a shell into the other powder-magazine. Admiral Killick had fired the after magazine and went down with his ship. Gen. Firmin formed a Provisional Government at Gonaïves and appointed a Cabinet. Gen. Jumeau, his position at St.-Michel becoming untenable after he lost a small battle, burned the place to prevent it from falling into the hands of the Government. The Government troops threatened Gonaïves and St. Marc, but afterward retired, and Gen. Jumeau collected his forces and advanced toward Port-au-Prince. The representatives elected to the National Assembly met there and organized. Those whose credentials were accepted showed a majority in favor of the election of Senèque Pierre to the presidency, and his opponents endeavored to defeat him by absenting themselves, so that there was no quorum for the election of Senators. Exiled and proscribed persons departed on every foreign steamer. The delay in the election of a President was approved by men of all parties, who wished to await the result of the impending battle between the forces of Gen. Alexis Nord and Gen. Jumeau, who confronted each other again, each with about 3,000 men. They met at Limbe, and after a battle lasting

two days, in which both sides lost heavily, Gen. Nord retreated. The Provisional Government declared the ports of Gonaïves, St. Marc, and Port-de-Paix, held by the Firminists, closed, but this the United States Government would not allow in the absence of a blockade. Gen. Chicoye was taken and executed for burning *Pétit Goave*, causing the death of numerous non-combatants. On Sept. 17 Gen. Nord advanced on Gen. Jumeau's position at Limbe, and was again forced to retire with loss. He returned in greater force on Sept. 27, defeated the Firminists, and captured the town. In October the Government forces, with the aid of an armed steamer, the *Nouvelle Voldroque*, attacked the Firminists at Montrouis, near St. Marc, but were repelled and their vessel was sunk. Gen. Saint-Foix Colin called the people of Port-au-Prince to arms and advanced with a stronger force for a second attack. St. Marc capitulated on Oct. 14, and Gen. Firmin with 250 of his followers took refuge on a German steamer. Gonaïves surrendered on Oct. 17, without fighting, on terms arranged by the mediation of the foreign consuls. American marines from the Cincinnati and French and German marines were at Gonaïves, all the Firminist officials having fled, when the Government troops entered on Oct. 18. Gen. Alexis Nord, who was now a strong candidate for the presidency, remaining at St. Marc with the main body of the army, sent a demand to Port-au-Prince for the expulsion of all Firminist Deputies from Congress. The Fouchardists who returned to the capital from the campaign came into collision with the authorities. A quorum of Congress could not be brought together to take any action. Deetjen Senekist, president of the Chamber, and Calisthène Fouchard had many partisans to urge their claims. Other candidates who were before prominent had few, and the adherents of Gen. Alexis Nord were the most numerous and powerful. On Dec. 14 Gen. Nord entered the capital at the head of his army and was acclaimed by the people.

HOLLAND. (See NETHERLANDS.)

HONDURAS, a republic of Central America. The Congress is a single chamber of 45 members, elected for four years by universal adult male suffrage. The President of the republic is elected likewise by the direct vote of the nation for four years. The President for the term beginning Feb. 1, 1899, is Gen. Terencio Sierra. The Vice-President is Gen. José M. Reina. The ministry was composed in 1902 of the following members: Minister of Foreign Affairs, Dr. C. Bonilla; Minister of Public Works, F. Altschul; Minister of Justice and Public Instruction, Dr. Juan A. Arias; acting Minister of the Interior, Dr. Bonilla; Minister of Finance, D. Fortin; Minister of War, Gen. M. Rosales.

Area and Population.—The area is estimated at 46,250 square miles. The population in 1900 was estimated at 587,500, exclusive of uncivilized Indians. The mass of the population is of the Indian race. The few whites are descendants of Spanish settlers. Tegucigalpa, the capital, has 12,000 inhabitants.

Finances.—The revenue in 1900 was \$2,842,005 in silver; expenditure, \$2,629,815. The revenue for 1901 was estimated at \$2,423,000, and expenditure \$2,416,824; for 1902, revenue and expenditure at \$2,629,050. Revenue from customs in 1902 was estimated at \$1,100,000; from the spirit monopoly, \$800,000. Expenditure for the army was estimated at \$953,473; for public works, \$433,900; for the Interior Department, \$432,742.

A loan of £78,800 sterling was contracted at 5 per cent. in 1867, and one of £900,700 at 10

per cent. interest, in 1869 a loan of £2,176,570 at 6½ per cent., and in 1870 one of £2,242,500 at 10 per cent.; total capital, £5,398,570, on which no interest has been paid since 1872, so that the arrears amounted on June 30, 1901, to £13,363,052. The internal debt on June 30, 1900, amounted to \$1,800,812 in silver.

Commerce and Production.—The most profitable industry is growing bananas in the coast region for export to the United States. Tobacco, sugar, and coffee are cultivated; indigo, rice, and wheat also on a limited scale, and corn extensively. Large numbers of cattle are reared, and in a small way dairying is carried on. The plaiting of hats is a common occupation. The agricultural possibilities of the country are great, but development is slow on account of the scarcity of good laborers. For the same reason and for lack of transportation there is little mining enterprise, although gold, platinum, silver, copper, lead, zinc, antimony, nickel, and iron are found

in many places. Coal deposits have also been discovered. The value of imports in the year ending June 30, 1900, was \$1,074,050, and that of exports £2,635,600. The exports of metals were \$803,920; bananas, \$720,680; cattle, \$571,980; wood, \$146,854; coffee, \$45,510. The United States furnished 72 per cent. of the imports and took 64 per cent. of the exports.

Railroads, Posts, and Telegraphs.—The railroad from Puerto Cortez to La Pimienta, 60 miles, was built for the Government by English contractors who undertook to carry the line from ocean to ocean, but stopped when the Government could raise no more money. A railroad through the banana districts from Omoa to Truxillo has been contracted for.

There were 337,589 domestic and 200,548 foreign letters despatched in 1898. The length of telegraph-wire in 1899 was 2,730 miles.

HUSBANDRY, PATRONS OF. (See GRANGE, NATIONAL.)

I

IDAHO. (See under UNITED STATES.)

ILLINOIS. (See under UNITED STATES.)

INDIA, an empire in southern Asia under the sovereignty of the King of Great Britain and Ireland, who bears the title of Emperor of India, on the basis of a personal union. The empire is governed under general acts of the British Parliament by a Governor-General in consultation with and under instructions from the Secretary of State for India, a member of the British Cabinet. The Governor-General, popularly called the Viceroy, is advised by his Council, containing 5 ordinary members appointed for five years. The commander-in-chief of the forces is a member *ex officio*. The members of the Governor-General's Council and 16 additional members, appointed by the Governor-General on the recommendation of certain public bodies, form the Legislative Council, which has power to make laws, subject to the approval of the Governor-General and to the veto of the British Government, for all persons in British India, for British subjects in native states, and for native Indian subjects of the King in foreign countries. British India is divided for purposes of administration into the presidencies of Madras and Bombay, each of which has a governor at the head of the local provincial administration; the lieutenant-governorships of Bengal, the Northwest Provinces and Oudh, the Punjab, and Burma; and the chief-commissionerships of Assam and the Central Provinces. Coorg, Ajmere and Merwara, British Baluchistan, and the Andaman Islands are minor chief-commissionerships. Each Governor and Lieutenant-Governor has his Legislative Council. The 9 provinces are subdivided into about 250 districts, each in charge of a collector-magistrate or deputy commissioner. These officers, responsible to the governor of the province, in their districts have absolute authority, and in many the district magistrate's executive and judicial functions are united. The new Northwestern Frontier province was established on Nov. 9, 1901, with Peshawur as the seat of the administration. It embraces Peshawur, Kohat, Bannu, and Dera Ismail, districts of the Punjab lying beyond the Indus, with the whole of the Hazara district and the agencies of Swat, Chitral, the Khaiber and Kurram passes, Tochi, and Wana, and is under the administration of an agent to the Governor-General, Lieut.-Col. H. A. Deane.

The Governor-General of India is George Nathaniel Curzon, eldest son of the Earl of Scarsdale, born Jan. 11, 1859, created Baron Curzon of Kedleston on his appointment to the governor-generalship in September, 1898. The members of the Governor-General's Council in the beginning of 1902 were as follow: Major-Gen. Sir R. E. Elles, Sir C. M. Rivaz, Sir Edward Fitzgerald Law, Thomas Raleigh, A. T. Arundel, and D. Ib-betson. The Governor of Madras was Lord Ampt-hill; Governor of Bombay, Lord Northcote; Lieutenant-Governor of Bengal, Sir J. Woodburn; Lieutenant-Governor of the Northwest Provinces and Chief Commissioner of Oudh, Sir J. J. D. La Touche; Lieutenant-Governor of the Punjab, Sir C. M. Rivaz; Lieutenant-Governor of Burma, Sir F. W. R. Fryer.

Enclosed in British territory or on the borders are native states whose rulers are controlled by the Indian Government through residents or political agents. The degree of interference in their internal affairs varies, but no chief of a native state is permitted to enter into diplomatic relations with other chiefs or with foreign nations or make war or to maintain a military force exceeding a specified limit; nor can any European reside at his court without the permission of the Indian Government; and in cases of misgovernment the Indian Government exercises the right of dethroning the native ruler. An annual tribute is paid by some of the native chiefs, all of whom are nominally tributary, though in many cases no payment is required.

Area and Population.—The area of the British provinces and their population, according to the preliminary returns of the census of March 31, 1901, are given in the table on page 333.

The Berars are a native state under British administration provisionally. The total population consisted of 117,440,652 males and 113,644,480 females.

The area of the native states, groups of states under a political agent, and their population according to the preliminary census reports are given on page 333.

Of the states of Rajputana, Jodhpur, with an area of 34,963 square miles, has 4,937,220 inhabitants; Bikaner, area 22,340 square miles, has 2,278,273; Udaipur, area 12,753 square miles, has 3,750,000; Jaipur and feudatories, area 15,579

PROVINCES.	Square miles.	Population.
Bengal.....	151,960	74,713,080
Bombay.....	123,608	18,543,274
Madras.....	141,228	38,208,600
Punjab.....	110,897	22,449,484
Central Provinces.....	86,617	9,845,318
Northwest Provinces.....	83,386	24,812,174
Oudh.....	24,217	12,884,150
Assam.....	52,078	6,122,201
Ajmere-Merwara.....	2,711	476,380
Berars.....	17,737	2,752,418
Coorg.....	1,582	180,461
Upper Burma.....	87,390	3,849,833
Lower Burma.....	81,160	5,371,388
Quetta.....	22,400	810,811
Andaman Islands.....	.....	24,499
Aden.....	80	41,222
Total.....	985,002	231,065,139

square miles, have 6,623,858; Alwar, area 3,144 square miles, has 2,743,556; Kota, area 3,784 square miles, has 2,441,420; Bhartpur, area 1,982 square miles, has 2,751,728. In Central India, Indore, area 8,400 square miles, has about 7,600,000 population; Rewa, area 12,676 square miles, has 1,600,000; Bhopal, area 6,997 square miles, has 4,000,000; and Gwalior, area 29,047 square miles, has 14,048,996. Of the Bombay states, Cutch, with an area of 6,500 square miles, has 3,050,000 population; Kolhapur and dependencies, area 2,855 square miles, have 4,100,614; Khairpur, in Sind, area 6,109 square miles, has 1,212,715. In Madras, Travancore, area 6,730 square miles, has a population of 8,823,223; Cochin, area 1,362 square miles, has a population of 1,926,294. In the Central Provinces the principal state is Bastar, with an area of 13,002 square miles and a population of 291,020. Of the Bengal states, Kuch Behar, area 1,307 square miles, contains a population of 2,164,490. The state of Rampur, in the Northwest Provinces, on an area of 945 square miles has 2,982,177 inhabitants. In the Punjab, Patiala, with an area of 5,412 square miles, has a population of 6,826,222; Kapurthala, 598 square miles in extent, has about 2,000,000; Bahawalpur, area 1,500 square miles, has 1,800,000. The birth-rate in Bengal for 1900 was 38.68 per 1,000 and the death-rate 36.63; in the Northwest Provinces and Oudh the birth-rate was 40.34 and the death-rate 31.13; in the Punjab the birth-rate was 41.1 and the death-rate 47.7; in the Central Provinces the birth-rate was 31.87 and the death-rate 57.82; in Lower Burma the birth-rate was 38.37 and the death-rate 27.51; in Assam the birth-rate was 34.96 and the death-rate 30.64; in Madras the birth-rate was 31.8 and the death-rate 23.4; in Bombay the birth-rate was 26.87 and the death-rate 70.07. The number of coolie emigrants from India in 1900 was 17,166. The population of the principal cities of India in 1901 was, according to the provisional census returns, as follows: Calcutta, 1,121,664, including suburbs; Bombay, 770,843; Madras, 509,397; Haidarabad, with suburbs, 446,291; Lucknow, 263,951; Rangoon, 232,326; Delhi, 208,385; Benares, 203,095; Cawnpur, 197,000; Agra, 183,300; Mandalay, 182,498; Allahabad, 175,748; Amritsar, 162,548; Bangalore, 159,550; Jaipur, 159,030; Howra, 157,847. The Brahminic Hindus, who were the most numerous element in the famine-stricken population, declined in numbers between 1891 and 1901 from 207,689,000 to 207,075,000. The diminution was in males alone, and it occurred in native states, while in British India, despite a falling off of 1,120,000 in Bombay and the Central Provinces, there was a net increase of 3,400,000, which was more than counterbalanced by a decrease of 4,013,000 in the native states, half of it in Rajputana. The Mohammedans in ten years increased in

NATIVE STATES.	Square miles.	Population.
Haidarabad.....	82,698	11,174,897
Baroda.....	8,286	1,950,927
Mysore.....	27,986	5,588,488
Kashmir.....	80,000	2,906,173
Rajputana.....	128,068	9,841,082
Central India states.....	78,571	8,501,885
Bombay states.....	61,458	6,891,691
Madras states.....	9,801	4,190,322
Central Provinces.....	29,375	1,983,496
Bengal states.....	50,359	3,735,715
Northwest Provinces.....	5,109	799,675
Punjab states.....	22,509	4,488,816
Burma states.....	62,661	1,238,490
Total.....	655,695	68,181,569

numbers from 57,321,100 to 62,458,000, or 9 per cent. The growth is attributed in part to the relative prosperity of the regions where Mohammedans reside and in part to conversions. In Bengal they increased twice as fast as Hindus. Buddhists increased from 6,888,000 to 9,184,000, or 33 per cent. Their increase in Burma outstripped the rapid growth of the population as a whole. In India proper there are only 287,000 Buddhists. The Sikhs, who dwell in native states and in the Punjab, increased by 287,000 to 2,195,000. The Jains, living in Bombay and Rajputana, were reduced from 1,417,000 to 1,334,000. The animistic or pagan tribes of the hill country in Bengal and Assam, the Central Provinces and central India, Madras, Baroda, and Burma, numbered 8,584,000, a reduction of 696,000 from the former census. The Christian population increased in this year to 2,923,000, the Parsees from 89,900 to 94,200, the Jews from 17,194 to 18,228. The reformed Hindus of the Brahmo-Somaj number only 4,000, while the Orya Hindus, another new sect of Brahmans not a quarter of a century old, have grown to 67,000. Of the total population 70 per cent. are Hindus, 21 per cent. Mohammedans, 3 per cent. Buddhists, 3 per cent. animists, 3 per cent. Christians, etc.

Finances.—The total revenue of British India in the year ending March 31, 1900, was 1,029,557,468 rupees, and the total expenditure was 987,938,121 rupees, of which 742,045,431 rupees were expended in India and 245,892,690 rupees in England. The revenue for 1901, according to the revised estimates, was 1,127,490,500 rupees, and the expenditure 1,102,884,500 rupees. For 1902 the budget estimate of revenue was 1,082,878,000 rupees, of which 272,559,000 rupees were land revenue, 276,414,000 rupees railroad receipts, 89,068,000 rupees salt revenue, 68,140,000 rupees revenue from opium, 50,209,000 rupees stamp-duties, 59,506,000 rupees excise duties, 40,839,000 rupees provincial rates, 47,821,000 rupees customs duties, 19,559,060 rupees assessed taxes, 18,817,000 rupees forest revenues, 4,521,000 rupees registration dues, 9,613,000 rupees tribute, 10,235,000 rupees interest, 33,074,000 rupees revenue from the post-office, telegraphs, and mint, 18,146,000 rupees receipts of the civil departments, 8,606,000 rupees miscellaneous receipts, 37,298,000 rupees receipts from irrigation works, 6,606,000 rupees receipts from other public works, and 11,847,000 rupees receipts of the military department. The budget estimate of expenditures for 1902 was 1,075,254,000 rupees, of which 2,740,000 rupees were charged to provincial balances, leaving expenditure of the Indian exchequer 1,072,514,500 rupees. Of the total expenditure the railroads took 278,886,500 rupees; the army services, 257,030,500 rupees; civil salaries, etc., 171,883,000 rupees; costs of collection, 97,922,000 rupees; miscellaneous civil charges, 61,987,000 rupees; irrigation, 36,082,000 rupees; other public works, 72,871,000 rupees; the post-

office, telegraphs, and mint, 33,477,000 rupees; interest, 31,490,500 rupees; refunds and compensation, 18,625,000 rupees; and the famine insurance fund, 15,000,000 rupees. The capital expenditure on railroads and irrigation works, which is not included in the accounts of revenue and expenditure, was 27,750,000 rupees in 1901 and 40,291,500 rupees in 1902. In addition to this 88,836,000 rupees were applied in 1901 to the redemption of the debentures of the Great Indian Peninsula Railroad, which was transferred to the Government on June 30, 1900.

The debt of British India on March 31, 1900, amounted to 3,066,652,854 rupees, of which 1,124,747,010 rupees were permanent debt in India, 1,794,666,015 rupees permanent debt in England, and 147,239,829 rupees unfunded debt. The total has increased in ten years from 2,184,260,690 rupees.

One of the main causes of famine in India has been supposed to be the land tax. The Government in 1902 promised to allow for improvements, to make no assessments on prospective values, to revise local taxation, to impose large enhancements only by degrees, to adjust collections to the variations of crops and the circumstances of the people, to reduce assessments in declining localities. No change of system was considered necessary, and the land revenue was officially reported to be more lenient now than at any former period. The development of industrial resources is held by the Government to be the best safeguard against famine, and therefore it is intended to devote a part of the surplus to promote industry.

The capital outlay for 1903 is £9,809,000, consisting of £8,152,000 of direct expenditure on railroads and irrigation works, £979,000 of deposits and advances, £341,000 advanced to companies by the Imperial and provincial governments, and the difference between £16,837,000 paid on Council bills and £16,500,000, the amount drawn. The addition to the permanent debt for the year is £1,041,000, of which £1,000,000 was raised in India; increase of unfunded debt, £543,000; capital raised through companies for state railroads, £2,200,000; deposited by railroad companies, £1,613,000; imperial surplus, £838,000; remittances, £562,000; reduction of cash balances, £3,011,000; leaving balances of £14,883,000 in India and England on March 31, 1903. The expenditure for railroad construction is estimated at £7,334,000, and for irrigation the sum appropriated is £927,000. Two-thirds of the surplus was devoted to the building of railroads, the rest to reimbursing provincial treasuries for their losses from famine, while the collections of arrears of land revenue from the famine-stricken districts, already suspended for the years of total drought, were written off as a permanent loss to the treasury. The grants to the provincial governments, to be spent largely upon education, amounted to £866,000, remission of arrears of land revenue to £1,320,000.

Currency.—The money standard was the silver rupee from 1835 till 1893. When the price of silver bullion fell below 39*d.* an ounce and the exchange value of the rupee below 1*s.* 3*d.* the Government on June 26, 1893, closed the mints to the free and unrestricted coinage of silver for the public. Gold coin and bullion was received at the mints in exchange for rupees at the ratio of 1*s.* 4*d.* per rupee or 15 rupees for the English sovereign. On Sept. 15, 1899, the gold sovereign was declared legal tender in India and the mints were opened for the free coinage of gold. The amount of silver and copper coined from 1835 down to March 31, 1901, was 4,030,695,874 rupees. This includes 92,496,821 British dollars coined since

1894 at Bombay and Calcutta for the Straits Settlements and Hong-Kong, of the value of 209,883,703 rupees. The coinage of silver by the Government, aside from these dollars, almost ceased until the recent famine came. In the year ending March 31, 1897, the coinage of silver was 19,655,830 rupees, of which 13,922,299 rupees represent British dollars; in 1898 it was 58,157,750 rupees, including 48,300,826 rupees in the form of dollars; in 1899 it was 55,872,480 rupees, of which 48,888,833 rupees were in dollars; in 1900 it was 92,018,798 rupees, of which 69,759,048 rupees were in dollars; in 1901 it rose to 194,136,972 rupees, the heaviest coinage of any one year since the mints were established, the value of the British dollars included in this amount being 21,488,248 rupees.

The Army.—The established strength of the military forces as provided in the estimates for the year ending March 31, 1900, was 228,887 of all ranks, comprising 73,638 British and 155,249 native Indian troops. The British army in India consisted of 346 staff-officers, 4 cavalry and 31 infantry generals, 26 general officers unemployed, 509 officers and 13,198 men of the royal artillery, 211 officers and 5,355 men of the cavalry, 324 officers and 171 men of the royal engineers, 1,277 officers and 52,174 men in the infantry regiments, and 5 officers and 7 men belonging to the veteran and invalid establishment. The native army consisted of 4,010 artillery, 25,316 cavalry, 3,904 sappers and miners, and 122,019 infantry, including 61 European officers in the artillery, 482 in the cavalry, 64 in the sappers and miners, and 1,561 in the infantry. The number of European and Eurasian volunteers on May 1, 1901, was 30,830 enrolled, of whom 26,583 were counted as efficient. The Imperial Service Corps, consisting of picked contingents from the armies of the native chiefs trained by 19 British officers, numbered 16,451 in 1901, comprising 6,399 cavalry, 298 artillery, and 9,754 infantry. In October, 1902, Lord Kitchener succeeded Gen. Sir A. Power Palmer as commander-in-chief. The Indian army has been rearmed with a quick-firing rifle, transport has been organized, the present system of frontier defense is regarded as vastly superior to the schemes that preceded it, the artillery has been rearmed, and factories have been established to supply munitions and materials of war. The reduction of the army to the extent of the troops lent to Great Britain for the South African War saved for the Indian Government the sum of £2,180,000, which was applied to military reorganization and equipment. India sent 13,200 British officers and men to South Africa, with 9,000 natives, principally followers, and to China were sent 1,300 British officers and men, 20,000 native troops and 17,500 followers.

Commerce and Production.—Out of 732,285,223 acres surveyed in British and native territory reports were made of 545,069,496 acres in 1900, of which 65,843,924 acres were forest, 135,506,014 waste, 106,404,704 acres available land not cultivated, 57,163,761 acres fallow, and 180,151,093 acres bearing crops. The area under rice was 72,808,952 acres; under wheat, 16,104,779 acres; under other grains, 75,965,064 acres; under oil-seeds, 10,327,641 acres; under cotton, 8,375,841 acres; under sugar-cane, 2,693,029 acres; under indigo, 1,046,434 acres; under tobacco, 915,321 acres; under tea, 493,187 acres; under jute, 2,070,668 acres; under other fibrous plants, 404,478 acres; under coffee, 132,565 acres. Reckoning double land cropped twice in the year, the total area under crops was 203,895,561 acres, of which 33,096,031 acres were irrigated. The actual surface irrigated was 18,611,106 acres, of which 11,409,528 acres were ir-

rigated by major works, which paid a revenue of 87,723,507 rupees, and 7,201,578 acres by minor works, realizing a revenue of 86,534,306 rupees. The irrigation works, for which a capital account is kept, paid 6.10 per cent. on their capital in 1899 and 1900. The value of the crops that they irrigated is estimated at 460,000,000 rupees.

There were 190 cotton-mills in 1901, with 4,932,002 spindles and 40,542 looms, employing on the average 156,039 persons, with 165,304,591 rupees of capital invested; 35 jute-mills, having 315,204 spindles and 15,242 looms, employing 110,462 persons, in which the capital investment was 54,060,000 rupees; 4 woollen-mills, with 22,088 spindles and 504 looms; and 8 paper-mills, employing 4,871 persons, having a capital of 7,022,000 rupees, and producing 46,800,000 pounds of paper in 1900, valued at 8,251,748 rupees. The quantity of beer brewed in 1900 was 4,961,666 gallons. The output of coal from 296 mines was 6,118,692 tons, valued at 20,146,222 rupees. The number of persons employed in the mines was 80,198. The imports of coal and coke in 1901 were only 127,318 tons, including pressed fuel.

The total value of imports by sea in the year ending March 31, 1901, was 1,064,713,514 rupees, an increase of 9.56 per cent. on the imports of the preceding year; total value of exports by sea, 1,216,908,103 rupees, an increase of 4.23 per cent. The value of imports comprised 806,945,896 rupees of merchandise and 245,767,618 rupees of treasure; the total value of exports comprised 1,077,634,157 rupees of merchandise and 142,273,946 rupees of treasure. Excluding Government stores and treasure, the imports were 762,778,853 rupees of merchandise and 164,636,080 rupees of treasure, a total of 927,414,933 rupees; and the exports were 1,074,138,798 rupees of merchandise and 74,744,551 rupees of treasure, a total of 1,148,883,349 rupees. The exports of domestic merchandise were 1,042,053,484 rupees; foreign merchandise reexported, 32,085,314 rupees. The imports of merchandise and treasure, excluding Government stores and treasure, into Bengal were 376,184,296 rupees, and exports from Bengal 557,818,808 rupees; in Burma the imports were 69,915,067 rupees, and exports 100,817,147 rupees; in Madras the imports were 74,212,132 rupees, and exports 120,064,963 rupees; in Bombay the imports were 361,132,423 rupees, and exports 336,286,061 rupees; in Sind the imports were 46,971,013 rupees, and exports 33,907,292 rupees. Excluding Government stores, imports of live animals in 1901 were 4,873,197 rupees in value, and exports 2,187,491 rupees; imports of articles of food and drink were 120,725,412 rupees, and exports 263,045,344 rupees; imports of hardware and cutlery were 18,414,739 rupees, and exports 226,007 rupees; imports of metals were 64,314,863 rupees, and exports 4,335,292 rupees; imports of machinery were 22,575,592 rupees, and exports 6,747 rupees; imports of railroad materials and rolling-stock were 13,411,195 rupees, and exports 162,349 rupees; imports of chemicals, drugs, and colors were 22,256,241 rupees, and exports 128,883,296 rupees; imports of oils were 37,570,196 rupees, and exports 6,565,180 rupees; imports of raw materials were 37,075,368 rupees, and exports 427,160,535 rupees; imports of textile fabrics and yarns were 339,011,763 rupees, and exports 139,023,482 rupees; imports of clothing were 15,397,776 rupees, and exports 2,019,814 rupees; imports of other articles were 67,152,519 rupees, and exports 67,537,947 rupees; total imports of private merchandise, 762,778,853 rupees; total exports of private merchandise, 1,042,053,484 rupees.

The value of cotton goods imported was 206,

363,421 rupees; of sugar, 60,562,163 rupees; of silk, raw and manufactured, 26,827,510 rupees; of woollen goods, 21,125,756 rupees; of liquors, 10,100,004 rupees; of grain and pulse, 9,560,291 rupees; of dyes and tanning materials, 6,761,936 rupees; of glass, 7,551,762 rupees; of spices, 8,791,064 rupees; of salt, 5,660,075 rupees; of coal, 3,067,462 rupees; of paper, 4,529,966 rupees; of umbrellas, 2,700,332 rupees. The exports of rice were 132,191,491 rupees in value, of which Burma furnished the value of 79,242,788 rupees, Bengal 43,865,982 rupees, Madras 5,147,545 rupees, Bombay 3,163,806 rupees, and Sind 771,310 rupees. The exports of wheat were only 300,832 rupees. Opium exports amounted to 101,274,007 rupees, 61,224,355 rupees coming from Bengal and 33,330,002 rupees from Bombay. The value of seeds exported was 90,140,351 rupees, of which 41,707,023 rupees came from Bengal, 40,990,484 rupees from Bombay, and the rest mainly from Sind and Madras. The exports of indigo were 21,359,808 rupees, of which 15,689,574 rupees came from Bengal, 3,925,851 rupees from Madras, and the rest from Bombay and Sind. Cotton exports amounted to 101,274,007 rupees, of which 60,096,726 rupees were Bombay produce, 15,306,228 rupees came from Madras, 10,281,663 rupees from Sind, 5,990,757 rupees from Bengal, and Burma exported the value of 569,633 rupees. The value of cotton manufactures exported was 57,029,566 rupees; of raw jute, 108,677,562 rupees; of jute manufactures, 108,677,562 rupees; of raw wool, 9,029,944 rupees; of wool manufactures, 2,964,332 rupees; of hides and skins, 114,626,371 rupees; of dyes and tans, 5,940,106 rupees; of lac, 10,853,970 rupees; of raw silk and cocoons, 5,122,057 rupees; of silk manufactures, 1,254,447 rupees; of oils, 6,565,180 rupees; of tea, 96,509,301 rupees, of coffee, 12,284,496 rupees; of spices, 5,415,153 rupees; of sugar, 1,709,504 rupees; of wood, 10,706,080 rupees; of saltpeter, 3,305,324 rupees; of provisions, 5,775,562 rupees. The imports of gold bullion and specie on Government and private account during the year ending March 31, 1901, amounted to 118,980,197 rupees, and exports to 110,558,846 rupees; imports of silver were 126,787,421 rupees in value, and exports 31,715,100 rupees. The values in rupees of merchandise imports from and exports to various countries during the year ending March 31, 1901, are given in the following table:

COUNTRY.	Imports.	Exports.
Great Britain...	104	228,775,507
China...	80	117,488,180
Germany...	110	16,087,100
Straits Settlements...	20	60,081,000
United States...	40	78,170,149
France...	80	56,881,000
Belgium...	94	26,479,287
Austria-Hungary...	91	27,074,883
Egypt...	79	48,080,408
Ceylon...	70	47,897,878
Italy...	72	20,989,679
Mauritius...	52	12,081,100
Russia...	80	3,498,577
Japan...	74	30,645,986
Australia...	91	18,109,871
East Africa...	80	12,079,008
South America...	40	18,164,489
Arabia...	60	3,704,689
Peru...	71	3,161,966
Netherlands...	61	4,829,004
Spain...	88	4,445,760

Of the total sea-borne commerce for 1901, exports and imports, Calcutta had 860,184,677 rupees; Bombay, 535,083,953 rupees; Rangoon, 139,692,716 rupees; Madras, 110,093,034 rupees; Karachi, 78,794,651 rupees; Tuticorin, 24,861,687 rupees. Of the merchandise 620,867,039 rupees of imports and 606,257,737 of exports passed through

the Suez Canal. The total value of the coasting-trade, imports and exports, was 835,159,862 rupees, exclusive of Government stores and treasure. The overland trade had a total value of 118,410,481 rupees, the imports of merchandise by the land frontiers being 64,148,758 rupees, and exports 54,261,723 rupees.

In the year ending March 31, 1902, the imports were 75,000,000 rupees more in value, and the exports, 165,000,000 rupees in excess of those of the previous year, though prices were lower. Grain imports decreased, owing to diminution of the famine areas. There was a growth of the import trade in cotton piece goods and yarn, copper, silver, sugar, petroleum, matches, and cigarettes, and in machinery, steel, coal, dyes, and other imports for industrial purposes. Cotton goods from Lancashire constitute over a third of the total imports of India and a third of England's cotton manufactures. The United States and the Continent of Europe furnish special classes of cotton goods, but the amount compared with English imports is small. The total imports of cotton manufactures in 1902 were £21,930,000 in value, 40 per cent. of the total imported merchandise. The value of metals and metal manufactures was £8,769,000, 15 per cent. of the total; and in steel, which tends to supplant iron, England finds Belgium a serious rival, and Germany one in hardware and cutlery. Sugar imports were larger in all the provinces except Burma. The average imports of refined sugar from 1890 on were 2,358,000 hundredweight, 539,000 hundredweight of it bounty-fed, till 1899, when the total imports rose to 3,765,000 hundredweight, the bounty-fed sugar to 1,510,000 hundredweight. In that year a countervailing duty was imposed, and in 1900 the total imports declined to 2,936,000 hundredweight owing to famine, the bounty-fed to 840,000 hundredweight. In 1901 the total rose to 4,842,000 hundredweight, the bounty-fed to 1,740,000 hundredweight; in 1902 the total increased to 5,429,000 hundredweight, of which 2,850,000 hundredweight was bounty-fed, 2,258,000 hundredweight from Austria, and 577,000 hundredweight from Germany, while cane-sugar from Mauritius, owing to a less abundant crop, fell off from 2,085,000 hundredweight in 1901 to 1,759,000 hundredweight, which was still above the average. The countervailing duty averaged 1s. 6d. per hundredweight, yielding £270,000 of revenue to the Government. Before the sugar conference at Brussels had concluded a compact to abolish bounties the countervailing duties were increased to 4s. 4d. on Austrian and 3s. 10d. on German sugars in order to counteract the cartels and stimulate Indian production. In Behar modern central factories have been erected. Nine-tenths of the sugar consumed in India is produced within its confines, but methods of cultivation and manufacture are an age behindhand.

Petroleum, fourth in magnitude among imports, was imported to the extent of 100,000,000 gallons, the trade being partly speculative. Russia sent 84,000,000 gallons, an increase of 25 per cent.; the United States less than 6,000,000 gallons, an increase of 12 per cent. The production of crude oil in Burma rose from 19,000,000 gallons in 1898 to 50,000,000 in 1901. German woolens, Austrian and Belgium glass, and Austrian and German paper are supplanting British, and aniline and alizarine from Europe are displacing natural Indian dyes. American manufactures of shoes, bicycles, tools, hardware, sewing-machines, furniture, agricultural implements, pumps, electrical machinery, etc., are beginning to establish direct trade relations with India. The total exports of merchan-

dise in 1902 were 16 per cent. more in value than in the preceding year. The cotton factories were busy again after a long period of inactivity. Jute manufactures showed continued progress. Oil-seeds were the leading export, amounting to £11,186,000, the trade having revived after several years of depression. The linseed exports were 50 per cent. greater in quantity than in 1901, although Argentine linseed competes now with Indian. A heavy crop in the Punjab enabled India to export four times as much rape-seed as in the previous year. Earthnuts, after a series of bad crops, were exported in large quantities, and exports of cotton-seed increased from 225,000 to 2,036,000 hundredweight. The crops of gingelly, poppy, and castor were also abundant, but in 1902 the crops of oil-seeds were generally poor. Rice exports increased rapidly till 1895, but since then there has not been much surplus for export, and 70 per cent. of what there is comes from Burma. The wheat harvest in 1901 was poor except in Sind, which furnished the whole of the export of 67,000 tons, and in 1902 the harvest again averaged low. The jute-crop was heavy and 14,755,000 hundredweight was exported, half of it to England and the rest to the United States, France, and Germany. In 1902 the crop was poor, not much exceeding the requirements of Indian mills, which manufacture as much as the European mills. Jute and its manufactures taken together form the most important of India's exports. Gunny-bags, over 230,000,000 in number, were exported to Australia, Great Britain, China, the United States, Singapore, Chile, and Germany, and 419,000,000 yards of cloth, of which the United States took 273,000,000 yards. Exports of raw cotton amounted to 5,700,000 hundredweight, which went to Japan, Germany, Italy, and China. Cotton manufactures in Bombay recovered from a long depression, and exports of yarn rose from 118,000,000 pounds in 1901 to 272,000,000 pounds in 1902, of which 95 per cent. went to China, constituting more than half the requirements of the Chinese mills, while Japan furnished a fifth and China the rest. The raw skins exported went mainly to the United States, hides to Germany and other countries, leather and dressed skins to England. Poor seasons and the competition of the cheaper drug of western China reduce the exports of opium. The indigo-crop was poor and the area in Bengal was reduced two-fifths on account of the competition of artificial indigo, but in Madras there was a larger crop. Shipments, having averaged 148,000 hundredweight, declined to 102,000 hundredweight in 1901 and less than 90,000 hundredweight in 1902. Exports of tea were 180,000,000 pounds, 10,000,000 pounds less than in 1901, with lower prices. Overproduction brought on a crisis which the planters try to overcome by reducing the output of common grades, improving qualities by finer plucking, and promoting the demand both in India and in foreign countries, where Ceylon tea makes more headway at present. India exports coal to Ceylon, Aden, and Singapore, and only Indian coal is used now on the railroads. Shellac goes to the United States in greater quantity than to any other country. Coffee, small in quantity, though good, goes to England and France, but the price declined. Tobacco is grown and exported in increasing quantities in the manufactured and the raw state. Exports of hemp increase. Pepper advances in quantity and value. Manganese ore is preferred to the Russian, and the foreign demand is growing. Exports of raw silk increased in 1902, and France took over half. Silk goods, wool, shawls, rugs, and teak show a

decrease. The Government operations in the precious metals were small compared with the abnormal transactions of 1901, but private imports of silver increased.

Navigation.—The number of vessels in the foreign trade entered at the ports of British India during the year ending March 31, 1901, was 4,232, of 4,225,242 tons, of which 2,000, of 3,333,480 tons, were British; 622, of 92,236 tons, British Indian; 969, of 59,386 tons, native; and 641, of 740,140 tons, foreign. The total number cleared was 4,070, of 4,044,188 tons, of which 1,935, of 3,197,027 tons, were British; 587, of 88,981 tons, British Indian; 958, of 58,695 tons, native; and 590, of 699,485 tons, foreign. The number arriving by way of the Suez Canal was 531, of 1,384,993 tons; and cleared for ports beyond the canal, 808, of 2,010,787 tons. In the coasting-trade 99,033 vessels, of 10,404,105 tons, were entered and 91,004, of 10,421,286 tons, cleared with cargoes. There were 86 vessels, of 4,540 tons, built in India in 1901, and the number first registered was 122, of 12,207 tons. Of the vessels built at Indian ports 46 were built in Bombay, 16 in Sind, and 16 in Madras.

Railroads, Posts, and Telegraphs.—The total length of railroads in operation in the beginning of 1901 was 24,707 miles, of which 5,859 miles were owned and operated by the Government, 12,335 miles were state lines operated by companies, 1,305 miles were guaranteed lines, 2,267 miles were assisted lines, 1,602 miles were lines owned by native states worked by companies, 208 miles were lines belonging to native states worked by the Indian Government, 1,157 miles were lines owned and operated by native states, and 74 miles were foreign lines. The capital of the Government railroads operated by the state was 891,151,975 rupees; of Government railroads leased to companies, 1,395,506,127 rupees; of guaranteed lines, 670,958,145 rupees; of assisted lines, 167,335,501 rupees; of lines belonging to native states, 160,904,092 rupees; of foreign lines, 17,627,520 rupees; total, 3,303,483,360 rupees for existing lines, besides which 8,913,365 rupees were subscribed for new lines and 15,114,112 rupees represent the coal-mines and unclassified expenditure, including surveys, making a total capital expenditure of 3,327,510,837 rupees. The receipts of all the railroads in 1900 amounted to 315,967,327 rupees; operating expenses, 150,995,875 rupees, being 47.79 per cent. of the gross earnings; net earnings, 154,124,192 rupees, being 4.99 per cent. on the capital; number of passengers carried, 174,824,483, paying 102,644,273 rupees; tons of freight, 43,615,289, paying 204,094,792 rupees. The guaranteed lines have been taken over by the Government, except the Madras Railroad, which cost £11,607,973, and the Bombay, Baroda, and Central Indian Railroad, which cost £10,397,910, and in 1906 and 1908 these will be transferred. In 1870 the Government gave up its claims for the repayment of interest advanced under the guarantees and the companies their right to more than half the surplus profits. British investors have over £200,000,000 in Indian railroads. There were no profits for the Government until it took the guaranteed lines. In 1900 the railroads of India for the first time brought a profit to the state, a small surplus of £58,000, which grew to £767,000 in 1901. There were 567 miles built in 1901, making the total mileage 25,373 miles, five times as great as it was in 1871. The average net profits on all Indian railroads was 5.26 per cent. in 1901. Many of the lines were built for famine protection and for strategic purposes, and some of these yielded a profit, while some purely commercial lines earned as much as 9.50 per cent. The Bengal and Assam Railroad,

constructed principally to benefit the tea districts in which much English capital is invested, was extended with difficulty over the hills into the Brahmaputra valley as a strategic railroad for the defense of the northeastern frontier, and the original estimate of £4,180,000 and the time of construction were doubled. The military lines from Jamrud to Peshawar and from Dargai to Nowshera were completed in 1901. The latter line has developed considerable trade between the frontier province and the recently hostile countries from which the occupying Indian garrisons were withdrawn, though trade with Kabul continues to decline, owing to restrictions imposed by the late Ameer. The line from Mandalay northward, which was originally intended to penetrate the Chinese province of Yunnan, will stop at Lashio, 50 miles short of the Salween river, but is expected to be of advantage in developing the northern Shan states. A line from Pegu to Moulmein has been surveyed and a line from Quetta to Nushki will be built, with a prospect of continuing it into the Persian province of Seistan. The Bengal and Nagpur Railroad taps the Jheriah coal-fields and affords a new outlet to Calcutta and Bombay. While English coal was abnormally dear the railroads had a large traffic in Indian coal. The general traffic has grown steadily since 1893. In 1901 there were 195,000,000 passengers carried, 10 per cent. more than in 1900. The increase was in third-class passengers, who pay average fares of less than a farthing a mile. The removal of plague restrictions and the disappearance of famine enabled many more natives to travel. The working expenses in 1901 were 48.81 per cent. of the gross earnings, having been diminished from 48.74 per cent. in 1897.

The post-office in 1900 forwarded 521,664,746 letters, newspapers, and other mail-matter; receipts, 19,624,722 rupees; expenses, 17,733,705 rupees.

The Government telegraph-lines on April 1, 1900, had a total length of 52,909 miles, with 170,766 miles of wire. The number of messages in the financial year was 6,237,301; receipts, 12,489,684 rupees; expenses, 10,890,819 rupees.

Financial and Economical Conditions.—Indians assert that there are two Indias—English India and the India of the natives. The native and unofficial members of the Viceroy's Council, whether they think that famine is due to the assessment of land revenue or to other causes, plead for a reduction of taxes, especially since the rupee has been made dearer by the currency laws, and consider that the cost of the army and defenses, which are to a great extent intended for the protection of the British Empire against enemies of Great Britain, ought to be shared by Great Britain or the army reduced, especially the British troops in India. The Government denied that the people of India were overtaxed, arguing that when revenues were elastic the taxes could not be excessive. That the people were exceedingly poor was admitted, and that the cultivators were running deeper in debt. Lord Curzon places the average annual income at 20 rupees a head. The average expenses of a farmer's family are 95 rupees a year. It is estimated that 40,000,000 of the people of India live their whole lives in a half-starved condition and 50,000,000 more subsist solely on the coarsest cereals and vegetables. The estimated total indebtedness of the farming population is £230,000,000, averaging £1 6s. a head. The famine commissioners found that in Bombay one-fourth of the cultivators had lost possession of their land and were mere serfs of the money-lenders, and that not one in five was free from

debt. The same conditions prevail throughout India. The investigations into land revenue showed that where assessments were lowest the people were most in debt, and from that the conclusion was drawn that the land tax was nowhere excessive. The system of exacting prompt payment in years of drought the same as in years of plenty was condemned, although it has been the British policy in India from the beginning, and the Government decided not only to remit arrears of land revenue altogether or postpone collection in the districts lately affected by famine, but for the future to introduce elasticity into the system of collection where it is required, as was the practise of the rulers who preceded the British in India and is generally customary with Oriental rulers. The Government has also undertaken to combat the evil of usury, which is transferring the land from the possession of the occupiers to that of a small class of money-lenders. In the Punjab and Bombay laws have been enacted giving courts power to review contracts of debt, and similar legislation is proposed for other parts of India. Agricultural banks are to be introduced experimentally. More restrictions are to be placed on the alienation of property. The Government continues to advance loans to the cultivators in the distressed districts. The drought of 1899 was considered by the Famine Commission, of which Sir Anthony McDonnell was president, to have been the severest that India had experienced. The crop losses in that season were over £50,000,000 in British India and £20,000,000 in the native states. The direct expenditure of the Government on relief up to March 31, 1901, was £6,300,000; agricultural advances and loans, £1,200,000; loss of revenue and indirect expenditure, £2,700,000, deducting £700,000 of additional receipts from railroads and canals. The excess of deaths due to famine was estimated for British India at 1,250,000. In the native states affected by famine population declined from 42,000,000 in 1891 to 36,000,000 in 1901, while in states not visited by famine, population increased over 12 per cent. The Indian Government loaned £2,333,000 to native states and guaranteed loans amounting to £700,000 to aid them in their operations of famine relief. Owing to the system of productive railroads the famines of 1897 and 1899 did not entail want of food in any district, as was the case in the Madras famine of 1877, the famine in Orissa in 1866, and all previous ones, but in the last two famines there was want of money to buy the surplus crops of the granary districts that the railroads brought into the stricken region. Careful and intelligent cultivation and incessant hard labor of men, women, and children do not prevent the peasantry from growing poorer and falling hopelessly in debt to the middle and higher classes, which are becoming richer. The argument in favor of a permanent settlement of the land throughout India, such as was made with the zemindars of Bengal, the Government meets by saying that the unearned increment, which the Government appropriates to itself by periodically raising the land taxes, would not be retained by the cultivators, but any extension of permanent settlements would multiply landlords to the detriment of the cultivators. Where the zemindari system has been established the Government generally limits its demands to half the net assets of the landlords, and has progressively reduced them in the Northwest Provinces, the Punjab, the Central Provinces, and Orissa, while laws have been enacted to protect rent-paying tenants against the landlords; where ryotwari, or peasant proprietary tenure under temporary settlements,

exists an assessment all round of one-fifth of the gross produce would be severer than the present assessments, which are half the net produce in Madras and Burma, not more than a tenth of the gross produce in the Central Provinces, less than a twelfth in the Punjab and the Deccan, and in Bombay, Assam, and all parts of India tend to diminish. The policy of settlements for longer terms is being extended. Where land is fully cultivated, rents are fair, and production is stable a readjustment is made only once in a generation; where rents are low, where there is much waste land and a fluctuating cultivation, or where the construction of roads, railroads, or canals, an increasing population, or rising prices cause resources to develop shorter settlements are necessary, but in order to leave more money to the landholder the Government has made the concession of taking the actual yield at the time of assessment, not the prospective yield, as the basis. Until the next revision the landowner enjoys all benefits arising from his improvements or the unearned increment accruing from outside circumstances. In Bombay and Madras special rules exempt improvements made by the enterprise of the cultivators from all future assessments, and rules are to be framed for zemindari provinces which will afford sufficient exemption of private outlay to stimulate the investment of capital in improvements. While some contend that only irrigation works or a rise in the price of produce can give a just right to increase assessments in ryotwari tracts, the Government claims the ancient right to share in the produce, and wherever there is an increase in the produce or in its value the state requires its share, though the right has been waived in some provinces and limited in others as regards increments due to the expenditure of labor or capital on the land. The Famine Commission found the incidence of land revenue moderate in good years except in Bombay. Among secondary causes of famine are enumerated subdivision of holdings, rack-renting by landlords and middlemen, the decline of indigenous industries, the usury of money-lenders, expenditure on litigation, extravagance in festivals, and payments of petty bribes. The famine fund, although diverted in war scares, has been repaid in famine relief amounting to £12,750,000, protective works costing £9,000,000, and reduction of debt to the amount of £1,500,000, so that at the end of twenty-five years only £1,750,000 of the £1,000,000 a year is owing. The excess of exports with which India pays the home charges of £16,000,000 a year is considered by many Indians to be the cause of gradual impoverishment and periodical famines. About £6,000,000 of these home charges are interest on capital, invested mainly in railroads and irrigation works, which pay the interest and earn a net profit besides; £6,000,000 are remitted to pay for civil and military services, which are officially regarded as more than equivalent to their cost, as the English *raj* has saved India from the internal strife by which she was formerly devastated and protected her from foreign invaders, and it secures justice and promotes the welfare of the people in various ways; £1,000,000 are remitted in payment for stores; and £3,000,000 represent interest on the ordinary debt, which is less than it has been. The more extensive employment of natives in higher posts would lessen the drain for leave pay and pensions, but it rests with the supreme Government to judge how far such posts can be safely and efficiently filled by natives. The practise of charging India with the cost of maintaining troops sent out of India to fight the battles of

the British Empire in other countries has always seemed to Indians a rank injustice and in some cases these charges have been contested by the Indian Government. After an investigation by a royal commission on Indian expenditure and a long discussion between the Indian Government and the British treasury officials, an arrangement was come to recognizing that India has sole interest in punitive expeditions on her borders, a direct and substantial interest in questions affecting Afghanistan and adjacent parts of central Asia, in questions affecting Siam, in questions affecting Persia and the coasts and islands of Arabia and the Persian Gulf, and in the security of the Suez Canal and the maintenance of established government in Egypt as affecting that security, and the interest in keeping open the Suez Canal might extend to the coasts of the Red Sea, but not to the Soudan or the upper Nile. In East Africa there may be a modified interest, and there is in questions affecting China and the Malay peninsula. In Japan or islands east and south of China, in the African coast south of Zanzibar or any part of Africa west of the Cape of Good Hope, or in Europe as a rule India has no direct or substantial interest in the employment of forces, and if cases arise in which the two governments do not agree no contribution shall be made by India until the sanction of Parliament is obtained. When disputes arise as to the interpretation of the agreement, or minor points of difference, the Lord Chief Justice, Lord Alverstone, will for the next three years be the arbitrator. By recommendation of the commission an annual charge of £260,000 has been transferred from the Indian to the imperial treasury.

The Indian revenue prospered even in the famine year ending March 31, 1901, when instead of the expected deficit of £826,000, there was a surplus of £1,670,000, not counting £3,100,000 of profits from the enormous coinage of rupees. The budget for 1902 figured out a surplus of £690,000, but owing to the withdrawal of troops for South Africa and China the actual surplus reached £4,900,000. The money saved was spent in rearming the Indian army. For 1903 it was decided to remit taxes and make grants for the relief of provinces that had suffered from drought and for the promotion of industries to the total extent of £1,500,000, leaving still an estimated surplus of £837,000, which was increased in the revised estimate to £1,700,000. Notwithstanding the disbursements to meet famine distress, the accounts for the three years show a surplus of £8,300,000, and during the same period the Government has spent £20,000,000 on railroads and £2,000,000 on irrigation. Moreover, a special gold fund was established, including the investment of £3,600,000 in British consols, for the purpose of giving stability to exchange. The Government looks for an increase of income under the main heads of revenue except opium, but makes no remission of taxes for 1903 except arrears of the land tax where there were no crops on account of the drought. The customs revenue promises to increase with the steady growth of external trade, which advanced from £130,000,000 in 1891 to £163,000,000 in 1901. The customs duties are levied mainly on articles consumed by the poorer classes, whose friends ask not merely for a reduction of the salt duty, but remissions on other necessities, and especially the abolition of the excise duty on domestic cotton cloth, imposed for the benefit of the Lancashire manufacturers. The railroads, on which there was a loss in 1891 of £458,000 on 17,300 miles costing £151,000,000, returned a profit of £795,000 to the Government in 1901, when there were 25,300 miles

open and £235,000,000 invested. In the meantime the state has acquired the guaranteed railroads, worth £80,000,000, giving annuities running fifty years, and these annuities are paid out of ordinary revenue. The capital of the productive debt has been largely increased, but whereas the investments entailed a loss of £1,550,000 in 1891, they returned a profit of £800,000 in 1901, while in the same period the service of the non-productive debt diminished from £2,450,000 to £1,487,000, so that the annual debt charge has been reduced £3,323,000 in ten years. The revenue from opium fell in ten years from £8,000,000 to £4,000,000, and in 1902 to £2,600,000. The area of poppy culture has been increased, and the Indian Government is accused of trying by increasing production to make up for the lessened profit due to Chinese competition. After the Indian Government had in 1889 reduced the area under poppy cultivation on account of overproduction, the British Government in 1891 gave a qualified pledge to gradually reduce opium production, and in 1893 Parliament passed a resolution in that sense and authorized the appointment of a commission to study the question. The commission adopted the view of the Indian Government that the large revenue then obtained from opium could not be replaced and reported against a policy of prohibition or any action tending to the destruction, unasked by China, of the export trade in opium. The annual product of Bengal opium, owing to bad years and consequent reduction of area, averaged only 40,500 chests between 1890 and 1893, but in 1899, a good year with increased area, gave 51,700 chests, and in 1900 the manufactured product was 52,400 chests, equal to the average for the ten years preceding the report of the Opium Commission in 1893. The Government has reduced the export to China, and this with increased demand elsewhere has kept up the price, which averaged 1,361 rupees a chest in 1901, compared with the 1,037 rupees for 1891, when 57,000 chests were sold. The Government now restricts cultivation to an area sufficient to produce for export not more than an average of 48,000 chests a year. The salt revenue has been disappointing because improved facilities for transportation have not increased consumption. The deduction is that the tax keeps consumption down, and the Government contemplates making a large reduction in the tax if financial conditions continue to be favorable, not for the reasons advanced by the Indians, that it is an unjust tax on an article of prime necessity for the health and comfort of the people, but with the object of making the consumption of salt general, so that the tax may be reimposed when fiscal needs require it. The tax of 2 rupees per maund of 82 pounds imposed in 1882 was increased in 1888 to 2½ rupees, but the increase was described as temporary. The proceeds of the tax in ten years increased only from £5,500,000 to £5,800,000. The consumption per capita remained stationary, though it increased when the tax was lower. The civil and military estimates and general administration increased only £3,500,000, or from £32,000,000 to £35,500,000, in ten years, and when £3,300,000 saved in the debt charge is reckoned the increase to the taxpayer was only £200,000. Increased expenditure is contemplated in connection with education and police and allotments to provincial governments, and expenditure on the army, instead of being diminished, will be increased. The British garrison is to be augmented. The British soldiers will receive 2d. more a day. As to paying the extra 6d. to reenlisted men the Indian Government demurred, and

the question has been referred to arbitration. The army expenditure had already increased from an average of £130,000,000 before 1892 to an average of £153,000,000 a year. The expense of entertaining Indian potentates who visited England as public guests in the times of the East India Company and later was always defrayed out of the Indian revenue. This was changed when the Indian princes went to attend the coronation in 1902, but the English Government restricted the expenditure to £100,000. Deeming this entirely inadequate, the Indian Government offered to pay the excess. The British treasury later assumed the entire cost, but there was a dispute and much public criticism regarding the size of the bill, although this was the first coronation at which the sovereign of the British Islands was recognized as Lord Paramount of India, and eventually the cost was shared by both governments. For the coronation durbār to be held at Delhi on Jan. 1, 1903, the Indian Government appropriated £250,000.

The total revenue for 1902 amounted to £44,000,000 and expenditure to £39,000,000. For 1903 revenue was estimated at £42,500,000 and expenditure at £41,500,000. The sum allowed for remission of arrears to tenants was £1,250,000. There was an increase in the land revenue of £299,000 in the revised estimate for 1902 over receipts in 1901. Customs revenue showed an increase of £644,000; stamps, £147,000; the mint, £515,000; railroads, £1,750,000. In the estimates for 1903 the land revenue, counting remission of arrears, was reckoned at £680,000 less than in 1902; the mint receipts, at £482,000 less, as no rupees were to be coined; customs revenue, at £232,000 less, as a continuance of abnormal importation was not expected; railroad receipts, at £229,000 less, the extraordinary traffic being expected to subside. With the return of the troops the army expenses were increased £1,535,000, and there were increases for civil departments, including education and police, and for irrigation, so that with a decrease in provincial balances of £2,585,000, instead of an increase of £1,400,000 in the previous budget, the estimated surplus, which was £4,673,000 in 1902, fell to £838,000. The opium revenue showed an increase of £311,000 in 1902, and fell off again £680,000 in the estimate for 1903, owing to lower prices; the excise revenue, after increasing £119,000 in 1902, was taken at the same figure for 1903. The Indian Government is criticized for licensing the retail traffic in opium and Indian hemp and for introducing liquor of a quality so bad that it is not allowed to be sold to soldiers, which is made in Government distilleries and purveyed in licensed shops. The Government promised to investigate the conditions of the traffic in Assam after the tea-planters had complained of the demoralizing influence of the liquor shops. The labor question is always a pressing one in Assam. Only 3 per cent. of the people living there are laborers, and consequently the British planters have to depend on coolies brought from other provinces. The Government licenses labor contractors and places those who are unlicensed under severe restrictions. Native Indians accuse the planters of abusing their laborers in spite of the Assam labor act of 1882, for their protection, which fixed a minimum rate of wages. The labor supply actually diminished after the protective act went into operation, and this, combined with overproduction and the English duty on tea, brought on a crisis in the industry. There were over 1,000 tea-gardens, with 660,000 laborers, in 1900. The immigration in that year

was 62,733, about the average number, but in 1901 it fell to less than half that number and recruits grew continually scarcer. The Chief Commissioner of Assam, Sir Henry Cotton, in 1900 reported that the laborers were underpaid and badly treated; yet remunerative and inviting employment could alone attract Indians far from their homes into a region so unhealthy. The statutory rate was 5 rupees a month for men and 4 rupees for women for three years of the contract and 1 rupee more for the fourth year, working nine hours a day, with Sunday a holiday. A new act was passed in March, 1901, which was intended to lessen the expenses of recruiting labor for the planters and secure from them better wages for the laborers, viz., 6 rupees for men and 5 rupees for women for the whole contract period of four years. Their influence with the Government was stronger than that of the Chief Commissioner, and on the plea of depressed conditions of trade they secured a continuance for two years of the old rates and after that a scale of wages beginning at the same rates as before and rising by yearly increments to the proposed higher rates, which are given only in the last year, as before. The contract laborer has free housing and medical attendance, and must be supplied with rice at a certain price, while the employer can arrest him without warrant if he absconds and can have him punished as a criminal if he will not work. In the best gardens the laborers, after they are broken in and acclimatized, are allowed to cultivate a piece of ground and keep live stock, and thus contentedly settle down and gradually become merged with the peasantry of the country, although this prevents the laborer from working full time after he has become efficient, and consequently from earning full wages. In some districts the planters, in order to avoid the inconvenience and expense of Government inspection, have generally given up the advantages of the act and hire free labor at higher rates. It is so in the more accessible regions, but there is no supply of migratory or indigenous labor for the Brahmaputra valley, and there the penal act is in practical operation with all its abuses. The mortality among the laborers was 85 per 1,000, but during the chief commissionership of Sir Henry Cotton it was reduced to 48. In practice the laborers are often, by fines and other subterfuges, cheated out of their wages, illegally and cruelly punished, deprived of their rice at the statutory price, and turned out when sick. Sir Henry Cotton and native writers believe that the statutory wages are insufficient to obtain wholesome food, and that under the penal system as applied the laborers are oppressed in various ways, and therefore they would prefer to have the act abolished. The planters pay the cost of the journey to Assam, equal to six months' wages, and they pay much more for recruiting the laborers, who are often, with the bought aid of relatives or local officials, forcibly abducted. Hence the planters are charged with preferring to pay a high price for kidnaping men and women whom they can practically treat as slaves under the penal clauses of the act, by the favor of accommodating inspectors, to giving market rates for free labor hired in the open market. The emigrant laborer suffers sickness and fever for the first two years, but if he survives that period he becomes attached to Assam and seldom returns to his old home when the contract expires. The new law did not make contract labor in the tea-gardens more attractive to immigrants, as was proved by the rise of the prices for recruitment and finally the total cessation of immigration.

While the military policy of the Indian Government has undergone no change and military charges continue to increase, while no attempts are made to reform the fiscal system or to introduce representative government, Lord Curzon, who has succeeded better than any of his predecessors in winning the confidence of both Anglo-Indians and natives, has adopted a safer frontier policy and has instituted inquiries having for their object reforms in the administration and important projects for the economic progress of the people. Commissions have investigated famine relief and prevention, the breeding of horses for farm and draft purposes, railroad building and management, irrigation, improvements in the general system of education and the universities, and the starting of industrial schools and technical colleges, the police, military decentralization, and the scheme of agricultural banks.

Frontier Disturbances.—In the new Northwest Frontier Province the policy of blockade has been adopted against border tribes that give trouble instead of that of punitive expeditions. Tribal allowances are paid for keeping open the passes, maintaining order, and punishing crime. The tribes are independent, and any form of government or whatever ruler any particular tribe chooses to have the Government of India is willing to acknowledge and deal with. Tribal levies receive pay and arms as militia employed to defend the Indian frontier against external attack. Whenever any tribe commits depredations or breaks the peace its allowances are withdrawn and all trade and intercourse with it are cut off until it makes peace. A blockade against the Mahsud Waziris, who failed to pay fines due for various offenses and were held collectively liable, the plan of making the head men responsible for order having been abandoned, was conducted by Col. C. C. Egerton from Dec. 1, 1900, till Nov. 1, 1901, without producing the desired results. A series of raids, with 1,000 to 2,000 men, who seized sheep and cattle and destroyed crops and villages, in four months brought the tribe to terms of peace, with a prospect that they would remain peaceful in order to earn the allowances that the Government promised them. The casualties of the blockade were 31 killed and 113 wounded. The garrisons holding Kuram pass and the Samana range on the frontier of Kohat were withdrawn in April and their places taken by subsidized tribal militia, the frontier railroad having been completed through Kohat. The regulars were concentrated at Nowshera, Kohat, Bannu, Dera Ismail, and other posts connected with the base by railroad. The Kabul Khel Waziris of Yagistan, whose country is on the Afghan border between the Tochi and Kuram valleys and between the British posts of Bannu and Thal, carried on predatory raids and blood feuds until it became necessary to chastise them. The guilty persons, when a demand was made for their punishment or surrender, invariably escaped over the frontier into Khost, and however willing the Afghan officials at Kabul might be to give them up, it was useless to demand of the Ameer's Pathan soldiers on the spot that they should betray their kinsmen. The officer who had conducted the campaign against the Mahsuds, now Major-Gen. Egerton, on Nov. 17 led out a force of 3,500 men with mountain guns, divided into four columns. Col. Tonnochy's column met a stubborn and unexpected resistance in storming one of the strong towers of the Waziris at Gumati, and the commander was fatally wounded, another officer killed, and three others were wounded. Reinforcements were sent and several villages notori-

ous for harboring outlaws were destroyed. The boundaries between India and Afghanistan in this region have been demarcated. All the territory formally annexed to India in 1902 was an area of 350 miles on the border of Tibet.

INDIANA. (See under UNITED STATES.)

INTERNATIONAL CONFERENCE OF AMERICAN STATES. The first International American Congress was held in Washington in 1889 and 1890, for the purpose of "discussing and recommending for adoption to their respective governments some plan of arbitration for the settlement of disagreements and disputes that may hereafter arise between them and for considering questions relating to the improvement of business intercourse and means of direct communication between said countries, and to encourage such reciprocal commercial relations as will be beneficial to all and secure more extensive markets for the products of each of said countries." The outcome of this conference, though judged a failure by many, was the creation of an association under the title of The International Union of American Republics, to be represented by an Executive Committee at Washington under the supervision of the Secretary of State of the United States, forming a bureau to be known as the Commercial Bureau of the American Republics. This International Union was to continue in force for ten years from the date of its organization. As the international conference made no express provision for the meeting of subsequent conferences, the provision that the International Union, through the bureau, should be conducted for the period of ten years under the plan then adopted, was regarded as an implication that at about the expiration of that period another conference would be held. Consequently the first official action looking to the assembling of a second conference was taken by the late President McKinley, who, in his annual message to Congress of Dec. 5, 1899, after referring to the interest taken by all the states forming the International Union in the work of its organic bureau, and the assurance that the bureau would continue for another ten years, suggested that it seemed expedient that the various American republics be invited at an early date to hold another conference, and that it should be held in the capital of one of the countries other than the United States.

In pursuance of these suggestions, the Secretary of State addressed a circular note to the diplomatic representatives of all the American republics accredited in Washington, proposing that the second conference be called to meet as soon as possible. In conversation with the Mexican ambassador, he informed him that it would give the United States Government much pleasure if the City of Mexico should be selected as the place of meeting, and the Mexican Government shortly afterward, through its Minister of Foreign Relations, announced that it would greatly appreciate the honor that would be conferred upon it by the selection of its capital as the place for holding the conference. This led to the selection of that city as the place of meeting, and on Aug. 15, 1900, the Mexican Minister of Foreign Relations addressed a note to the government of each of the American republics, inviting them to send delegates to the proposed conference, the date being fixed for Oct. 22, 1902. This invitation was at once accepted by all the countries with the exception of Chile, the Government of which replied that she could not do less than accept the ideas of the proposed conference as expressed by President McKinley, but, referring to the former conference, said that, regardless of the program naming the subjects proposed for dis-

cussion, a project on arbitration had been presented which was in direct contradiction with it, and was distasteful to her, for which reason the Chilean delegation had to abstain absolutely from taking part in the deliberations at that time. Consequently, before accepting the invitation, Chile insisted upon a clearly defined program, which could not lend itself to the stirring up of offensive questions, nor take up pending or past questions in which any of the states were interested. A tentative program being formed by the Executive Committee of the International Union and submitted to the countries, Chile replied that she would assist with pleasure, provided that, in conformity with this program, the proposed conference would not take upon itself the adoption of resolutions of a retroactive character relating to actual or past questions concerning any of the republics invited. This reply was considered at an executive meeting, and resolutions were adopted informing Chile that the tentative program in reference to arbitration "meant prospective, and in no wise retrospective, for the differences that may arise among the American republics at a date posterior to the date of the exchange of the treaty of arbitration that the conference may adopt." This reply was satisfactory to Chile, and she at once accepted, congratulating the committee on the elimination from the tentative program of all vexatious questions.

Mexico was lavish in her preparations for the entertainment of her guests. One end of the old palace of the viceroys, which flanks one side of the Zocolo, or great plaza, was fitted up for the assembly rooms of the conference in a most elaborate and artistic style, with a buffet, where lunches, wines, and liquors, and even cigars, were served without charge, and tips to waiters were prohibited. The arrival of the delegates at the capital was followed by an almost continual round of invitations to theaters, banquets, operas, and excursions. The conference was called to order by Señor Mariscal, Mexico's Minister of Foreign Relations, who delivered an address in which he referred to the results of the first congress and predicted success for the second. He spoke of Mexico's confidence in the friendly character of the gathering, and welcomed the delegates in the name of his Government and the people of Mexico. His speech was replied to by Señor Alzamora, chairman of the Peruvian delegation, reechoing his sentiments, refuting energetically any discord, and thanking the Government and people of Mexico for their hospitable welcome. The conference then elected a temporary chairman, and proceeded to its permanent organization by the election of Señor Mariscal and Hon. John Hay as honorary presidents; Señor Genaro Raigosa, of Mexico, president; Señor José Higinio Duarte Pereira, of Brazil, first vice-president; and Señor Baltasar Estupinian, of Salvador, second vice-president.

In anticipation of the opening of the conference, the Mexican delegation had prepared a project of rules and regulations governing the sessions, which provided for the appointment of 19 committees to take up the work and report upon the various projects before the conference. As no provisions had been made for the admission of press representatives to the sessions, this matter was taken up after the appointment of the various committees, and it appeared to be productive of the first friction among the delegations. Mexico explained that the omission of provision for press representatives was owing to scarcity of room, while Delegate Alzamora, of Peru, in a speech favoring the admission of the press, in

addition to giving out fairly full reports by the secretary of the conference after each session, said in part: "The public does not want merely a precise and cold relation of the propositions of the conference, but they wish to feel its pulsations moment by moment, which will give them some idea of its moral features. The subjects before the assembly are of public interest; they affect popular governments, and they should be made known through the press, which is the authorized organ of public opinion. Consequently the Peruvian delegation desires to have the press representatives admitted to the sessions, although the number may be limited."

Chile appeared to oppose the admission of the press, but later declared that she merely stood by Mexico in basing her objections on the scarcity of room, and she even went so far as to insinuate that Peru, in favoring the admission of the press, did so with the object in view of appearing as the champion of the press representatives. Señor Baez, of Paraguay, championed the cause of the press even more than Alzamora, saying that the press is an institution that forms a part of the political organism; in the same manner as the jury and other free institutions which have been adopted by the American republics, and he hoped that the admission of the press representatives would be a stimulus to the delegates, who more than once would receive useful advice from that very press. Señor Matte, of Chile, then moved that the press representatives be admitted in such number and in accordance with such regulations as the president should determine, which was precisely what Señor Alzamora had expressed; whereupon Señor Alzamora rose and in a dramatic manner declared that "principles were everything, and persons nothing," that once they had arrived at a certain conclusion, it made no difference whether it came from one delegation or another. His original motion was lost, while the motion of the Chilean delegate was carried, the United States, Mexico, and Hayti being the only votes cast in the negative. The delegations of the Argentine Republic, Venezuela, Ecuador, and Paraguay explained that they gave their votes in the affirmative because they considered the Peruvian and Chilean propositions equal.

After the election of officers, appointment of the committees, and adoption of rules and regulations, with a few minor recommendations, the conference adjourned for two weeks to allow the delegates and certain press representatives who had been admitted to the sessions to accept the invitations extended to them by the states of Puebla and Vera Cruz, to visit them for the purpose of forming an idea of their advance in industrial pursuits, arts, and sciences during Mexico's recent years of peace. A special train was provided for the excursionists, and they were winned and dined by the people of Puebla for several days, and inspected cotton-mills, breweries, tobacco factories, and a penitentiary which would be a credit to any country. From Puebla they were taken across the high table-lands to the point where the railroad winds down the mountainside back and forth, furnishing one of the most magnificent views of scenery perhaps in the world, into the state of Vera Cruz. At Orizaba, they were banqueted and inspected more cotton-mills, one at Rio Blanco representing an investment of \$18,000,000, and employing 3,200 persons in spinning, weaving, dyeing, and printing cotton, and turning it out in imitation of the finest French fabrics, even to the labels of the imported article. They were shown a jute-mill where the raw material from India is manufactured into sack-

cloth, rugs, carpets, etc., a brewery turning out a very fine product with the best machinery known, and a cigar factory where the guests were treated to boxes of cigars rivaling those produced in Cuba, and then they were taken farther down the coast to a great coffee plantation, at which a sumptuous banquet was prepared for them and there was music and good cheer.

When the conference reconvened in Mexico city, the president announced the receipt of a telegram from President Castro of Venezuela, replying to the offer of the conference to mediate in the conflict that appeared inevitable between that country and Colombia. This offer of mediation was one of the first acts of the conference, made on the motion of the delegation of the Argentine Republic, seconded by those of Bolivia, Brazil, Paraguay, Peru, and Uruguay. Chile looked upon this as a determined plan on the part of the above-named countries to establish a precedent by which an analogous mediation could be proposed in her questions on the Pacific with Peru and Bolivia, and consequently the motion was earnestly opposed by her delegates, who spoke one after the other against it, notwithstanding which it was adopted. Accordingly, a telegram was addressed to the presidents of each of the countries, tendering the good offices of the conference for the settlement of their difficulties. President Castro's telegram replied brusquely that his Government acted with a clear conscience in their affairs, understanding their own duties; and that the conference had no right to undertake to meddle in the differences between Venezuela and Colombia. Although this reply was received by President Raigosa during the adjournment of the conference, it was so carefully guarded by him that no word or hint of it was given out till the reassembling of the conference, when it was read in secret session, with the result that it fell upon the South American combination against Chile like a shower of cold water, while Chile regarded it as a triumph for her.

The strained feeling between the other South American countries and Chile culminated a little later, when, in a long essay by Cecilio Baez, of Paraguay, setting forth the opinions of his delegation in regard to obligatory arbitration, the most striking part of which was the lamenting of the terrible effects of war, and while admitting that there were wars called to diffuse civilization and to assure the reign of liberty and independence of a people, it was declared that there were others which nations carry on with the object of extending their frontiers or merely because they feel themselves strong and wish to put down their weaker neighbors. This declaration fell as a shot aimed directly at Chile; but when the secretary treated it as a digression from the order of the day by announcing that the discussion of the report of the Committee on International Bank and Monetary Exchanges was before the session, the Chilean delegate, Señor Matte, declared that he saw with pleasure that practical discussions were to begin, leaving aside platonic ones that were calculated to sow discord within the conference; that inasmuch as the delegation of Chile had come with the intention of giving preference to questions that were calculated to unite, and not divide the members of the assembly, it could only applaud the proposed resolutions offered by the Committee on Banking; and he urged that the congress should keep aloof from all digressions, limiting itself to the discussion of purely practical questions with effective results. To this Señor Bermejo, of the Argentine Republic, replied that, in his opinion,

arbitration was the main question to be treated by the conference; and that, in his opinion, it could not be said that any time had been wasted in listening to the Paraguayan's interesting speech. As it was evident that the South American opposition to Chile did not intend to let the matter be passed over, Señor Walker-Martínez, for Chile, made a few remarks which brought forth at once requests to be heard by delegates of Chile, the Argentine Republic, and Paraguay, whereupon the president announced that the hour fixed for adjournment had elapsed, and the session was adjourned. This day's proceedings promised to disturb the peace and harmony of the deliberations, if not to result in the withdrawal of certain of the delegates; but in the interval between the adjournment and the following session other delegates used their influence upon those who were desirous of continuing the discussion, and at the following meeting Señor Baez, on taking the floor, said he understood that both the chairman and the delegates desired the incident closed, and therefore he renounced his right to the floor, and regretted that any remarks by him should have given rise to any unpleasantness; and thus the incident was closed, the other members who had asked the floor withdrawing their requests.

A gloom was cast over the conference by the sudden death of the first vice-president, one of its most esteemed members, the Brazilian delegate, Señor José Higinio Duarte Pereira. The Hall of Sessions the morning after his death was draped in mourning, and resolutions were adopted adjourning the assembly till after the funeral. The body of the dead delegate was taken to the hall, where it lay in state a day and a night, covered with floral wreaths and decorations, tributes from the various delegations. Members of the press joined with the delegates in taking their turn guarding the body during the long hours of the night, and on the following day it was interred with becoming ceremony by the Mexican Government, President Díaz in person leading the funeral *cortège*.

It was the expectation of many of the delegates that the conference would finish its labors by the middle of December, thus enabling them to return to their homes for the Christmas holidays, but the middle of December found them with little actual work accomplished. There was a general feeling that the United States delegates should have taken more of an initiative in advancing the work. One of the Latin-American delegates even declared on the floor that it was useless to continue the discussion of the committee report on the project before the assembly unless the position of the United States was clearly defined upon the subject. This lack of initiative on the part of the United States delegates was the result of President Roosevelt's instructions, which instructions, contrary to the advice of Mr. W. C. Fox, acting director of the Bureau of American Republics, were not made public. The delegates themselves objected to the instructions being made public, and later brought their influence to bear upon Mr. Fox to have him reverse his opinion as to the advisability of their publication. President Roosevelt, in these instructions, after pointing out that the chief interest of the United States in relation to the other republics was the safety and permanence of the political system that underlies their and our existence as nations, and that it should be the effort of our commission to impress upon the representatives of our sister republics that above all we desire their material prosperity and their political security, said that "it is not,

therefore, opportune for the delegates of the United States to assume the part of leadership in the conference, either in its official organization or in its discussions, a position which naturally belongs to Mexico, the inviting nation and host of the occasion." It was desirable, he said, that the plans and propositions of the Latin-American states should be solicited, received with consideration, and, if possible, brought to fruition; and great care should be taken not to wound the sensibilities of any of the republics or take sides upon issues between them. He warned the delegation to proceed with great caution with respect to political differences subsisting between the states, the general principle being to enter as little as possible into these questions, at the same time it being useful to impress upon all the deep interest which the Government of the United States has in the peace and tranquillity of all the American states and their territorial integrity.

The sessions dragged on through the month of December, during which the nervous strain caused by the important question of arbitration was apparent. Several times it appeared to be the rock upon which the conference was to be wrecked. While Chile had insisted from the very inception of the congress that she did not purpose to assist at a conference where she would be open to attack by her enemies, for which reason she insisted upon the tentative program being defined as not bringing up vexatious questions, nor the arbitration of past differences, on the other hand her South American neighbors appeared determined to force upon her the disagreeable project of obligatory arbitration. Mexico, in trying to act as peacemaker, incurred the animosity of both parties, and it was said that while she promised Chile that she, to her, disagreeable subject should not be brought up in the conference, she agreed to sign the obligatory arbitration project in the committee report, in which case the Chilean delegates accused her of duplicity and double-dealing, which they would expose on the floor of the conference if she persisted in signing the project. Mexico, fairly driven into a corner, hesitated to act; and she was accused by the South American combination of having no blood, and, mid threats to withdraw from the conference, several of the delegations remained away from the sessions. Mr. Buchanan worked incessantly and propounded various measures to get the delegations together on the subject and prevent the conference from going to smash, when a note of alarm was sounded in open session, about the middle of January, by the presentation of a proposition, signed by nearly all the delegations, proposing a slight change in the rules and regulations, which Chile, not having been consulted in the matter, took as part of a determined plan to cut her out of the proceedings. This led to the Chilean delegate, Walker-Martinez, leaving the hall in a rage, the president having refused to adjourn the session upon his calling attention to the fact that the hour for adjournment had passed. But immediately afterward, on motion of Mr. Pardo, one of the Mexican delegates, recognizing the right of the Chilean delegate to ask for time to study the proposed change in the regulations, the meeting was adjourned. At the following session, Mr. Walker-Martinez explained his reasons for leaving the hall, expressing, by a few words, in the time necessary for him to walk across the floor, his severe opinion of the conduct of the chairman. His few words, he said, were changed in the columns of a certain newspaper into a series of observations and strictures regarding Mexico, which nation he could not possibly

involve in reproach, whatever might be his opinion regarding the conduct of the president of the conference. Finding himself in discord with Mr. Raigosa, he should have acted as he would have acted in the parliament of his own country; but as he was a foreigner and, like every other delegate, was indebted to Mexico for its hospitality, he could not ask a vote of censure, for which reason he was compelled to leave the hall quietly. There was a difference of opinion between the president and the speaker, but the time when the incident happened had passed, and he fully accepted the minutes of the previous meeting. Immediately upon the adoption of the minutes, the secretary read a note addressed to the president by the delegations of the Argentine Republic, Bolivia, Colombia, Costa Rica, the Dominican Republic, Salvador, the United States, Guatemala, Hayti, Honduras, Mexico, Nicaragua, Paraguay, Peru, and Uruguay, saying that they had signed a protocol in which they declare that the principles established in the convention of The Hague should be considered as American public law, and that the governments of the United States and Mexico had been entrusted with the mission to negotiate their adherence to said treaties accompanying the text of the resolutions approved, in order that they be sent through the secretary to the Mexican Minister of Foreign Relations, so that the resolutions be duly executed. This was in accordance with a well-defined plan agreed upon outside of the conference in order to avoid the discussion that had so long threatened the disruption of the conference. But Chile, determined to have her way, through her delegate, Mr. Blest Gana, requested that before giving the customary ruling, the president should order the reading of a project on the same subject presented by his delegation, since said project coincided in ideas and desires with the treaty that had been read. He concluded by saying it was with great pleasure that he saw that his ideas were shared by the majority of the delegations represented. Mr. Carbo, for Ecuador, said he was a partizan to the adherence to the treaty of The Hague, and that he had not signed the protocol presented because the instructions he had from his Government did not allow him to sign anything outside of the conference. The president replied to Mr. Blest Gana that the chairman was obliged to have the documents presented to the secretary in the order in which they were received, and that the Chilean project would be read in its turn. When the secretary announced this ruling, a stormy discussion ensued, and the president said that as the ruling of the chairman had been attacked, the assembly would be asked whether it would approve the ruling or not. But before this was put to a vote Mr. Walker-Martinez, for Chile, questioned the right of any of the delegations to sign the protocol of any treaty outside of the conference, and a long discussion on this point ensued. Gen. Reyes, of Colombia, said his delegation was one of the 15 signing the protocol, and when he attached his signature to it he believed that in that way all kinds of obstacles would be avoided; but as these obstacles unfortunately had increased he proposed that the proposition submitted by the Chilean delegation be read, together with that presented by the 15 delegations on the same matter, and a report be submitted thereon. It was finally proposed by the Chilean delegation, in order to overcome the difficulties and facilitate the termination of the matter, that the following proposition be accepted by the conference.

"The Chilean delegation takes as its own the

project of adherence to the convention of The Hague, signed by 15 delegations, and submits it to the consideration of the conference, in order that as soon as it may be approved it be transmitted by the secretary to the Department of Foreign Relations of Mexico."

Mr. Carbo, for Ecuador, entreated the conference to accept this proposition. The discussion being continued without any apparent hope of reaching an end, the president said that, in view of the constant censures made by Mr. Walker-Martinez on the rulings of the chairman, he was obliged to break the silence which his official capacity as president imposed upon him not only to determine the precise matter under debate, but also to appeal to the delegation of Chile, on whose answer would depend the ruling that the chairman would make and the course that would be given to the discussion. He said the only thing under debate was the previous ruling, and concluded by asking the delegation of Chile to be good enough to say if it withdrew its opposition to that ruling. As Chile refused to do this, the discussion of the ruling was continued. Two days were taken up in the stormy discussion without the question of the ruling being brought to a vote, when a happy solution at last was devised by Mr. Buchanan, of the United States, who said that the minutes of the conference for the two days past showed, in the remarks officially made by each of the Chilean delegates and by the delegate from Ecuador, their entire and hearty concurrence in the principles of The Hague convention, and their cordial and unqualified acceptance thereof. These facts were therefore on record, and to the end that these expressions of adherence on the part of the two delegations might have the proper, courteous, and consistent weight and voice given to the similar expressions made in the protocol on the part of the other delegations, he requested the president, in the name of those delegations, with the consent of those of Chile and Ecuador, to transmit with said protocol the minutes of the two past days referred to, in order that the protocol and said minutes should be communicated to the Mexican Minister of Foreign Relations, and that the documents be communicated to the respective governments as an expression of the general adherence to the conventions of The Hague. Chile and Ecuador announced their acceptance of this proposition because it fulfilled the desires expressed by them in the course of the debate. This part of the question on arbitration being closed, the secretary read a note addressed to the president by the delegations of the Argentine Republic, Bolivia, the Dominican Republic, Guatemala, Salvador, Mexico, Paraguay, Peru, Uruguay, and Venezuela, in which they announced that they had concluded a treaty of compulsory arbitration besides the one of adherence to the conventions of The Hague, and that they sent the said treaty to the conference in order that it should transmit it to the Department of Foreign Relations of Mexico to be perfected. The president ruled that this treaty be transmitted to the Department of Foreign Affairs for the purpose stated, and the all-important question of arbitration was closed, after which the work of the conference was speedily brought to an end. On the afternoon of Thursday, Jan. 30, all remaining business being disposed of, a vote of thanks was extended to the secretaries of the various delegations, as also to the press representatives; farewells were said, and complimentary remarks and a general feeling of good-fellowship prevailed. Closing remarks were read by the president, after which it was an-

nounced that there would be a closing session on the following afternoon to which the friends and families of the delegates and their secretaries were invited. These closing exercises took place after a sumptuous banquet given at Chapultepec by the Peruvian delegation. A farewell speech was read by Señor Mariscal, Mexico's Minister of Foreign Relations, after which the delegates, their secretaries, and the press representatives and their families were escorted to the other end of the palace, where they were congratulated on their good work by President Diaz, who took leave of them all, shaking hands with them as they passed out.

The work of the conference is represented by the following protocol, treaties, conventions, resolutions, and recommendations:

Protocol of adhesion by the American republics to the convention for the pacific settlement of international disputes signed at The Hague July 29, 1899; treaty of compulsory arbitration signed by 10 delegations; treaty for arbitration of pecuniary claims; resolution favoring construction of the Pan-American Railway; resolution providing for an international customs congress; resolutions for consideration by the customs congress of means to facilitate American international commerce; resolution on quarantine and international sanitation; resolution providing for reorganization of the International Bureau of the American Republics; resolution providing for collection and publication of more complete information regarding the sources of production and statistics of the American republics; resolution providing for an international American congress to consider the crisis in the coffee industry; recommendation for establishment of an international American archeological commission; resolution approving the construction of an interoceanic canal by the Government of the United States; recommendation for establishment of an international American bank; resolutions of greeting to the future Republic of Cuba; recommendation in favor of the Philadelphia Commercial Museum; resolution approving the Louisiana-Purchase Exposition; resolution congratulating the officials of the Pan-American Exposition and the citizens of Buffalo; resolution communicating to the American republics the invitation of the International Association of Olympic Games to participate in the games to take place in Chicago in 1904; resolution thanking Gen. Rafael Reyes, of Colombia, for his work in exploring the river systems of South America, and commending his work to the several governments; resolution congratulating Mr. Santos-Dumont, the Brazilian aeronaut; resolution expressing esteem for Mr. Carlos Calvo, the Argentine writer on international law; resolution thanking the officers of the conference; resolution thanking the President of Mexico and other officials for their hospitality to the conference; treaty for extradition of criminals and for protection against anarchy; convention for practise of the learned professions; convention for formation of codes of public and private international law; convention on literary and artistic copyrights; convention for exchange of documents and government publications; treaty on patents and trade-marks; convention on the rights of aliens; resolution providing for future international American conferences; and a convention signed by the delegations of the Argentine Republic, Bolivia, Colombia, Ecuador, Paraguay, and Uruguay for a geographical congress at Rio de Janeiro.

It is believed that the results of the conference will be of great and lasting benefit to the nations

participating in its deliberations. That the relations between the American republics have been improved as a result, can not be doubted, as is clearly demonstrated by the change of sentiment on the part of the Latin-American countries and their representatives since the convening of the first conference twelve years ago. The countries then looked upon the project of an international conference, coming from the United States, with distrust and suspicion, believing that it was a scheme of the United States to extend its expansion over those countries; but the delegates returned to their homes fully satisfied that the United States was inspired only by a desire for their safety and well-being. At the second conference, instead of the United States being looked upon with distrust, just the reverse happened, the tendency of all the countries being to regard our country as the big brother who should take the lead in their various projects and deliberations, and guide them with a benevolent and protecting hand. The intimate daily association for nearly four months of representative men from every American republic tended toward this result, and the careful way in which the United States delegates avoided meddling with, or giving any opinion upon the political differences between the other states, convinced them of our determined policy that they maintain their political autonomy, and our desire, above all, for their material prosperity. Some of the projects and resolutions are doomed to remain in the air, owing to a little want of foresight on the part of their projectors, who failed to put them in the hands of some permanent committee or board to attend to the details of carrying them out, as was done with the proposed coffee congress, the custom-house congress, and the congress of sanitation. It was recognized, however, that the action of the conference on many matters could not be final, and that it ought to be followed up by further action at a subsequent congress, and consequently it was decided that not more than five years should intervene between the adjournment of this and the meeting of a third, unless it should be found, at the expiration of five years, that a postponement is desirable. The resolution passed to this effect specified that the congress should meet at a place to be selected by the Secretary of State of the United States and the diplomatic representatives in Washington, who should prepare the program and arrange details for the meeting.

IOWA. (See under UNITED STATES.)

ITALY, a kingdom in southern Europe. The throne is hereditary in the line of Savoy by male descent in the order of primogeniture. The reigning King is Vittorio Emanuele III, born Nov. 11, 1869, only son of Umberto I and Queen Margherita, daughter of Prince Ferdinando of Savoy. He succeeded to the throne in consequence of the assassination of his father on July 29, 1900, married on Oct. 26, 1896, Princess Helena, daughter of the Prince of Montenegro. The legislative authority is vested in the Parliament, consisting of a Senate and a Chamber of Deputies. The Senate had 348 members in 1901, including 5 royal princes who are Senators by right of birth. Senators are appointed from among citizens who have held high office or attained distinction in science, art, literature, or have conferred benefit on the nation in other pursuits. The number of Senators who may be appointed is not limited by law. The Chamber of Deputies contains 508 members, 1 to 64,000 inhabitants, elected in separate districts by all male citizens twenty-one years of age who have an elementary education or pay

a certain amount of taxes or rent or occupy a shop or farm or have served two years in the army. Soldiers in active service are debarred from voting and salaried officials and ecclesiastics from sitting in the Chamber. The parliamentary period is five years. The Cabinet in the beginning of 1902, first constituted on Feb. 14, 1901, was composed as follows: President of the Council, Giuseppe Zanardelli; Minister of the Interior, Giovanni Giolitti; Minister of Foreign Affairs, Giulio Prinetti; Minister of the Treasury, Signor di Broglio; Minister of Finance, Paolo Carcano, appointed Aug. 9, 1901; Minister of Justice and Ecclesiastical Affairs, Francesco Cocco-Ortu; Minister of War, Gen. Count Coriolano Ponza di San Martino; Minister of Marine, Vice-Admiral Constantino Enrico Morin; Minister of Commerce, Industry, and Agriculture, Guido Baccelli, appointed Aug. 4, 1901; Minister of Education, Nunzio Nasi; Minister of Public Works *ad interim*, Signor Zanardelli; Minister of Posts and Telegraphs, Tancredi Galimberti. Count Giussio afterward was made Minister of Public Works.

Area and Population.—The area of Italy is 110,646 square miles. The population at the census of Feb. 9, 1901, was 32,449,754, showing an increase of 0.73 per cent. per annum since 1881, as compared with 0.619 per cent. in the previous ten years and 0.40 per cent. between 1861 and 1871. With the exception of 90,000 of Albanian, 90,200 of French, 31,200 of Greek, 30,000 of Slavic, 11,400 of German, and 9,800 of Spanish origin settled in various parts of the country all the inhabitants of Italy are of ancient Italian stock. The number of marriages in 1900 was 232,631; of births, 1,067,376; of deaths, 768,917; excess of births, 298,459. The number of emigrants in 1900 was 352,782, of whom 181,047 went to other countries in Europe, 87,714 to the United States, 42,720 to the Argentine Republic, Uruguay, and Paraguay, 27,438 to Brazil, 1,686 to Canada, 2,523 to Mexico, Colombia, Venezuela, and Central America, 409 to Chile, Peru, and Bolivia, 3,137 to America without designation of their destination, and 904 to other countries. Of the total number 199,573 declared their emigration to be temporary. This was the case of nearly all who left for other European countries, although many of these decide later to emigrate to America and embark in foreign ports. Of the total of emigrants 23,322, including 15,282, went from Piedmont; 3,804, including 328 temporary, from Liguria; 21,401, including 16,678 temporary, from Lombardy; 104,910, including 100,931 temporary, from Venetia; 22,594, including 19,429 temporary, from Emilia; 21,971, including 16,146 temporary, from Tuscany; 9,381, including 2,926 temporary, from the Marches; 2,415, including 1,900 temporary, from Umbria; 1,489, including 1,253 temporary, from Lazio; 22,932, including 4,296 temporary, from Abruzzi and Molise; 49,970, including 11,812 temporary, from Campania; 4,936, including 367 temporary, from Apulia; 10,797 from Basilicata; 23,328, including 6 temporary, from Calabria; 28,838, including 7,530 temporary, from Sicily; 694, including 689 temporary, from Sardinia. The population of the chief Italian towns on Feb. 9, 1901, was as follows: Naples, 563,731; Milan, 491,460; Rome, 463,000; Turin, 335,639; Palermo, 310,352; Genoa, 310,352; Florence, 204,950; Bologna, 152,009; Venice, 151,841; Messina, 149,823; Catania, 149,694.

Finances.—The budget estimate of revenue for the year ending June 30, 1902, was 1,811,924,509 lire. The ordinary receipts were estimated at 1,732,167,444 lire, and the extraordinary receipts at 79,757,065 lire. The ordinary expenditures

were estimated at 1,627,033,526 lire, and the extraordinary expenditures at 163,926,253 lire; total expenditures, 1,790,959,779 lire. The revenue from railroads was reckoned at 88,832,200 lire; from real property, 11,152,000 lire; from other state property, 1,586,000 lire; from the land tax, 100,840,000 lire; from income tax, 290,715,000 lire; from the tax on buildings, 89,400,000 lire; from succession duties, 37,500,000 lire; from registration, 59,000,000 lire; from stamps, 68,000,000 lire; from various taxes on transactions, 58,640,000 lire; from excise duties, 103,000,000 lire; from customs, 211,050,000 lire; from *octrois*, 52,325,000 lire; from the tobacco monopoly, 201,000,000 lire; from the salt monopoly, 75,500,000 lire; from lotteries, 67,500,000 lire; from quinin, 1,440,000 lire; from the post-office, 64,000,000 lire; from telegraphs, 15,500,000 lire; from other public services, 23,024,100 lire; repayments, 24,585,570 lire; various receipts, 24,627,000 lire; total effective receipts, 1,669,217,470 lire; *recettes d'ordre*, 62,949,974 lire; total ordinary revenue, 1,732,167,444 lire. The effective extraordinary receipts were 5,584,237 lire; receipts on account of railroad construction, 232,537 lire; movement of capital, 5,378,840 lire from sales of land, etc., 43,497,000 lire from new loans, etc., and 25,064,451 lire from compensation, etc.; total extraordinary revenue, 79,757,065 lire. The expenditure for the service of the consolidated debt was 478,226,196 lire; service of redeemable debt, 60,129,183 lire; service of floating debt, 121,756,522 lire; railroad annuities, 26,288,150 lire; fixed annuities, 5,759,000 lire; civil list and appanages, 16,050,000 lire; Senate and Chamber of Deputies, 2,177,000 lire; various expenditures of the Treasury, 14,845,360 lire; *dépenses d'ordre* of the Treasury, 8,076,363 lire; collection of taxes, 75,941,841 lire; monopolies, 89,524,220 lire; various expenditures of the Finance Ministry, 23,752,084 lire; *dépenses d'ordre* of the Finance Ministry, 30,231,864 lire; Ministry of Justice, 41,327,301 lire; Ministry of Foreign Affairs, 16,392,461 lire; Ministry of Public Instruction, 48,476,268 lire; Ministry of the Interior, 67,936,582 lire; Ministry of Public Works, 38,338,841 lire; Ministry of Posts and Telegraphs, 68,560,694 lire; Ministry of War, 264,877,132 lire; Ministry of Marine, 118,318,016 lire; Ministry of Agriculture, Industry, and Commerce, 10,047,548 lire; total ordinary expenditures, 1,627,033,526 lire. The extraordinary expenditure of the Ministry of the Treasury was 84,247,862 lire; of the Ministry of Finance, 9,007,891 lire; of the Ministry of Justice, 19,600 lire; of the Ministry of Foreign Affairs, 24,000 lire; of the Ministry of Public Instruction, 635,431 lire; of the Ministry of the Interior, 3,718,569 lire; of the Ministry of Public Works, 53,988,884 lire; of the Ministry of Posts and Telegraphs, 551,516 lire; of the Ministry of War, 4,076,000 lire; of the Ministry of Marine, 4,498,540 lire; of the Ministry of Agriculture, Industry, and Commerce, 3,157,960 lire; total extraordinary expenditures, 163,926,253 lire. In the category of effective revenue and expenditure receipts were calculated at a total of 1,674,801,707 lire and disbursements at 1,620,590,602 lire, showing a surplus of 53,211,105 lire; under the head of construction of railroads receipts were 232,537 and expenditures 17,533,927 lire, leaving a deficit of 17,533,927 lire, and under the head of movement of capital 88,652,739 lire of expenditures to 73,940,291 lire of receipts left a deficit of 14,712,448 lire. The ordinary revenue is 105,133,919 lire in excess of the ordinary expenditure as estimated in the budget, while the extraordinary revenue falls short of the extraordinary expenditure by 84,169,188 lire.

The capital of the consolidated and redeemable debt on July 1, 1900, amounted to 12,645,289,334 lire. The annual interest was 579,855,494 lire. The interest on all the debts, including the permanent annuity of 3,225,000 lire due to the Holy See and 11,850,000 lire on treasury bonds and other floating debt, amounted in 1901 to 588,634,644 lire and the sinking-fund of the redeemable debt amounted to 2,506,905 lire. The 5-per-cent. perpetual *rentes* amounted to 400,392,409 lire, 3-per-cent. *rentes* to 4,803,262 lire, 4½-per-cent. *rentes* to 60,384,131 lire, and the 4-per-cent. *rentes* to 7,741,256 lire, making the annual charge of the consolidated debt 473,321,058 lire. The debts separately inscribed called for 11,735,598 lire for interest at 3 to 5 per cent. and sinking-funds of 443,099 lire extinguishing them between 1907 and 1961. Other redeemable debts required 88,502,988 lire for interest at 3 to 6 per cent. and 2,063,806 lire for their sinking-funds, which will extinguish them between 1902 and 1986. For several years the Government has aimed to create such confidence in the stability of Italian finance that it will be able to convert 9,000,000,000 lire of consolidated debt into 3½-per-cent. stock at par. Baron Sonnino restored the financial equilibrium, and for eight years there has been a constant surplus, even with some remissions of taxation, bringing the credit of the Italian Government up to the level of that of the richest nations in Europe. Signor di Broglio, a Conservative, was taken into the Zanardelli-Giolitti Cabinet as Minister of the Treasury as a guarantee that a cautious financial policy would be still pursued. His resistance to the demands of his colleagues grew so weak, however, that a deficit was escaped by a narrow margin in 1902, when abnormal wheat importations and some more solid improvements brought an increase of 12,500,000 lire in the revenue, but disbursements were increased nearly 25,000,000 lire. For 1903 he committed himself to 12,500,000 lire of additional expenditure. The year ending June 30, 1901, showed a surplus of nearly 50,000,000 lire, and one of 25,000,000 lire was predicted for the next year, but half of this disappeared in supplementary estimates and the cost of militarizing railroad employees and mobilizing one class of the reserves to avert a railroad strike was 9,500,000 lire, reducing the surplus to 3,000,000 lire. In the summer the treasury issued 100,000,000 francs of 3½ per cent. to take up floating debt. It was sold at 96 to Italian banks and brokers and rose almost to par in Paris where Italian Government securities are marketable again after many years. The condition of the state banks in Italy has become satisfactory and the premium on gold almost disappeared in 1902. The general prosperity of the country has helped much to uplift the Government credit, in conjunction with rigid economy enforced by Ministers Sonnino, Luzzati, Boselli, and Rubini, and expanding production and good crops are not the only factors in this prosperity; other causes, which have helped to promote industrial expansion and agricultural betterment, are the enormous amount of money remitted or brought home by Italian emigrants and the increasing amount spent by tourists in Italy.

The Army.—All able-bodied Italians are bound to military service between the ages of twenty and thirty-nine. The annual levy is divided into 3 categories. Those who are drawn by lot in the first category, or who volunteer, serve two or three years with the colors and five to seven years on leave in the permanent army, then three or four years in the mobile militia, and seven years in the territorial militia; except cara-

bineers and non-commissioned officers, who serve five years with the colors and four years on leave in the permanent army and ten years in the territorial militia. Conscripts of the second category are enrolled in the permanent army for eight or nine years, in the mobile militia for three or four years, and in the territorial militia for seven years, but receive only from two to six months of training. Those of the third category have one month of instruction and are inscribed at once in the territorial militia, the final reserve which has garrison duty to perform in case of war. In 1899 the number of recruits examined was 364,747, of whom 102,422 were assigned to the first category, 16 to the second, 96,956 to the third, 87,166 were put back, and 78,187 were found unfit for service. In 1900, by a special act of Parliament, all young men called up for service who did not of right belong to the third category as the props of their families, were assigned to the first category. Non-commissioned officers who after completing their term of five years continue in the service for twelve years receive posts in Government employment. The army is organized in 12 corps: 1st, Turin; 2d, Alexandria; 3d, Milan; 4th, Genoa; 5th, Verona; 6th, Bologna; 7th, Ancona; 8th, Florence; 9th, Rome; 10th, Naples; 11th, Bari; 12th, Palermo. The Roman corps has 3 divisions, the others 2 divisions, each comprising from 2 to 7 of the 88 military districts. The officers are generally graduates of the military colleges. There are 13,572 active officers in the permanent army, 291 retired, 11,162 supplementary officers on leave, 843 auxiliary officers for the mobile militia, and 4,118 effective and 6,263 reserve officers for the territorial militia; total, 13,863 officers in the permanent army, 11,997 reserve officers, and 10,381 officers of the territorial militia. The rank and file of the permanent army in active service in 1900 numbered 249,821 of all arms, comprising 24,760 carabinieri, 124,794 infantry, 15,477 bersaglieri, 11,989 Alpine troops, 874 in military districts, 22,342 cavalry, 31,435 artillery, 8,812 engineers, 1,377 in military schools, 2,811 sanitary troops, 2,189 in the commissariat, 156 in the invalid and veteran corps, 2,423 in penal establishments and disciplinary companies, and 382 in remount depots. The troops of the permanent army on unlimited leave were 4,721 carabinieri, 269,487 infantry, 31,100 bersaglieri, 21,699 Alpine troops, 10,403 in military districts, 28,738 cavalry, 80,483 artillery, 21,211 engineers, 10,052 sanitary troops, 4,297 commissary troops, and 10,064 in the police, railroad, and telegraph services; total, 492,255. The mobile militia consisted of 366 carabinieri, 192,104 infantry, 21,082 bersaglieri, 14,299 Alpine troops, 3,656 unassigned, 46,891 artillery, 12,592 engineers, 7,758 sanitary troops, 2,901 commissary troops, and 6,117 in the police, railroad, and telegraph services. The total number of men enrolled in the ranks of the territorial army was 2,222,637, making the total war strength of the army 36,241 officers and 3,308,650 non-commissioned officers and men. In Africa a special corps is maintained consisting of 1,062 Europeans and 5,787 native troops, besides 755 irregulars. The infantry weapon of the Italian army is the Carcano-Mannlicher rifle of the model of 1891, having a caliber of 6.5 millimeters and a magazine holding 6 cartridges. The territorial militia is provided with Vetterli rifles.

The Navy.—The Italian fleet in 1901 consisted of 3 second-class and 4 third-class battleships, 8 armored cruisers, 5 old battle-ships, 12 protected cruisers, 15 torpedo-gunboats, 5 destroyers, 11 first-class, 100 second-class, and 71 third-

class torpedo-boats, and 1 submarine boat. The barquette ships *Lauria*, *Andrea Doria*, and *Francesco Morosini*, of 11,174 to 11,324 tons, built in 1884 and 1885, and at that time accounted the most formidable vessels afloat, each carrying 4 17-inch guns, are now antiquated. The refitted and rearmed *Dandolo*, of 12,265 tons, armed with 2 10.8-inch guns in turrets, with 6 6-inch guns and 5 4.7-inch quick-firers, is considered more effective, and they are surpassed by the *Ammiraglio di Saint Bon* and *Emanuele Filiberto*, of 9,800 tons, launched in 1897 and armed with 4 10-inch guns in barbettes and 8 6-inch and 8 4.7-inch quick-firers. The first-class battle-ships *Regina Margherita* and *Benedetto Brin*, launched in 1901, having a displacement of 13,500 tons and a speed of 21 knots, with engines of 18,000 horse-power, and 8-inch steel plates, will carry 4 12-inch guns in turrets and a quick-firing armament of 4 8-inch, 12 6-inch, and 8 3-inch guns. Two other turret-ships, the *Regina Elena* and *Vittorio Emanuele III*, will have a displacement of 12,625 tons, 10 inches of armor, engines of 20,000 horse-power to give a speed of 22 knots, and an armament of 2 12-inch guns and 12 8-inch and 12 3-inch quick-firers. The protected cruisers *Italia* and *Lepanto*, of 15,654 and 15,900 tons, launched in 1880 and 1883, are to be reconstructed, and their 100-ton guns are to be replaced with 10-inch or 12-inch breech-loaders, as has been done in the *Dandolo* and will be in other vessels armed with these monster cannons. The *Re Umberto*, *Sardegna*, and *Sicilia*, launched in 1888, 1890, and 1891, of 13,893, 14,860, and 13,298 tons, were the fastest and most powerfully armed cruisers of their time, carrying pairs of 67-ton guns in barbettes fore and aft and 8 6-inch and 16 4.7-inch quick-firers, but with an armor belt only 4 inches thick. The *Marco Polo*, of 4,583 tons, launched in 1892, and the *Vettor Pisani* and *Carlo Alberti*, of 6,500 tons, launched in 1895 and 1897, were likewise designed for quick maneuvering, speed, and weight of fire, the former carrying 6 6-inch and 10 4.7-inch, the two latter 12 6-inch and 6 4.7-inch quick-firers. In the new *Varese*, *Giuseppe Garibaldi*, and *Francesco Ferruccio*, of 7,400 tons, the armament consists of 1 10-inch turret-gun and 2 8-inch, 10 6-inch, and 6 4.7-inch quick-firers, while their speed is 20 knots, equal to that of the others. In the later Italian vessels due attention is paid to protection. The *Ammiraglio di Saint Bon* and *Emanuele Filiberto* have a complete 10-inch belt and 3-inch decks, and the later vessels have a complete belt at the water-line and their batteries protected down to the base. The armor is the Terni system and is strong enough at all points to keep out shell, though pervious to heavy shot. The *Vittorio Emanuele* and *Regina Elena* have 10 inches on the water-line and the turrets, 8 inches on the bulkheads, and 6 inches over the 8-inch guns. A program of construction to be completed in 1912 requires the expenditure of 203,000,000 lire on the vessels not yet completed and 5 more armor-clads of 10,000 tons to be built before 1905; from that date till 1909 the expenditure of 139,000,000 lire on 5 more 10,000-ton armor-clads, 1 smaller one, 2 auxiliary ships, and 11 torpedo-boats to replace some that are obsolete; and from 1909 to 1912 the expenditure of 77,000,000 lire to replace obsolete ships. The retrenchments forced upon the Government by its financial embarrassments necessitated the sacrifice by Italy of her rank as a first-class naval power, and only a few years of parsimony left the fleet antiquated and ineffective. When the financial position improved sufficiently the Ministry of Marine gave its at-

tention first to reconstructing and rearming the old vessels, and next to building a few new ones that would give Italy a modern navy, though not of the ambitious kind that she had when her ships and her guns were the biggest in the world. In 1900 the Government began to replace the superannuated vessels. In 1902 the annual allowance for ship-building was increased to 29,000,000 lire for five years. The appropriation for 1903 was applied to fitting out the *Benedetto Brin* and *Regina Margherita* and the cruiser *Francesco Ferruccio*, completing the *Vittorio Emanuele* and *Regina Elena*, and beginning 3 battle-ships of the same type. The Italian navy has contained a variety of ingenious designs, but uniformity of type is now considered desirable. One of the earliest submarines was built in Italy, and now after the other naval powers have adopted them the constructors of the navy are authorized to try their ingenuity on a new one.

Commerce and Production.—The production of wheat in 1900 was 45,030,000 hectoliters; of corn, 30,400,000 hectoliters; of rice, 5,950,000 hectoliters. The yield of olive-oil was 1,493,000 hectoliters; of wine, 29,900,000 hectoliters; of citrus fruits, 2,852,000,000 in number. The wheat-crop for 1901 was estimated at 52,000,000 hectoliters. The annual production of silk cocoons is about 50,500,000 kilograms; of silk, 4,470,000 kilograms. The production of sugar in 1900 was 30,820 metric tons, and in 1901 it was estimated at 55,000 tons. The mines in 1900 yielded 247,276 metric tons of iron ore, 6,014 tons of manganese ore, 25,800 tons of ferro-manganese ore, 95,824 tons of zinc ore, 35,103 tons of lead ore, 584 tons of silver ore, 5,840 tons of gold ore, 7,607 tons of antimony ore, 33,230 tons of quicksilver ore, 6 tons of arsenic ore, 4,005 tons of mixed ores, 71,616 tons of iron and copper pyrites, 479,896 tons of mineral fuel, 3,628,613 tons of sulfur ore, and minor quantities of salt, graphite, boric acid, petroleum, asphaltum, etc., the total product of 1,103 mines of all kinds, employing 67,748 persons, being valued at 85,060,000 lire. The marble-quarries employ 7,500 men, and their product is worth 32,831,000 lire per annum. The number of fishing craft in 1900 was 23,668, of 60,259 tons, including 185, of 1,791 tons, employed in coral fishing. The number of fishermen was 83,834, and of these the number engaged in deep-sea and foreign fishing was 8,446. There were 1,348 boats, of 15,399 tons, employed in the deep-sea fisheries in 1900, of which 160, of 2,352 tons, fished for coral. The value of fish caught in Italian waters in 1899 was estimated at 12,759,684 lire. The tunny-fish landed in Italy were valued at 2,564,099 lire. The quantity of coral was 391,127 kilograms, value 1,800,595 lire.

The special imports of merchandise in 1900 were valued at 1,700,235,665 lire; special exports, 1,338,246,253 lire. The imports of coal were 207,781,500 lire in value; raw cotton, 150,908,085 lire; wheat, 143,117,620 lire; machinery, 89,318,073 lire; raw and twisted silk, 74,406,350 lire; lumber, 54,578,100 lire; raw hides, 43,208,970 lire; wool, 42,821,940 lire; fish, 30,522,230 lire; horses, 29,284,800 lire; leaf tobacco, 22,221,312 lire; iron and steel bars, 21,429,992 lire; olive-oil, 17,994,333 lire; coffee, 16,207,085 lire; kerosene, 16,079,514 lire; raw sugar, 13,863,685 lire; linen and hemp yarn, 10,296,305 lire; cheese, 5,938,940 lire; cotton yarn, 5,128,606 lire; railroad materials, 4,009,120 lire; silkworm eggs on cards, 2,513,500 lire; cotton prints, 2,567,725 lire; dyed cotton cloth, 1,503,255 lire; bleached cotton cloth, 1,072,235 lire; indigo, 2,084,800 lire; unbleached cotton cloth, 546,145 lire; refined sugar, 327,744 lire; rice, 4,020 lire.

The value of raw and thrown silk exported was 349,061,500 lire; silk waste, 31,632,150 lire; cocoons, 1,431,960 lire; wine in casks, 57,378,248 lire; eggs, 50,035,440 lire; sulfur, 47,434,711 lire; hemp and flax, 43,937,737 lire; olive-oil, 31,936,708 lire; coral manufactures, 22,411,420 lire; raw skins, 21,583,935 lire; meat, fresh and salted, 17,000,185 lire; marble, 17,454,310 lire; cattle, 16,596,490 lire; rice, 16,467,445 lire; zinc ore, 12,305,700 lire; straw plait, 9,816,000 lire; cereals, 9,384,860 lire; dyes and tans, 7,794,871 lire; hogs, 3,978,610 lire; raw cotton, 2,610,400 lire; lead ore, 710,190 lire. The imports of precious metals in 1900 were 7,244,000 lire; exports, 16,553,500 lire. The values in lire of imports of merchandise from and exports to the principal foreign countries in the special trade of 1900 are given in the following table:

COUNTRIES.	Imports.	Exports.
Great Britain.....	81	100
Germany.....	25	100
United States and Canada.....	22	100
France.....	14	100
Austria.....	11	100
Switzerland.....	1	100
Russia.....	1	100
Argentine Republic.....	1	100
India.....	1	100
Turkey and Balkan States.....	1	100
Belgium.....	1	100
Spain.....	1	100
Egypt.....	1	100
Brazil.....	1	100
Central America.....	1	100

Navigation.—The number of vessels entered at Italian ports during 1900 was 103,601, of 30,107,329 tons; cleared, 103,439, of 30,148,455 tons. At Genoa 5,938, of 4,833,260 tons, were entered and 5,926, of 4,816,550 tons, cleared; at Naples 6,093, of 3,356,435 tons, were entered and 6,073, of 3,357,595 tons, cleared; at Leghorn 4,080, of 1,761,643 tons, were entered and 4,082, of 1,770,116 tons, cleared; at Messina 3,348, of 1,083,244 tons, were entered and 3,346, of 1,681,573 tons, cleared; at Palermo 3,372, of 1,658,848 tons, were entered and 3,378, of 1,669,662 tons, cleared; at Venice 3,097, of 1,288,940 tons, were entered and 3,105, of 1,302,776 tons, cleared; at Catania, 3,349, of 1,245,954 tons, were entered and 3,345, of 1,245,526 tons, cleared.

The merchant navy on Jan. 1, 1900, consisted of 5,665 sailing vessels of over 50 tons, having an aggregate tonnage of 658,224 tons, and 409 steamers of over 100 tons, having an aggregate tonnage of 873,064 tons.

Railroads, Posts, and Telegraphs.—The length of railroads on Jan. 1, 1900, was 9,610 miles. The number of passengers carried in 1899 was 57,914,709; tons of freight, 1,482,016 tons by express and 22,370,910 tons by slow trains. The passenger receipts were 112,882,545 lire. The total gross earnings were 305,764,483 lire, and expenses 216,847,919 lire. Most of the railroads belong to the Government, but since 1885 they have been leased to private corporations for sixty years, or for forty or twenty years if the Government exercises its option of terminating the contracts earlier.

The post-office in the year ending June 30, 1899, carried 276,921,850 postpaid letters and postal cards, 46,432,041 Government letters, 8,455,358 manuscripts and documents, 287,042,103 newspapers and printed enclosures, and 11,844,531 money-orders of the total amount of 887,921,232 lire.

The length of telegraph-lines belonging to the Government on June 30, 1899, was 24,459 miles, with 80,123 miles of wire; of railroad lines, 1,908

miles, with 22,340 miles of wire. The number of paid domestic telegrams in 1899 was 7,896,081; foreign telegrams, 1,164,403. The length of telephone-lines was 280 miles, with 375 miles of wire; number of conversations in the year, 111,772. The receipts of the post-office in the year ending June 30, 1899, were 59,667,014 lire; of telegraph offices, 14,611,268; total expenses, 58,990,597 lire.

Politics and Legislation.—Zanardelli, the last surviving statesman of the historic Left, took the premiership, and the supple Giolitti became Minister of the Interior after Gen. Pelloux, the last of a series of Conservative ministers who had trouble with the revolutionary parties, himself appointed to deal in military fashion with revolutionists and labor organizers, nearly provoked a revolution with his public safety bill. The Radical Minister had to rely on Socialist support, and its guiding principle was, not the prevention of social disturbance, but the repression of disorder. The Socialists organized labor unions and leagues of resistance throughout the country without interference from the Government. The agricultural laborers formed leagues. The labor party increased to over 1,000 sections with over 50,000 members. Strikes took place everywhere, at the rate of 1,000 a year, often successful; but only one was accompanied with violence, and only then did the Government interfere.

The traditional Radicalism of Signor Zanardelli and the Socialistic affiliations of Signor Giolitti were reflected in the speech from the throne delivered by King Vittorio Emanuele at the opening of Parliament on Feb. 20. In the reference to foreign relations the Government could boast with better reason than its predecessors of being in a position to defend Italian interests by fidelity to alliances and cordial bonds of friendship and of securing the esteem of foreign nations by a policy mindful of every right and duty. The Government promised to reduce the price of salt and to build extensive public works for the development of Apulia and Naples. The separation of religion from the civil powers was to be maintained, the clergy honored when confined to the sanctuary. The Radicals were expected to introduce divorce in Italy, since France and other Catholic countries have divorce laws now, but the action of Count Giusso, a Conservative member of the Cabinet who leaned toward Clericalism in resigning because his colleagues contemplated a divorce bill, though they were not ready to introduce it immediately, not having prepared the country for such an innovation, precipitated the bill, which was described as a proposal to deal, in harmony with the common law of other nations, with the ideal principle of the indissolubility of civil marriage and to reform by just regulations the law which deprives illegitimate sons of any right to a name and a career. A bill on judicial reform was intended to secure a higher degree of respect for the magistracy and confidence in the administration of justice. Labor legislation occupied a prominent place in the program. In addition to the increase by a recent law of the old-age pension fund and bills already submitted to Parliament, other measures were promised for relieving the working classes and developing social legislation, especially a bill on labor contracts. The happy consequences of the new civilization were said to be that labor is honored and strengthened by equitable compensation and prudent protection, raising the condition of those abandoned by fortune. The speech dwelt on the work of the Government for social justice and peace, on the pacification obtained

by the policy of harmonizing law and liberty because there was a rock ahead on which this policy must split, and the Government was compelled to take preventive measures in defiance of the Socialists, indicating its purpose by a reference to public peace, strongly protected. Among the many classes of laborers that formed unions were the railroad employees, who demanded of the companies higher wages and a classification and grading of their positions, with regular scales of pay and promotion. This organization of the men was a condition in the contracts when the companies leased the railroads, but had never been fulfilled. The Opposition watched with eager anticipation the development of a situation in which the Government must either break with the Socialists and resort to the Conservative policy of suppressing labor organizations in order to prevent strikes or face the consequences of a tie-up of the railroads. The ministers found a logical and legal way out of the dilemma and indicated their policy plainly enough in good time. The railroad employees were public servants, and if two or more of them combined to stop working they would commit an unlawful act. In their case it was the duty of the Government to prevent a strike, and a correlative duty was to bring pressure to bear to make the companies pay fair wages and to compel them, if necessary, to carry out the terms of their contract. The Socialists would not support a policy restricting in any way the right of workers to strike. They issued a declaration that the *bourgeois* Cabinet had enabled them to organize throughout the country and could offer nothing more worth having, hence they renounced the alliance and would be independent. They set up a candidate for president of the Chamber, and consequently the Government candidate failed to get an absolute majority of votes. Having no longer a majority to support them, the ministers on Feb. 21 offered their resignations to the King, who proposed to Signor Zanardelli the reconstruction of the Cabinet, as no other leader could form a combination and Signor Giolitti, who had secured Socialist support for the ministry, was bent on retiring now that this support was withheld. He was persuaded to remain, all the ministers yielding to the persuasion of the King. They decided to put their policy toward the railroad workers to the test of a vote of confidence. Labor disturbances in Turin in connection with a gas strike were met by strengthening the garrison. The threatened railroad strike was forestalled by an order placing on a military footing all railroad men who were liable to service and calling out one class of the army reserves. About 24,000 out of 86,000 railroad employees were under the age of forty and subject to the order of militarization, the effect of which was to place them under martial law and subject them to the penalty for desertion in case they left their posts. They wore badges to signify that they were under military orders, and, unlike the men who in 1898 in a similar contingency had been militarized in the same way, they received their pay as soldiers in addition to their wages on the railroads. The ultimatum of the railroad employees expired on Feb. 10, but the time was extended till March 4, as the railroad companies offered to raise wages to the extent of 1,700,000 lire a year and to discuss the question of fixed scales of rank, promotion, and salaries, which was already before the courts of law, the Government having brought suit to compel them to introduce such a system according to agreement. In 1905 the

railroad conventions will expire, and while the men aimed to strengthen their position before their renewal, the Government hesitated to bring pressure upon the companies lest any concessions gained from them now would be advanced as a ground for more lenient conditions to be given in the new contracts. The Government urged the companies to make concessions to the men. The companies offered to present a scheme of bureaucratic organization provided the Government would withdraw its suit. This the Government would not do. Besides the militarization of railroad employees, the Government called out the reserves of the class of 1878, some 55,000 men. On Feb. 23, on receiving a report that a strike was to be proclaimed immediately, the Government seized the telegraph-lines and for a day and a half let no private messages go over the wires, so that no strike orders could be sent. War-ships were sent to Naples, Leghorn, and Genoa to have marines present to aid the police. The railroad strike was settled by an agreement to pay the men 42,000,000 lire in increased wages, of which the Government contributes 33,000,000 lire and the companies 9,000,000 lire, in the next three years, after which the railroad conventions will be renewed and the men will formulate their demands for the future. When Parliament reassembled on March 10 the Opposition voted for the Government candidate for president, Signor Biancheri, who received 350 votes, while Signor Costa, the Socialist candidate, received 24. Thousands of peasants belonging to the agricultural Socialist leagues in the north of Italy, struck work, and Signor Giolitti, when charged by the Conservatives with permitting the growth of a subversive Socialistic movement, said that before social peace could be restored the wealthy classes would need to make more sacrifices to the just demands of the proletariat. On the question of confidence in the policy of the Government, a section of the Extreme Left once more voted with the ministerial party and 45 others abstained from voting, giving the Cabinet a majority of 250 to 158. The portfolio of Public Works was given on March 27 to Nicola Balenzano, a southerner, like Count Giusso. The reservists of 1878, who were called to arms for three months, became restive after the railroad troubles were settled, and in Piacenza, Milan, and other places they made public demonstrations in favor of immediate discharge. The Minister of War issued a circular ordering the prevention of further insubordination, and in the Senate endeavored to minimize the incidents, and said that discipline was restored. His own military prestige could not be restored, and on April 28 he resigned. Admiral Morin took charge of the department until a successor was found on May 14 in Gen. Giuseppe Ottolenghi. The immediate occasion of Gen. Ponzà's retirement was an altercation between Signor Giolitti and Gen. Pelloux by which the latter, a corps commander, deserved either a reprimand or justification. Gen. Pelloux, who had obtained a bill of indemnity for the militarization of railroad men by order of his predecessor, the Marquis di Rudini, argued that the present ministry ought to legalize their action in the same way. The Minister of the Interior was indignant that the legality of the proceeding should be called in question and accused the ex-minister of seeking to undermine discipline in the army. Agrarian strikes, which generally failed in the north, broke out in Apulia, where there was more misery, and the strikers became disorderly and were quelled by carabinieri. The Chamber authorized the ex-

penditure for an aqueduct from the Apennines through the province of Apulia to cost 200,000,000 lire, of which the state and provincial authorities contribute 125,000,000 lire and 75,000,000 lire will be furnished by a company which has the concession for ninety-nine years. This is the most important work yet undertaken in Italy, and another project for the development of the South is the improvement of communications between Rome and Naples. A score of bills were passed in haste just before adjournment on July 1. Early in the year, at the close of the previous session, Parliament sanctioned the gradual reduction of *octroi* duties on bread and flour, together with measures for compensating the consequent loss of revenue. The economical distress prevailing in the southern provinces, aggravated by these local duties and other fiscal burdens and by a temporary financial crisis resulting from easy credit at usurious interest, was caused by the destruction of forests, the injury wrought by the phylloxera among the vineyards, and depreciation of the olive-crop.

The trial of Raffaele Palizzolo, an ex-Deputy and man of wealth and influence in Sicily, which lasted eight months and resulted in his conviction and that of his agents in crime, and sentences of thirty years' imprisonment for each on July 30, was a victory of the Italian Government over the Mafia. Emanuele Notobartolo at the time of the bank frauds in 1893 was appointed by Premier Crispi president of the Bank of Sicily. Palizzolo, who was a director and one of the chief looters of the bank, procured his removal before he had completely unearthed the rascalities and fastened them on their authors. Public opinion compelled the Government to reappoint him, but on the journey to Palermo he was shot dead through the window of a railroad-carriage. The trainmen and all who might know, and even the police, as is usual when crimes against life occur in Sicily, helped to cover the tracks of the criminals. Lieut. Notobartolo hunted the murderer of his father for years, obtained proofs that Palizzolo had procured this murder and that of Francesco Miceli, steward of an estate that Palizzolo sought to acquire by fraud, and denounced him and his accomplices who committed the murders in 1899. The Sicilian judges pretended to investigate the case, and after several fruitless examinations the venue was changed to Bologna, where a jury found the three guilty. In Naples and Calabria the Camorra is as powerful as the Mafia in Sicily. A bandit named Musolini, who had combined robbery with private vengeance and pursued a career of blood for many years with the connivance of all the people in his district, was caught at last, and after a trial at Lucca was sentenced to imprisonment for life.

The laws and local government suited to Lombardy and Piedmont when extended to the old kingdom of Naples proved too complex and costly. The land tax has reached 39 per cent. of the valuation. Baron Sonnino proposed to reduce this one-half, and also the 34-per-cent. interest of mortgages held by the state banks, amounting to 100,000,000 lire. Premier Zanardelli's proposal is to reduce the land tax on small farms, new buildings, and lands which have been re-afforested, and to exempt from income tax new farm buildings, grazing land, and workmen's wages throughout Italy, and to reduce the salt tax. In strike riots at Candela soldiers were stoned and at Giaratana some of them were killed. They fired and killed many peasants, and the ministers who defended their action were assailed by the Socialists. But the Extreme Left

was no longer a solid phalanx of 100 members. It was divided into half a dozen warring factions. The Socialists, who denounced anarchists and ridiculed Republicans, were themselves divided into irreconcilable schools. The revolutionary Socialists, led by Prof. Ferri and Andrea Costa, who have been most active and numerous, were defeated in the party congress at Imola in October by the evolutionary or opportunist group, the leader of which, Signor Turati, had been read out of the party in the spring as too lax and lukewarm in his socialism. The question of divorce was brought forward by a Socialist who introduced a bill in Parliament, the principle of which was approved by members of all parties, even Conservatives, who considered it unjust that, while the wealthy can obtain recognition in Italian courts of divorces they have obtained in foreign countries or sometimes get a divorce in the form of an annulment of marriage by the Church, for the poorer classes marriage is indissoluble. The Premier deemed it imprudent to leave this question in the hands of the Socialists, especially since the Pope delivered an allocution against divorce and the Clericals started an agitation against divorce. A Government bill was introduced, but was not pushed forward because public opinion was not yet ripe.

Foreign Relations.—After the occupation of Tunis by France in 1881 with the consent of England and Germany, Italy appealed in vain to Austria and Germany to protect her Mediterranean interests, which were in no way guaranteed by the triple alliance. She complained of the French naval station of Bizerta as a menace to Sicily, and though her allies declined to intervene, France abstained from going on with the fortifications. A naval agreement was made with England in 1887, when the triple alliance was renewed, for the preservation of the *status quo* in the Mediterranean. In 1896 the convention with Tunis expired, and a new one was concluded with France in which French suzerainty over the regency was recognized and Italy abandoned her rights under the capitulations. In 1898 England offended Italy by recognizing as within the French sphere of interest the Tripolitan Hinterland. The Italian Government sounded the European cabinets with regard to an eventual occupation of Tripoli. Germany disclaimed any interest in the matter; France could recognize no right to appropriate a Turkish province and had no desire to occupy Tripoli herself, having given assurances to the Porte to that effect, but she had no interest in placing obstacles in the way of any action of Italy; England disclaimed all intention of occupying Tripoli, but declined to contract an engagement to support Italy in such an enterprise and was in general opposed to the vivisection of Turkey. Italy assured France that she had no objections to the French occupation of the oasis of Tuat and that occurrences in the Hinterland of Morocco could not be considered as a Mediterranean question. When afterward the French made incursions into the Tripolitan Hinterland to punish tribes for raiding territory under French protection Italy invariably asked explanations, and those that were given were evasive and unsatisfactory. When the trade relations between Italy and France improved Italy asked for a categorical statement and a formal assurance, and was reminded that she had joined other Mediterranean powers in urging the Sultan of Morocco to oppose the extension of the Sahara Railroad as dangerous to his dominions, which he declined to do unless the same powers would guarantee him against receiving any detri-

ment. The result of the *pourparlers* thus opened was a formal declaration on the part of Italy that she would not oppose any development of French power in Morocco and of one on the part of France that she would not encroach upon Tripoli nor oppose in any way the eventual Italian occupation. England afterward formally declared that she would not object to the annexation by Italy of Tripoli and would suffer no encroachment by Egypt on the eastern frontier. Italy and Austria-Hungary had an agreement to preserve the *status quo* in Albania, where Italian trade and education were fostered by the Italian Government. After an understanding was reached with France the fortification of Bizerta was resumed and the port opened as a great naval harbor. An Italian fleet visited Toulon. King Vittorio Emanuele visited various European courts in the summer of 1902, but not the court of Vienna, which preserves relations with the Vatican that preclude royal visits between the courts. He went to Berlin, but his first visit was to the court of the Czar, where Signor Prinetti and Count Lamsdorff discussed the concordance of Italian and Russian interests in the Adriatic and the Balkans. An Italian fleet visited Tripoli as a sign of the claim, now formally recognized, of the heritage of Italy in this part of the Turkish Empire. The fleet was received with courtesy, but the Porte at the same time increased the garrison and strengthened the fortifications. The Italian squadron visited later the Adriatic ports of Turkey and Montenegro. The Italian Government made a demand later on the Porte that the pirates of the Red Sea be suppressed, and before the Turkish war-vessels appeared Italian ships captured and punished some of the offenders. A diplomatic conflict arose in the spring between Italy and Switzerland. The Italian minister in Berne, Commendatore Silvestrelli, called the attention of the Swiss Federal Council in the summer of 1901 to attacks on the royal family of Italy printed in the anarchist journal *Risveglio* of Geneva. He did not urge the matter, but in the spring of 1902, when articles appeared praising the murder of King Umberto, he called on the Federal authorities to prosecute the editor under the Swiss penal code for inciting to crime. The Federal Council replied that there was no infraction of the law he cited; but if he would appeal in the name of his sovereign for proceedings to be taken against the editor based on any article vilifying the King of Italy, action could be brought under the law for the protection of foreign sovereigns, which required such a preliminary request. He did not wish a trial in which scandalous stories about the royal family could be repeated, and therefore he demanded the application of the penal law against incitement to murder. The Federal Council resented his pretension to interpret Swiss law, and requested his recall when his imperative demand was repeated. The Italian Government declined to recall the minister, and in consequence the Swiss Government broke off diplomatic relations with Italy in April. Through the mediation of Germany direct relations were resumed in August, when both governments appointed a new representative.

Dependencies.—Eritrea is an Italian colony embracing the port of Massowah, on the Red Sea, where Egypt had a garrison before the evacuation of the Soudan, and a Hinterland formerly claimed by Abyssinia and ceded to Italy in the treaty of Ucciali, signed May 2, 1889. The treaty of Adis Abeba, signed Oct. 26, 1896, in which Italy renounced the claim of a protectorate over Abyssinia, concedes to Italy all territory north of

the Mareb, Belesa, and Muna rivers. The delimitation of Eritrea from the Egyptian Soudan was arranged in a treaty signed April 15, 1891, supplemented by the protocols of Dec. 7, 1898, June 1, 1899, and April 16, 1901, and the Anglo-Italian agreement of Nov. 22, 1901. The boundary starts from the coast at Ras Kasar, runs to Barca, and thence to Sabderat, near Kassala, and from that point due south to the Atbara. The colony is administered by a royal Commissioner under instructions from the Italian Minister of Foreign Affairs. Ferdinando Martini was Commissioner in 1902. The area is estimated at 88,500 square miles, with 450,000 inhabitants, mostly Arab nomads. The Europeans number about 2,000. The expenditure for the year ending June 30, 1901, was estimated at 10,430,500 lire, of which local taxation produced 2,229,700 lire and 8,130,800 lire were contributed by the Italian Government. Camels, cattle, sheep, and goats find plenty of pasture, but agriculture will not be possible without irrigation. Meat, hides, and butter are exported and mother-of-pearl and pearls, which are produced to the amount of about 1,050,000 lire per annum. An Italian company organized in 1898 received the rights of the pearl fisheries and contracted to cultivate mother-of-pearl oysters. The total value of imports at Massowah in 1900 was 9,376,543 lire, and of exports 2,745,470 lire. There were 2,939 vessels, of 129,499 tons, entered and 2,929, of 129,349 tons, cleared. A railroad, 17 miles long, from Massowah to Saati, is being continued to Asmara, the seat of the administration; and a telegraph-line is to be constructed to Adis Abeba, the capital of Abyssinia. A telegraph-line now runs from Massowah to Assab, 319 miles, and thence to Perim, 62 miles. The common unit of value is the Maria Theresa dollar, coined in

Austria. To take their place the Italian mint has coined 2,175,999 Eritrean dollars.

South of Abyssinia, on the Somali coast, Italy has a protectorate over the Sultan of Obbia and the Mijertain and occupies the ports of Brava, Merka, Mogadoscio, and Warsheik, which were ceded by the Sultan of Zanzibar in 1892. (See EAST AFRICA.)

The frontiers between Eritrea and the Egyptian Soudan and Abyssinia were settled by a convention with England and one with Abyssinia. The Anglo-Egyptian authorities agreed to transfer to Italy the territory between the Mareb and the boundary of the Soudan which Menelek had ceded to them, and he ratified the arrangement in return for the retrocession to Abyssinia by Italy of the *enclave* of Tomat. The Ethiopian Negus furthermore sanctioned the occupation by Italy of the Kunama country. He granted in another document mining, industrial, and trading concessions to Italians covering Tigré, Gondar, and the upper basin of the Takazze.

When the British operations against the Mad Mullah were extended so that it was desirable for a British force to pursue the foe into Italian Somaliland the Italian Government gave permission on condition that an Italian officer should accompany the expedition. At the same time Italian war-vessels endeavored to stop the importation of arms into Somaliland. The delimitation of French and Italian possessions on the Red Sea recognized territory north of Ras Dumeira as Italian, including Raheita. The Sultan of Raheita, whose predecessor ceded to Italy in 1870 her first African possession, the settlement of Assab, caused a disturbance which led to the annexation in May, 1902, of his dominion to Eritrea.

J

JAPAN, a constitutional empire in the Pacific Ocean, between the possessions of Russia and the United States, governed by the oldest continuous line of political rulers in the world. Of the unknown number of islands, of which more than 4,000 have been counted, about 500 are inhabited. Area, exclusive of Formosa, 147,655 square miles. Seventy-five per cent. of the people live on the main island, and the important part of the nation's history has taken place on the three islands of Hondu, Kiushiu, and Shikoku. The northern limit of the empire is fixed at 56° 56', and the southern at 21° 48' north latitude, the other boundaries being at east longitude 119° 20' and 156° 32'. By the census of 1898 the population was 46,558,297. With the normal rate of increase the figures would now show very nearly 50,000,000 souls, of whom 50,000 are registered as living abroad, 24,034 being in Western countries or possessions, 1,068 being students or in Government service. The money standard is gold, the yen being worth 50 cents. The present ruler, Mutsuhito, born in Kioto, Nov. 3, 1852, is the one hundred and twenty-second of the imperial line. His fiftieth birthday was celebrated with great popular rejoicings. He married in February, 1869, the Princess Haruko, born May 28, 1850, daughter of Prince Ichijo; but no children have been born of the union. The heir apparent, Prince Yoshihito, born Aug. 31, 1879, of the imperial concubine Yanagiwara Aiko, married, May 10, 1900, the Princess Sada, daughter of Prince Kujo, born June 25, 1884. Two male children, Hirohito, born

May 5, 1901, and Haruhito, born June 25, 1902, are the fruit of this union. The corner-stone of the new palace for the imperial prince, which is built of American structural steel, was laid on May 9, with imposing ceremonies in foreign style, these taking the place of the usual native customs at the completion of the roof-timbers. The civil list is 3,000,000 yen.

Since 1889 the Emperor has shared legislative powers with the Imperial Diet, consisting of two houses. By the new election law there is, besides 316 peers and imperial nominees in the upper house, an increase of 13 new members in the lower house, making 382. Franchise-holders must pay at least 10 yen in direct taxes. These now number 967,227. With numerous changes of the Cabinet since 1889, constitutional reform has been steadily continuous toward the British rather than the German system, and the general tendency of political life is toward democracy. The last lower house was the only one that lived out its full term, and the Katsura Cabinet, formed in July, still holds office. The seventeenth annual meeting of the Diet began Dec. 6, 1902.

The Emperor presides actively over the imperial Cabinet, which consists of the Ministers Present of State and 9 heads of departments. He is also assisted by a Privy Council of 20 veteran statesmen, who are especially influential in the appointment of the Mikado's servants, from Cabinet officers to consuls.

The Army.—The whole male population between the ages of twenty-one and forty is liable to military service, and the total number avail-

able is 600,000, divided into three classes: (1) The active army and reserve; (2) the army of depot and reserve, divided into classes; (3) the territorial army and reserve. Military service lasts three years in the active army and four years and four months in the reserve of the active army, seven years and four months in the first class of the army of depot, and one year and four months in the second class of the same army, five years in the territorial army, and eight years in the reserve of the territorial army. There are 12 military districts, in each of which is an army division, in addition to the Imperial Guard, which is stationed usually in Tokio. The actual military strength, including the police, is 7,650 officers, 162,000 non-commissioned officers and privates, and 30,000 horsemen, which on a war footing is increased to 8,055 officers, 221,074 non-commissioned officers and privates, and 44,000 horses. In the reserve are 950 officers, 33,389 non-commissioned officers and privates, and 5,000 horses. The territorial army consists of 3,198 officers, 125,564 non-commissioned officers and privates, and 21,000 horses. There are 19 regiments of artillery, each divided into three sections of 2 batteries, and each battery has 6 pieces. The field-pieces in use were invented by Gen. Arisaka, who was recently decorated by the Emperor for his services. They are quick-firing guns, with a caliber of 75 millimeters. In each of the 13 divisions are 2 brigades of infantry, each of 2 regiments of 3 battalions of 4 companies, 1 regiment of cavalry (3 squadrons), 1 regiment of artillery, and 1 battalion of engineers (3 companies). To each division belongs 1 "état-major" chosen from experienced officers who have been graduated at the Academy of War. Besides the 13 divisions are 2 brigades of cavalry, 2 brigades of field-artillery, and 15 battalions of fortress-artillery. The active army is equipped with the Arisaka rifle, adopted in 1897. It has a caliber of 6 millimeters and fires a projectile of 22 grams, with an initial velocity of 725 miles. The Murata rifle, used in the Chino-Japanese War in 1895, and in use by the reserve and territorial armies, has but 580 miles of initial velocity. There are training-schools in every branch of the service, and all the cannon, small arms, and ammunition are made in the Government arsenals at Tokio and Osaka. The Red Cross Society has a membership of 728,507 members, a total income of 4,657,575 yen, and 2 fully equipped hospital ships.

The Navy.—Within seven years after seeing Commodore Perry's war steamers in Yedo Bay, the Japanese navigated a steamer of their own across the Pacific, and naval development has since made steady progress. There are five maritime districts, in three of which are thorough facilities for the repairing and building of ships. Of the post-bellum program, formulated in 1895, from 57,900 tons in 1894 to 200,000 tons by 1905, there are now afloat and in commission 6 new battle-ships of 276 guns (the Mikasa, of 15,362 tons, arrived in May, 1902); 2 old battle-ships of 46 guns; 10 old battle-ships for coast-defense of 99 guns; 6 first-class cruisers with 103 guns, 2 first-class gunboats with 19 guns, making with despatch-boats, torpedo-destroyers, and torpedo-boats, 59 ships with 1,110 guns; besides which, a fleet of between 20 and 30 modern vessels are kept in reserve, ready for service. At first it was difficult to get sailors, but now the needs of the navy are amply met in this respect, the great difficulty being to secure trained officers, especially those in the lower grades. While the tonnage has increased 400 per cent., the number of men has increased but 100 per cent., or from

17,140, in 1895, to somewhat over 33,000 in 1902. There is only one naval college, at Edajima, capable of accommodating 600 cadets, another being planned for Yokosaka. Great improvement has taken place in the weight of the personnel of the navy. The average body weight of 19,983 persons, measured in 1886 and in 1901, shows an increase from 123 to 126 pounds. The total military expenses of Japan on land and water average per head of population 1.74 yen, against 2.60 of administrative expenses, and much less than that of any other country.

Resources.—The total available wealth of Japan is reckoned by her own economists at 15,000,000,000 yen, but the large number of enterprises required to change the nation from an insular and agricultural to a commercial, manufacturing, and maritime people has made a drain upon the ready capital of the country, which has revealed at once both its wealth and its poverty. The rates of interest are being lowered, and the gold reserve in the Bank of Japan has been substantially increased, showing greater financial stability. On Oct. 1, 1897, Japan adopted the gold standard. The coins issued in 1901 amounted in value to 15,949,645 yen. The coinage of 1901, compared with that of 1900, shows an increase, chiefly in gold, of 2,100,059 yen. Largely through defects of management the postal savings-banks show but 2,275,680 depositors, or 4.8 per cent. of the population, which in 1901 averaged in deposits 11.77 yen, making a total of 26,806,859 yen. In the same year 6,248,700 yen were sent home from Japanese living abroad.

Finances.—The expenditures of recent years have raised the aggregate debt of the cities and prefectures from 8,093,801 yen in 1893 to 33,187,806 yen in 1901. The national unredeemed debt in 1900 was 503,200,664 yen or 11.5 per person. The chief items of national revenue are taxes on land, saké, income, business, sugar, soy, customs, and stamps, the revenue derived from posts and telegraphs, state monopolies, railways, and in recent years the Chinese indemnity, making a grand total in the budget of 1902 of 273,631,176 yen; the total expenditures amounted to 270,424,495 yen, these in their order being for the departments of Finance, Communications, War, Navy, Home, Justice, and Education. The trial budget for 1903 shows a revenue of 256,000,000 yen and an expenditure of 262,000,000 yen. Among the items are the custom-house works at Kobe, 3,500,000 yen; riverine works, dikes, etc., a census on scientific principles, 450,000 yen; telephones, 1,450,000 yen; various industrial outlays, including a subsidy for the St. Louis Exposition, amounting in all to 5,500,000 yen. Among the details of the foreign offices appropriations of 6,500,000 yen are allowances for 4 new consulates and 9 honorary consulates, all in China and Korea. The cost of military operations in China for the year ending March 31, 1902, was 13,887,920; of sending a squadron to England for the coronation, 397,841 yen; of overseeing the elections, 119,690 yen; of floating and repairing stranded men-of-war, 288,618 yen; of gathering up bodies from the Awomori disaster and for funeral rites, 150,000 yen. Through Messrs. Baring Brothers a loan to the Japanese Government for 5,000,000 yen at 5 per cent. interest was subscribed several times over in London. There are 2,414 banks in the empire, with a total capital of 517,766,000 yen. In Formosa, where silver is temporarily the standard, 1,256,252 pieces of silver yen of the same type of the old coinage system were struck at the Osaka mint in 1901 to serve as the reserve fund for the notes of the Bank of Formosa.

Hokkaido.—The Hokkaido, especially in Yezo, is developing in all lines of industry, notably in harbor improvement, placer mining—in which American placer diggers have introduced great improvement since 1900—in the opening of new ports, and in the working of coal-mines and petroleum wells. Muroran, opened as a port of export in 1894, is now the third largest port in Japan and the chief coaling-station of steamers between North America and China. In 1901 89 foreign steamers, of 190,921 tons, and 7 Japanese steamers, of 42,035 tons, entered the port. Hakodate is the chief port, able to accommodate 109 vessels of 5,000 tons, while Muroran can harbor 38. Otaru is the next port of importance. The total population of the Hokkaido in 1899 was 58,467; in 1899, 922,508; in 1901, 1,020,000; total trade in 1901, \$450,000.

Products and Enterprises.—Contrary to early supposition, Japan is not rich in minerals, yet the total mineral output in 1900 was 49,936,378 yen, showing an increase of 4.5 times, compared with a decade ago. The value per person in 1898 was 0.91, compared with England's 19.23, Austria's 3.91, and Russia's 1.15. Most branches of the mining industry are, as to the methods employed, still in their infancy. The output of iron in 1900 was 23,632 tons, worth 956,000 yen in value. Japanese coal is of two kinds, the soft and the hard, which latter is greatly inferior to British coal. In 1900 7,429,457 tons were mined, to the value of 24,583,038 yen. In petroleum, Echigo leads. The total output of Japan in 1900 was 31,000,000 gallons of oil, worth 1,941,518 yen. Of sulfur, 14,435 tons, worth 312,835 yen, were mined.

The import of petroleum in 1901 was 55,197,080 gallons, worth 14,943,400 yen. Despite the imported supply, the demand for Echigo oil, which supplies three-tenths of the petroleum used in Japan, has increased. In 1895 6,334,160 gallons, worth 526,976 yen, and in 1901 44,632,280 gallons, worth 2,345,916 yen, were produced. Refined native petroleum is equal to the best American and Russian oils.

The average rice-crop for the seven-year period ending in 1901 was 204,281,085 bushels. The crop for 1902 is 2.6 per cent. below the average, and 15.2 per cent. below last year's crop, or 179,023,195 bushels.

In 1900 the Japanese constructed in their own dockyards 77 steamers, aggregating 12,828 tons, and 48 sailing ships, with a tonnage of 16,243, while buying abroad 346 steam and sailing ships, with a tonnage of 133,668. In Japanese waters 7 vessels or steam-yachts are engaged which use the harpoon gun to hunt the minor species of whales.

The mercantile marine shows a total tonnage of 648,328, of which 179,894 are of sailing ships and 477,430 in steamers, making her, as to power of steam sea transit, sixth on the list of the great nations of the world—ahead of Russia and Sweden, and only slightly below Spain and Italy.

In Yokohama dwell 5,588 foreigners, of whom 3,550 are Chinese, 915 British, and 452 Americans.

Emigration to Korea increases steadily. In 1902 44,000 Japanese went thither.

Trade and Labor.—For the first time, the volume of exports and imports has exceeded 500,000,000 yen, the exports being in value 248,000,000 yen, or 44,000,000 yen larger than last year's figure; whereas the volume of imports was 253,000,000 yen, being 33,000,000 yen less than last year, the total bulk of the trade showing an increase of 11,000,000 yen, and the imports exceeding exports by only 5,000,000 yen.

The silk trade shows in exports an increase from 7,743,393 pounds, worth 47,866,256 yen in 1895, to 11,537,924 pounds, valued at 74,460,947 yen, in 1901. Up to 1900 the United States took 0.6 of Japan's sales of silks, but last year the American share was 0.7.

The number of American and European firms in Japan is decreasing. At Yokohama in 1899 there were 303, while in 1900 there were but 241. Whereas in 1898 the value of exports from Japan amounted to 13,823,843 yen and the imports from China 21,344,521 yen, the exports in 1901 were 42,925,579 yen and the imports from China 27,265,986 yen, or a total volume in 1891 of over 70,000,000 yen.

It was permitted until July, 1902, to establish an exchange with a capital as small as 30,000 yen, but the Government now requires a capital of 100,000 yen, and the time of the transactions in negotiable securities must not be for a longer period than two months; the previous limit was three months.

The chief imports from the United States are raw ginned cotton and petroleum, these two making up more than half the value of the whole, and different kinds of machinery, engines, electric apparatus, etc. The value of exports to the United States was \$36,010,060, and of imports \$21,299,176. This was by far the largest bulk of traffic with any Western country, and more than twice as much as with any country except China.

In 1892 about one-eleventh of Japanese trade was carried in native bottoms. In 1901 about three-fourths of the exports and imports was moved in native vessels. In 1901 the Japanese steamer tonnage in Japanese ports was 3,861,659, and was surpassed only by British ships, with a tonnage of 4,080,583. Germany and Russia both exceeded the United States, only 175 American ships, with a tonnage of 404,724, entered Japanese ports.

The Japan Steam Mail Company, which has lines of steamers making regular trips to ports in Europe, America, Australia, British India, China, and Korea, have begun the establishment, in connection with the Hunan Company, of China, of a line of steamers in the Yangtze valley, in order to secure feeders for their steamers at the Shanghai terminal.

In 1901 185,000 tourists traveled in Japan or stopped over during steamer calls, and it is computed that they spent \$20,500,000 in the country.

Education.—Japan has now four universities, two of them being on Government foundation, at Tokio and Kyoto respectively, and two in Tokio under private auspices. Commissioner Wu, sent out by the Chinese Government, has been for three months investigating the various grades of Japanese schools and their methods. There are 43 public libraries, with a total of 728,067 volumes, of which 65,595 are foreign. One in Tokio, on Government foundation, has 401,519 volumes. Fifteen libraries, with a total of 169,946 books, have been established by local authorities, and 27 libraries, with a total of 156,602 volumes, established by private individuals. A new public library, opened June 15 in Tokio, was founded by the late Mr. Ohashi, who made his money in publishing standard Japanese literature, chiefly fiction in cheap form. He devoted 125,000 yen for its building, equipment, and maintenance. At Osaka Mr. Sumitomo bestowed 200,000 yen for a public library. Another instance of private liberality is the mercantile school of Mr. Okura.

Religion.—In 1901 the number of Protestant missionaries was 782; of churches, 456; of mem-

bers, 46,634; and the money raised by natives amounted to 117,817 yen.

The Roman Catholics have 1 archbishop, 3 bishops, 109 foreign missionaries, 34 native priests, 201 churches and stations, and 55,824 members.

The Russo-Greek Church has 4 foreign missionaries, 283 native priests or evangelists, and 26,680 members, who contributed 7,364 yen to Christian work. In Tokio there are 23 Christian sects, 103 church-buildings, 127 foreign missionaries, and 66 native pastors. The Buddhist sects show considerable activity, and have adopted not a few features of work and methods borrowed from the Christians. The Salvation Army has been active in the reformation of the social evil. In 1899 there were in the empire 52,274 prostitutes, and in 1901 there were but 40,195, with a heavy decrease in visitors to brothels and in brothel receipts, largely through the regulation granting "free cessation" to prostitutes. The total decrease of numbers in 1901 was 23 per cent.

Politics and Events.—On Jan. 23 Major Yamaguchi with a battalion of infantry left Awamori to practise marching in the snow; but, owing to the heavy storm, they were overwhelmed and most of them were frozen to death, there being only 12 survivors of the 210. The sum of 1,830 yen was raised by the foreigners in Japan for the relief of the families of the dead, and 150,000 yen was appropriated for the same purpose by the Japanese Government. The cold weather was exceptional, some places in the Hokkaido showing 40° below zero.

Major-Gen. Arisaka was awarded by the Emperor the second-class order of the Rising Sun and a donation of 2,000 yen for his inventions in arms and ammunition.

On Feb. 11, on the date of the promulgation of the Constitution, announcement was made of the conclusion of an alliance between Japan and Great Britain, and great popular rejoicings followed. Its objects are to maintain the *status quo* and general peace in the extreme East, and especially the independence and integrity of the Chinese and Korean Empires, and to secure to the signatories full and free enjoyment of the opportunities created by treaty. During the year the agitation of the payment by foreigners of a house tax was kept up, the matter being finally referred for arbitration to the International Tribunal at The Hague.

The session of the Diet closed March 10. Of 79 Government bills presented during the 29 sessions of the lower house, 69 were passed. Of 5 bills sent down from the upper house, 1 was passed. Of 94 bills presented by its own members, 37 were passed. The House dealt with 146 measures in all, most of the work being done in committee. In the upper house, of 42 Government bills received, 36 were passed. Of 36 bills sent up from the lower house, 17 were passed. Of 5 bills presented by the peers themselves, 1 was passed. The relations between the two houses were, during part of the time, rather unpleasant.

A great fire broke out in Fukui, March 30, destroying 4,000 houses in the business part of the city. The princes of Riukiu (Loo Choo Islands), after years of expectation that China would resume rule over the archipelago, cut off their hair, put on foreign clothes, sent their children to the Government schools, and paid social visits in Tokio, where they now reside. After more than thirty years of retirement in Shidzuoka, Keiki, the last of the shoguns has been invited to the capital, to appear often at the court, and recently was exalted to a high degree in the nobility.

Marcus island, occupied by the Japanese for some years, was visited by the Kasagi, man-of-war, the Japanese Government having been formally notified that the United States had no claim. It was discovered by a Japanese in 1879, and was formally annexed in 1898 under the name of Minami-Tori Shima.

The imperial Postal Department celebrated on June 25 the twenty-fifth anniversary of its entrance into the Universal Postal Union by the issue of memorial postal cards, in a set of five, of elegant execution.

The faction fights, with a purpose of ethical reform, in view of the licentiousness of the abbots and priests in the Shinshiu sect, the richest and strongest sect among the Buddhist denominations, were continued during the year with personal violence.

A great typhoon, beginning below the Riukiu Islands, swept the coast of Japan for three days until the afternoon of Aug. 28, doing immense damage, unroofing or destroying edifices, demolishing wharves and breakwaters and the famous Red Bridge at Nikko, driving gunboats and battle-ships on the rocks, besides pouring a tidal wave 60 feet high over the Odawara district, which spent its force a half-mile inland, lifting bodily a railway from its bed, covering rice-fields with sand, and killing or drowning more than 300 persons, besides overturning railway-trains.

This year the Chinese Imperial Government and local authorities summoned to their assistance in China about 50 Japanese teachers, railway engineers, experts for industrial enterprises, legal advisers, chiefs of police, and other helpers in various lines of progress.

Formosa.—The area of this island, ceded by China to Japan in 1895, including adjacent islets, is 5,535 square miles. The number of obnoxious insects has greatly decreased, and the death-rate among the Japanese has decreased by more than 75 per cent. The twenty years' program of improvement, inaugurated by the Government, estimated to cost 35,000,000 yen, includes a trunk-line railway, a thorough survey of the whole land, and the settlement and confirmation of landholders' rights, harbor improvement, and the building of Government offices and residences, with drainage, water-works, etc.

The year 1902 was notable for a steady development of the physical resources of this island, for the education, tranquillity, and prosperity of the more civilized portion of the inhabitants, and for active military operations against the rebellious savages of the mountains and forests, resulting in hundreds of casualties on both sides, but with steady loss to the savages. In the national budget the subsidy for encouragement of navigation in Formosa amounted to 800,000 yen. The foreign trade of Taiwan in 1900 amounted to 24,141,949 yen, and in 1901 to 21,166,015 yen.

Besides 1,500 private schools attended by 25,000 pupils, there are 1,496 small elementary schools sustained by the Government, attended by 27,590 pupils, or 6 per cent. of the eligible children of school age. In the Pescadores 96 elementary schools were attended by 10,000 pupils. The principle is to Japonize as much as possible the natives, whose minds are impregnated with Chinese thought, and who are pro-Chinese in nearly everything. There are also medical and normal schools, besides a score or more in which the Japanese language and literature are taught.

The problem of malaria has been successfully attacked by segregating one battalion of infantry from the bites of mosquitos for one hundred and

sixty-one days, during which not a single case of malaria occurred, whereas 259 cases occurred in a battalion not similarly protected.

The Japanese population, mostly from Kiushiu and Osaka, numbers, exclusive of the military, more than 40,000, more than 8,000 having come in 1900. During the past five years of Chinese occupation imports increased from 7,127,534 yen to 9,254,010 yen, an increase of less than 30 per cent., against 140 per cent. increase for a similar period under Japanese rule, the total imports in 1900 being 22,009,695 yen. The entire revenue of the island is expended on local improvements, and 150,000,000 yen have been put into circulation. Modern improvements and industries are springing up all over the island. The city of Taihoku is virtually Japanese, cleanly built and well drained, with macadamized streets, brick and stone houses, and well-stocked shops. A thousand miles of ordinary roads, often with great engineering difficulties to overcome, have been constructed, and the old railways of Chinese days have been entirely reconstructed. There are now 93 miles of ordinary, and 200 miles of narrow-gage railway, and 1,400 miles of telegraphic wire on land. New cables to Japan, Foo-Chow, and the Pescadores have been laid, and several telephone-lines put in operation. Hospitals have been established in the leading cities, at which poor Chinese receive treatment. The actual revenue of the island in 1900 was 15,000,000 yen. The Director-General reports that from 1895 to 1901 the total amount expended by Japan, including military expenses, was 150,000,000 yen, the total revenue during this period being 40,000,000 yen, but the annual revenue now yields between 14,000,000 and 20,000,000 yen.

JEWES. The most important event of the year for the Jews of the United States was the arrival of Dr. Solomon Schechter, a native of Roumania, but for many years a resident of England, where he was reader of Rabbinic at Cambridge University and occupied a high place in the learned world. For some time negotiations had been in progress to secure his services for the Jewish Theological Seminary of New York. On its complete reorganization and ample endowment, largely due to gifts from Jacob H. Schiff, he left England and reached New York on April 17. His active duties as director of the seminary began in the autumn. The new institution is practically a post-graduate school; its course of study is broad and thorough, and its aim is to impart a wide scholarship. Prof. Schechter has been identified with positive traditional Judaism. His inaugural address, on Nov. 20, was a stirring plea for breadth and scholarship in Jewish seminary training. His view of Judaism was pithily expressed in the words: "Judaism is not a religion which does not oppose itself to anything in particular. Judaism is opposed to any number of things, and says distinctly 'Thou shalt not.' It permeates the whole of your life. It demands control over all your actions, and interferes even with your menu. It insists upon the observance both of the spirit and the letter. In a word, Judaism is absolutely incompatible with the abandonment of the Torah (law). We must leave off talking about Occidentalizing our religion, as if the Occident has ever shown the least genius for religion, or freeing the conscience by abolishing various laws. These and similar platitudes and stock phrases, borrowed from Christian apologetics, must be abandoned entirely, if we do not want to drift slowly but surely into Paulinism, which entered the world as the deadliest enemy of Judaism, pursued it through all its course, and

is still finding its abettors among us, working for their own destruction. There is no other Jewish religion than that taught by the Torah, confirmed by history and tradition, and sunk into the conscience of catholic Israel."

A further evidence of educational progress was the issue of the second and third volumes of the Jewish Encyclopedia, whose successful publication is now assured. It is difficult to overestimate the value of this undertaking, not only for the popularization of Jewish knowledge, but for the spectacle afforded of Christian and Jewish scholars in kindly cooperation. The Jewish Publication Society, which has now 4,808 members, issued several works in 1902: *Strangers at the Gate*, by Samuel Gordon; *Idyls of the Gass*, by Martha Wolfenstein; *Hearth and Home Essays*, by Esther J. Russkay; and the first volume of a new edition of Grace Aguilar's writings. The new edition of the Bible is under preparation; its first volume, the book of Psalms, is ready for the press. The expenses for the year reached \$14,984; receipts, \$15,271; permanent fund, \$17,145.

At the annual convention of the Central Conference of American Rabbis, held in New Orleans, May 7, the discussion of the Sabbath question aroused much interest. Papers were read on *The Jewish Religious School*, by H. H. Mayer; *The Bible and Modern Thought*, by S. Sale; *The Sabbath Question*, by Jacob Voorsanger; and *Congregational Activities outside of Pulpit and School*, by L. M. Franklin.

The fifth annual convention of the Federation of American Zionists was held in Boston, May 25. The strength of the federation was shown to be 174 societies. The income was \$3,214; expenses, \$1,329.

At the quinquennial convention of the order Free Sons of Israel, in Philadelphia, May 18, the number of lodges had increased to 103, all funds amounting to \$333,277. There were 11,000 members, and a reserve fund of \$935,000.

At the triennial convention of the Sons of Benjamin, in Philadelphia, July 6, the strength of the order had risen to 30,000 members, with a guarantee fund of \$137,167.

The summer session of the Jewish Chautauqua, in Atlantic City, July 6-27, was memorable for a variety of lectures and discussions on subjects like Palestine, by Rev. M. A. Meyer; *The Attitude of Non-Jewish Scholars to Jewish Literature*, by Rev. D. Kohler; *The Uses of Hebrew Manuscripts*, by Prof. S. Schechter; *Jewish Characters in English Fiction*, by Max J. Kohler; *Assyria and Egypt and the Monuments*, by Rev. C. H. Levy; *Gorky*, by Dr. E. G. Hirsch; *Shylock*, by Dr. Leon Harrison; *Modern Hebrew Literature*, by G. B. Levi. In addition there were a school of practise for teachers, popular conferences on Jewish university students and religious training after confirmation, and a course on applied philanthropy, with addresses on Social Unrest, Needy Families in their Homes, Organization in Relief Work, Dependent and Destitute Children, Preventive Work, Neighborhood Work, etc.

The second biennial Conference of Jewish Charities was held in Detroit, May 26, 25 cities being represented, about half of the membership. Among the subjects discussed were the diffusion of Jewish immigrants from the East Side of New York, the value of free loan societies, chattel-mortgage loan companies and pawn societies, delinquent children, the placing of immigrants, consumption, and the training of sociological workers. At the meeting of the American Jewish Historical Society, Jan. 30, papers were presented,

among others, on Jewish Activity in Early American Commerce, Jewish Names in the Maryland Muster Rolls, 1775-'83, Solomon Heydenfeldt, The Jews of Georgia during the American Revolution, Sampson Simson, References to Jews in the Diary of Ezra Stiles.

A resolution was introduced in the House of Representatives on April 30 by Hon. H. M. Goldfogle, of New York, asking for information from the Department of State, whether American citizens of Jewish faith holding passports issued by the American Government are excluded from Russia, and what action on the subject, if any, had been taken by any department of the United States Government. Secretary Hay's reply was that the department has no information indicating that American Jews stand upon a footing different from that occupied by Jews of other lands in the administration of Russian law, and efforts to secure uniform treatment of American citizens in Russia, begun years ago, have continued, but not with encouraging success. Far more effective was the action of the United States in reference to the Jews of Roumania, in a circular letter sent on Aug. 11 by Secretary Hay to the powers that had signed the treaty of Berlin in 1878. It referred to the violation of that treaty. As civil and religious liberty had not been enjoyed by the Jews of Roumania, in the interest of humanity it asked for more consideration and justice, and showed the cruelty and unfairness of forced emigration of any class to American shores, the only hospitable asylum left to them. Secretary Hay closed with these words: "Whether consciously and of purpose or not, these helpless people, burdened and spurned by their native land, are forced by the sovereign power of Roumania upon the charity of the United States. This Government can not be a tacit party to such an international wrong. It is constrained to protest against the treatment to which the Jews of Roumania are subjected, not alone because it has unimpeachable ground to remonstrate against the resultant injury to itself, but in the name of humanity. The United States may not authoritatively appeal to the stipulations of the treaty of Berlin, to which it was not and can not become a signatory, but it does earnestly appeal to the principles consigned therein, because they are the principles of international law and eternal justice, advocating the broad toleration which that solemn compact enjoins and standing ready to lend its moral support to the fulfilment thereof by its cosignatories, for the act of Roumania itself has effectively joined the United States to them as an interested party in this regard." While no definite action has resulted from the letter, international sympathy was aroused for the disfranchised Jews there, and the debate in the Roumanian Senate late in December on the naturalization of Jews showed the salutary influence of the American protest.

The third triennial convention of the National Council of Jewish Women was held in Baltimore

in December. It was formed in 1894, and has now 64 local sections and a membership of 7,090, with 82 study sections, in Jewish history, philanthropy, and literature; 18 mission schools; activity in kindergarten, sewing, and industrial schools; 2 day nurseries; and other helpful agencies. The receipts for the year were \$11,000, and the expenses about \$6,800. Among the addresses were Aspects of Judaism in America, by Henrietta Szold; Judaism in Small Towns, by Mrs. M. Pappe; Judaism and the Young, by Mrs. W. Miller; Federated Charities, by Max Senior; Civil Service, by Mr. Bonaparte.

There were meat riots in New York and a few other cities in May, with women as leaders, indignant at the high price of meat, which was felt keenly by the Jews in the congested districts. There was also a riot on July 30, which disturbed the funeral of Rabbi Jacob Joseph in New York, and which Mayor Low promptly investigated, censuring severely some police officials.

In January the President appointed the Hon. Oscar S. Straus a member of the Hague Court of International Arbitration, to succeed the late ex-President Harrison.

The first synagogue at Hong-Kong was dedicated on April 8, and the corner-stone of the first synagogue in Portugal since the expulsion was laid on May 25 at Lisbon.

England had its royal commission in prolonged session to investigate the evils of unrestricted immigration of aliens. A conference of Jewish women and a union of literary societies were held in London on May 13 and June 29.

At the Vienna Zionist Conference, in October, the latest results of the movement were thus summarized: First, the creation of a Jewish Statistical Bureau: The committee appointed for this purpose had organized an association in Berlin, and branches had been established in Germany and Austria. A Palestine bibliography was being prepared, and investigations were being conducted. Second, the Jewish Publication Society in Berlin: Necessary capital was provided by the section in the form of a guarantee fund to which Jewish writers and financiers contributed. It had already published a Jewish almanac and a pamphlet entitled Jewish High Schools. Third, courses on the science of Judaism, in the form of university extension lectures. Fourth, reform of religious instruction: Preparations were being made to summon a conference of teachers of religion. Fifth, art exhibitions. Sixth, Jewish high schools. For further investigations, as well as for promoting and financing the scheme for the establishment of a Jewish university, a committee had been formed in Geneva. The bureau had conducted special investigation into the conditions under which Jewish students in the various lands lived. Sums for the furtherance of this object, amounting to about 1,000,000 francs, had been guaranteed by Jewish financiers. For the whole project about 12,000,000 francs are required.

K

KANSAS. (See under UNITED STATES.)

KENTUCKY. (See under UNITED STATES.)

KOREA, Ta-Han, or Cho-Sen, an empire in eastern Asia, between China, Japan, and Russia. It is a peninsula with an estimated area of 82,000 square miles, bordering on the Yellow Sea and the Sea of Japan, with a frontier line of several hundred miles along Manchuria, and for 11 miles

on the northeast bordering on the Tumen river, which separates it from Asiatic Russia. By the Chino-Japanese War of 1894-'95 Korea became an independent state. On Oct. 14, 1897, the King assumed the title of Emperor, giving to his realm the name of Ta-Han (Great Han, meaning all Korea, in distinction from the ancient San-Han or Three Kingdoms). By the alliance between Great

Britain and Japan, entered into Feb. 11, 1902, the integrity and independence of the Korean Empire are guaranteed. The chief interests of diplomacy, trade, banking, commerce, fishing, and navigation are in the hands of the Japanese, who in 1902 numbered 30,000. Korea, on her part, agrees to raise her naval and military establishments to a footing sufficient for her own defense. In case of raising foreign loans she agrees to restrict herself to the markets of Great Britain, Japan, and the United States, and promises that no foreigners shall be appointed to places in the Korean state service, that measures shall be taken for the protection of Korean territory, and that protests shall immediately be made against any state or persons attempting to erect works or buildings calculated to injure Korea's scheme of national defense.

No exact census has yet been taken of the population, but the official report made for revenue in 1900 enumerates 5,608,351 persons. The population is variously estimated by foreigners from 8,000,000 to 15,000,000. While copper, nickel, brass, and some silver money is minted in Seoul, the regulating coinage of the country is the Japanese yen, worth 50 cents.

Government.—The present Emperor was born Aug. 28, 1841. He is assisted in government by the Council of State and 8 ministers—Royal, Household, Finance, War, Justice, Agriculture, Education, Home and Foreign Affairs. There are 14 provinces, each presided over by a governor, and 360 districts, in each of which is a magistrate with numerous assistants. An excessive number of officials keeps the country poor. Except revenue vessels, there is no navy, but an army of 7,000 men, including infantry, artillery, and cavalry, is equipped and drilled in Western style. There are 4 political parties, founded almost wholly on clan and family affiliations, with the common idea of securing as many as possible of the Government offices. Much attention and vast sums of money are devoted to graveyards, and the national revenues are lavished on royal tombs and the salaries of their keepers.

Finances.—The revenue of the empire, which in 1902 was estimated at \$7,586,530, comes chiefly from the land tax (\$4,488,235). There are taxes also on houses, mines, and the customs (\$850,000). The chief expenditures are the imperial purse (\$737,361), expenses of prefects, palace police, army, police departments, posts and telegraphs.

The currency is in a very disordered condition, native gold and silver being out of circulation, and nickel coins, many of them counterfeit, have some circulation at a heavy discount when compared with Japanese money. The Korea Society of Tokio estimates the amount of money in circulation in 1902 as follows: Copper cash, \$6,000,000; nickel, \$14,000,000; copper cents, \$890,000; brass cash, \$90,000; Japanese coins, \$1,550,000; Japanese paper, \$870,000; Korean silver dollars, \$530,000; Korean silver 20-cent pieces, \$150,000. Most of the silver money is soon withdrawn from circulation and hoarded.

Trade.—The lack of sufficient rain for more than two years, causing a famine and much distress, has also greatly hindered trade. Nevertheless, in 1901 the imports from foreign countries amounted to \$7,359,063; imports from Korean treaty ports, \$2,598,193. The exports to foreign countries were \$4,214,051; the exports at treaty ports, \$1,491,641. The import of nickel blanks for coinage was \$300,106, while gold was exported to the value of \$2,486,689.

In the Korean system of customs returns,

goods brought directly to Korea from other countries figure as imports from foreign countries, while those which are transshipped via China and Japan are entered as imports from Korean treaty ports. There is no direct commerce between the United States and Korea, so that American products, cotton, petroleum, metals, machinery, etc., do not appear separately, but are included with those from China and Japan. Most of the cotton fabrics woven in Japan are manufactured from American cotton, and the same is true of the tobacco brought from Japan, besides many other articles imported from China and Japan. In 1901 American petroleum and sundries were valued at \$312,001; mills machinery and supplies, \$249,000; electrical goods and lumber, \$236,621; or a total of \$967,622. Since Americans began mining operations in Korea, in 1896, the exports of gold have steadily increased from \$692,425 in 1896 to \$2,486,689 in 1901. The amount of gold produced in native placer mines in the province of Ping-Yang in 1901 was 44,880 ounces, on which the Government tax was \$112,000. The export of gold from the port of Wonsan in 1901 was \$1,676,245.

Communications.—The telephone system is being extended in Seoul, and from the capital to Chemulpo. The telegraphic development in the interior is about 2,500 miles of wire, in charge of 27 bureaus, employing 113 men as directors, engineers, secretaries and operators, and 303 line-men. The Morse system is in use. Electricity is generated by the use of the Leclanche batteries. Horse relays are kept at various centers to facilitate communication with distant points. Telegrams may be sent in Korean, Japanese, Chinese, or specified foreign languages. In 1899 112,450 telegrams were sent, the receipts being \$50,686; in 1900, 125,410 telegrams were sent, the receipts being \$72,443; in 1901, 152,485 telegrams were sent, the receipts being \$86,830.

The postal system, under French direction, is in a very satisfactory condition. In 1898 the Government engaged E. Clemencet, Esq., as adviser and instructor, who expanded and modernized the Korean postal service and trained assistants, till now there are, in addition to the central bureau at Seoul, 37 postal stations in full operation and 328 substations for ordinary registered correspondence. On seven main highways, with a network of postal routes, service is daily in both directions. The secondary offices are served three times a week by means of 472 foot couriers. In the center, south, and northwest of the empire each route is covered back and forth in five days. In the north and northeast eight days are required for each round trip. In 1901 1,703,000 pieces of mail-matter were carried, and the receipts were \$27,130.

The railway from the seaport of Chemulpo to Seoul, 26 miles, including a 10-span steel bridge across Han river, built and put in operation by American contractors, has reduced the time between seaport and capital from eight hours to one hour and three-quarters. There are 11 stations and 6 trains daily each way. The same American firm has built and operated an electric railway in and beyond Seoul, which is much used by the natives for daily traffic and for reaching the mausoleum of Queen Min at Keum Gok, 15 miles distant from the Great Bell in the center of Seoul. The Seoul Electric Company has the largest single electric plant in Asia. The American firm holds it under a mortgage, operating the overhead-trolley road and furnishing incandescent and arc lights for the city, the former luminaries numbering over 1,400. Two

120-kilowatt rotary converters from the Westinghouse Manufacturing Company, with boilers of the Babcock and Wilcox type, produce a direct current of 550 volts for the use of the cars, and at the same time alternating currents of 385 volts for the electric lighting. The consulting engineer is a Japanese, a graduate of the Massachusetts Institute of Technology. The official opening of the section from Seoul to Sangdo (the ancient capital) of the Seoul-Wiju Railway (under the auspices of the Korean Government, with French engineers, etc.) took place on May 4, 1902, with ceremonies and speeches by Cabinet officers in the presence of 200 persons. But it has since been temporarily abandoned for want of Korean funds. The railway from Fusan to Seoul, under Japanese direction, is steadily proceeding, with a great army of workmen, and is to have 40 stations. The first section, 1 mile, from Fusan to Chongyang, was opened to travel early in October, 1902.

Politics and Events.—The year is noted for a lack of rain and a general famine that has caused great suffering and loss of life, together with the desertion of whole districts of country by the hungry people, accompanied by outbreaks of anarchy and robbery. Considerable Government help was required for the people, there being 20,000 needy persons in Seoul, where last winter 90 persons were frozen to death. On Aug. 1 the prisons in Seoul were full to overflowing, and there were 40 executions that day.

The ginseng-crop for 1901, amounting to 68,120 pounds, was sold to a Japanese firm for \$625,239. The supply being in excess of the demand, the purchasers at once burned 13,100 pounds. The market is limited, the Chinese being almost the only consumers. It is asserted that only that raised upon the imperial farms at Sangdo have real medicinal virtues. Here the soil is a disintegrated granite, and the farms are guarded with great care, but the annual crop has been steadily growing larger. The normal annual quantity is 19,650 pounds. In some years \$8 a pound is paid for Sangdo ginseng, but always a very much lower price for other grades of the root.

On June 11 the Japanese steamers Kuma-gawa Maru and Kiso-gawa Maru, belonging to the Osaka Navigation Company, came into collision 85 miles south of Chemulpo, and the former was

sunk, the loss of life being 17 Koreans, 6 Japanese, and 1 American—the Rev. H. G. Appenzeller, for many years a most valuable missionary and teacher in Korea. The coasts of Korea are not yet furnished with lighthouses, but the Government program calls for 30 lighthouses and a lighthouse steam tender, at a cost of 1,000,000 yen. The first private-owned Korean steam-vessel entered Chinnempo this year.

A monument to the Japanese killed in the Chino-Japanese War of 1894-'95 was erected on the great mountain of Nansen, near Seoul.

A vein of fine anthracite coal was opened in the summer of 1902 at Muan, in Chulla province.

In a great storm, Sept. 24, 115 lives were lost and 4,012 houses destroyed.

A revival of Buddhism is noted in the dedication of a great monastery outside the East Gate of Seoul, in which 800 Buddhist monks took part, and in charge of which 50 soldier monks are to be permanently kept.

About 100 Korean students are pursuing their studies in Japan and 40 in the United States.

The custom of saluting by discharges of cannon on royal birthdays and other national holidays was introduced on Sept. 18, in honor of the fortieth anniversary of the Emperor's accession to the throne. The Emperor made donations in aid of the sufferers from cholera, on account of the prevalence of which disease in Seoul the national celebration was postponed until March, 1903.

A memorial intended to commemorate the brilliant events of the present Emperor's reign was begun in April, and will be set up in the capital.

A new monument to Kija, the founder of Korean civilization, already begun, is to be erected in Ping-Yang. On the site of Kija's ancient home a new palace to be built by the Emperor is to occupy a site 1,200 by 800 feet in area.

Equalization of weights and measures throughout the empire, in accordance with imperial decree, is being carried out.

The raids of Chinese bandits on the northwestern frontier were numerous in 1902, but most of them were successfully driven back by the native soldiery armed with modern rifles.

A great fire at Fusan, early in November, made 1,400 people homeless.

L

LIBRARIES, PUBLIC. Statistics for 1901-'02 relating to public libraries owned and controlled by municipalities are given in Bulletin No. 42 of the United States Department of Labor (September, 1902), covering cities having a population of 30,000 or over—137 in all. The accompanying table gives figures for the principal cities, and indicates the nature of the information.

Gifts.—The record of gifts and bequests to American and English libraries, July 1, 1901, to June 1, 1902 (single gifts of \$500 or 250 volumes and over), covers 721 gifts, representing a money value of \$11,974,298.54. Of this amount, \$7,604,000 were contributed by Andrew Carnegie to 234 libraries, including \$6,359,000 given to 214 libraries in the United States. Mr. Carnegie, during about a decade, made gifts to 368 cities and towns for public libraries.

Commissions.—Four new library commissions are to be noted, those for Nebraska, Washington, Idaho, and Delaware.

CITIES.	Number of municipal libraries.	VOLUMES.			
		Number.	Number added during the year.	WITHDRAWN.	
				For home use.	For use in reading-rooms.
New York ...	14	1,447,048	127,926	4,750,698	1,448,751
Chicago.....	1	821,081	14,480	1,772,741	600,000
Philadelphia..	1	239,188	4,962	1,915,687	Not reported.
St. Louis.....	1	170,855	20,855	778,507	208,757
Boston.....	1	812,264	30,887	1,483,513	406,598
Baltimore.....	1	211,449	7,751	635,081	130,753
Cleveland.....	1	171,592	1,469	809,515	Not reported.

Legislation.—During 1901 106 laws were passed in 31 States and Oklahoma Territory. "Much of this legislation aims at the extension of the use of existing libraries, cooperation between municipalities, and the formation of new libraries in small towns, schools, and rural dis-

tricts. Cities and library boards are given greater freedom of action in the establishment and management of libraries; special appropriations are larger, and in six States the maximum tax limit has been raised."

Increase of Books.—President C. W. Eliot, of Harvard University, advocates storing the mass of unused books in a depository away from, and on cheaper ground than the main library, so that shelves and catalogue in the latter may not be clogged by a mass of dead matter. This depository could be a storehouse for the disused books of all the libraries in a certain defined district, and the books would be "reasonably accessible to real students." While the Harvard Committee reported that the policy of discarding books from the library in any large numbers is inadmissible, yet the problem of want of shelf-room, in face of the increasing rate at which large collections are growing, certainly becomes more perplexing and seems to call for "some new policy concerning the storage of these immense masses of printed matter." This recalls the processes of sifting or weeding advocated by C. F. Adams (1893) and others. Correlated principles referred to are that of forwarding to the library which makes dead subjects a specialty books which accumulate on those subjects, and that of the exchange of duplicates, the latter bringing up the oft-discussed scheme of a general "clearing-house." At all events, a scheme like Prof. Eliot's increases the dependence on interlibrary loans.

Methods of cooperation between the great reference libraries as to purchases, by agreement as to which specialties shall be cultivated by each library, help also to avoid unnecessary duplication of certain large groups of books.

In connection with this question, Dr. Billings, in his address as president of the American Library Association, said: "I think it well, however, to remind you of your duties to this your national library, and especially that the librarian of every city, town, or village in the country should make it his or her business to see that one copy of every local, non-copyrighted imprint, including all municipal reports and documents, all reports of local institutions, and all addresses, accounts of ceremonies, etc., which are not copyrighted and do not come into the book trade, is promptly sent to our national library."

New Buildings.—Among the larger library buildings completed during the year are the following: St. Joseph, Mo., Free Public Library (\$96,500 for building, \$11,000 for site); Trenton, N. J., Free Public Library (\$115,000); Cheyenne, Wyo., Carnegie Public Library (\$50,000); first Carnegie library building in New York city—Yorkville Branch of New York Public Library.

Fiction.—The large proportion of works of fiction drawn by readers is always a fruitful subject for discussion. Herbert Putnam, of the Congressional Library, makes the radical suggestion that no work of fiction be purchased by libraries until a year after its publication. Certainly the public library can not satisfy the demand for an immediate supply of a new novel to all who desire it; some must wait, and wait long. The question of indexing fiction by subjects has also been brought up again, and in one library, at least, they have classified fiction on special subjects (as history) with the subject on the shelves.

Bibliography. Cataloguing.—An important event was the transfer of the issue of printed catalogue cards from the Publishing Board of the American Library Association to the Congressional Library. The former body issued in 1902,

as a result of cooperative effort, the carefully annotated *Literature of American History: A Bibliographical Guide*, edited by J. N. Larned, which exemplifies in a striking manner the principles of the "evaluation of literature" advocated by Mr. George Iles. The work of the board has been greatly aided by the gift of \$100,000 from Andrew Carnegie, the announcement of which gift by President John S. Billings formed a memorable event in this year's convention of the American Library Association. It is "a donation for the preparation and publication of reading lists, indexes, and other bibliographical and literary aids."

The issue of index cards for periodicals not covered by Poole's Index is going on, and cards have also been printed for miscellaneous sets, such as the British Parliamentary Papers, the Massachusetts public documents, the National Museum Bulletin, Smithsonian publications, United States Bureau of Education Circulars, and Massachusetts Historical Society Collections.

Traveling Libraries.—In New York State, which has 1,000 traveling libraries, pictures are now sent out as well as books, as also apparatus, scientific collections, and maps; even traveling libraries for the blind have been started. It appears that in many of the States the development of the traveling-library idea is largely due to women's clubs. In the lumber regions of Canada, traveling libraries not seeming expedient, permanent reading-camps are being established, and appear to have good results.

Home Libraries and Reading Clubs.—"Statistics show that the majority of a large city's population will not come to the library." The work of the "home libraries," referred to here in 1900, is extending. Boston is reported to have 60 of them, Baltimore 30, Chicago 30, Philadelphia 4, the New York Public Library 25, Cincinnati 15, Helena 2, and Pittsburg 31. They are usually managed by charitable institutions and libraries, either separately or in conjunction. In the Congressional Library readings for the blind have been begun, T. N. Page and F. H. Smith being among the readers.

Associations.—The New York Library Club has issued a manual which gives information concerning 298 libraries, with branches, 350 in all, and serves as a useful guide to the collections on important special subjects which may be found in the various libraries of the metropolis.

France.—The French Ministry of Public Instruction passed an order on Dec. 24, 1901, permitting and regulating interlibrary loans, the National, Ste.-Genevieve, Mazarin, and Arsenal Libraries, Library of the Institute, and university libraries being authorized to lend duplicates to each other.

Germany.—Adalbert Roquette's pamphlet on *Die Finanzlage der deutschen Bibliotheken* (1902) calls attention to the insufficient means at the disposal of German university libraries. Not only have but few annual endowments been increased, but the large increase in the number of books published as well as augmented prices have served further to reduce the proportion of necessary books which the libraries are able to buy. Impaired usefulness is the natural result. Besides the obvious need of larger appropriations, a well-developed system of interlibrary loans, with a few large libraries as bases of supply, is suggested.

Dr. Chr. G. Hottinger opened a library school for women in Berlin in 1900, with the purpose of opening a wider field for women's work rather than to develop the public-library idea.

Denmark.—Traveling libraries are being fitted out by the Government. These go to small libraries, and from them to the surrounding villages.

Russia.—Theodor Pavlenko, a publisher of Vladivostok, Siberia, has given 100,000 rubles to open public libraries.

Australia.—New libraries are organized with the usual Government aid under the municipalities act. Books for these libraries are furnished up to the limit of £200 by the Government.

Asia.—In April, 1901, was issued Vol. I, No. 1, of the Toheki, official organ of the Kansai Bunko Kyokai or Western Library Association (of Japan), with an interesting table of contents.

A public library of Chinese books was founded at Shanghai by Mr. Loo in 1901.

LOUISIANA. (See under UNITED STATES.)

LOUISIANA-PURCHASE EXPOSITION.

In 1889 the St. Louis Republic of May 12, in discussing centennial celebrations of great events in the history of the United States, said: "In the United States of 1903 all the present Territories of the Purchase will be States, and they will be represented with the whole union here in St. Louis at this centennial of the birth of the nation begotten by Jefferson when he wrote the Declaration of Independence. If 1776 declared our independence of the world, 1803 achieved it, and the States of the Louisiana Purchase should join in making this Western centennial the greatest of all." Discussion continued in various journals, until on June 7, 1896, David R. Francis, at the annual meeting of the Business Men's League, said: "St. Louis is the gateway of that great territory [Louisiana Purchase], and she should celebrate its centennial in 1901 by a great international exposition, second to none ever held in the world." The agitation thus begun continued, and on Feb. 5, 1898, a bill was introduced in Congress providing for the holding of an international exposition in St. Louis in 1903, in commemoration of the Louisiana Purchase. A meeting of the Missouri Historical Society in September resulted in the appointment of a Committee of Fifty, who arranged with the Governor of Missouri for a convention to which the governors of all the States and Territories in the Louisiana Territory were invited to send delegates. This convention met on Jan. 10, 1899, in St. Louis, and 14 Louisiana-Purchase States and Territories were represented. Resolutions were adopted favoring an international exposition to be held in St. Louis in 1903 to commemorate the centennial of the Louisiana Purchase. An Executive Committee, with David R. Francis as its chairman to take charge of the plans, was authorized, and it was decided to invite the United States Government to participate in the exposition and financially assist in promoting it. The Executive Committee determined upon a plan for raising \$5,000,000 by popular subscription, and asking \$5,000,000 from St. Louis and \$5,000,000 more from the United States. The Executive Committee, with increased membership, was then reorganized with Pierre Chouteau as chairman of the General Committee; David R. Francis chairman of the Executive Committee, and committees as follows: Finance, Legal, and Legislative, of which W. H. Thompson, James L. Blair, and F. W. Lehmann were respectively chairman. A bill providing an appropriation of \$5,000,000 by Congress for the exposition was framed, and it was introduced in the House by Representative Joy, of St. Louis, and in the Senate by Senator Cockrell. In April an act to incorporate the Exposition Company became a law. A mass-meeting of citizens of St. Louis, held on April 22,

elicited subscription pledges to the amount of \$4,244,670, and thereafter much activity was displayed in securing additional subscriptions until \$10,000,000 were procured, of which \$1,000,000 came from the State and \$5,000,000 from the municipality of St. Louis. This had its effect upon Congress, and the sundry civil bill passed on June 4, 1900, containing an amendment promising support and \$5,000,000 conditional on \$10,000,000 being raised by St. Louis. On Feb. 9, 1901, the Louisiana-Purchase Exposition bill passed the lower house of Congress, and on March 3 the Senate took favorable action, and the bill was at once signed by the President. A National Commission consisting of Thomas H. Carter, Montana, President; Martin H. Glynn, New York, Vice-President; John M. Thurston, Nebraska; William Lindsay, Kentucky; George W. McBride, Oregon; Frederick A. Betts, Connecticut; John M. Allen, Mississippi; John F. Miller, Indiana; Philip D. Scott, Arkansas; and Joseph Flory, Secretary, was appointed by President McKinley on March 12. The Louisiana-Purchase Exposition Company was incorporated with an authorized capital of \$6,000,000, and at its first meeting, held on May 2, the following officers were elected: President, David R. Francis; First Vice-President, Corwin H. Spencer; Second Vice-President, Samuel M. Kennard; Third Vice-President, Daniel M. Honser; Fourth Vice-President, Cyrus P. Walbridge; Fifth Vice-President, Seth W. Codd; Sixth Vice-President, Charles H. Huttig; Seventh Vice-President, August Gehner; Eighth Vice-President, Pierre Chouteau; Treasurer, William H. Thompson; and Secretary, Walter B. Stevens. Also, the following committees were appointed: Executive, Press and Publicity, Ways and Means, Transportation, Finance, Grounds and Buildings, Concessions, Insurance, and Foreign Relations. The selection of a site was immediately considered, and the municipal authorities authorized the use of the city parks. Seven proposed localities were inspected, and on June 25, 1901, the directors unanimously approved the Executive Committee's selection of Forest Park, and announced the decision, which was approved by the National Commission two days later. The announcement of the following Commission of Architects and Committee on Grounds was then made: Isaac S. Taylor, Chairman and Director of Works; Widman, Walsh, and Boisselier, St. Louis; Barnett, Haynes, and Barnett, St. Louis; Eames and Young, St. Louis; Van Brunt and Howe, Kansas City; Carrere and Hastings, New York; Cass Gilbert, New York; Walker and Kimball, Omaha and Boston; Theodore C. Link, St. Louis. With equal promptness chiefs of the different divisions were appointed as follow: Director, Frederick J. V. Skiff; Education, Howard J. Rogers; Art, Halsey C. Ives; Liberal Arts, John A. Ockerson; Manufacture, Milan H. Hulbert; Machinery, Thomas M. Moore; Electricity, W. E. Goldsborough; Agriculture and Acting Chief of Horticulture, Frederick W. Taylor; Fish and Game, Tarleton H. Bean; Mines and Metallurgy, Chief, J. A. Holmes; Honorary Chief, David T. Day; Transportation, W. A. Smith; Social Economy, Howard J. Rogers.

A Division of Exploitation was organized, and commissioners were sent to foreign countries for the purpose of creating an interest in the exposition and securing exhibits. This commission consists of Thomas W. Cridler, Europe; John Barrett, Oriental Countries; Vittorio Zeggio, Italy; José de Olivares, Argentina, Bolivia, Chile, Paraguay, Uruguay; John Taylor Lewis, Brazil; Ernest H. Wands, Colombia, Ecuador, Peru, and

Venezuela; Charles M. Pepper, Cuba; John Rice Chandler, Costa Rica, Guatemala, Honduras, Nicaragua, and Salvador; F. H. Wennerstrum, Denmark, Norway and Sweden. Resident representatives: Joseph H. Brucker, Berlin; Palmer L. Bowen, Paris; and George F. Parker, London.

The site chosen for the exposition is a well-timbered tract of about 1,300 acres inside the city boundaries, half of which will be occupied by the exhibition. The remainder of the land necessary lies just across a well-known country road, and will be connected with the main body by every device common or necessary in such cases. Within this area are the grounds of Washington University, comprising about 110 acres, which, with the use of the college buildings, only recently completed, were leased to the Exposition Company. In consideration of this privilege, the company will erect buildings to be left upon the ground for the increase of university accommodations. The main group of exhibit buildings will be 15, 11 of which are arranged in the form of a fan, the Art Palace forming the apex at the southwest. The construction of the buildings was promptly undertaken, and on Sept. 3, 1901, the first stake on the world's fair site was driven, with appropriate ceremonies.

The larger buildings include the Art Palace, which will consist of 3 fire-proof pavilions, the central 1 to be permanent. The dimensions of the united structure will be 450 by 830 feet, and the estimated cost is \$1,000,000. In the central structure will be a large International Sculpture Court. Where certain works of sculpture can be shown to better advantage in the open, space will be provided for them in the spaces adjacent to the Art Buildings. There will be spacious, well-lighted galleries for paintings, and specially adapted galleries will be provided for the installation of models of buildings, sculptures and decorations, mural paintings, wood-carvings, and various objects of applied art. Provision will be made for the installation of certain works in stained glass, carving, mosaic, etc., as portions of the Art Buildings.

The building devoted to Education and Social Economy is to be 400 feet wide and 600 feet long, and will cost \$350,000. In this building an effort will be made to bring together, for comparative investigation, the educational systems of every country in the civilized world that is noted for educational progress. In social economy the exhibits will present from each country a complete survey of its natural resources, its industrial organization, and its social problems or efforts for improvement of existing conditions. The scheme includes the study and investigation of official and private bureaus and offices, museums, boards of trade, economic and social-reform associations, congresses, and literature relating to this and all scholastic instructions in business and social economy.

The Electricity Building will be in the Corinthian style of architecture, and is to be 600 feet long by 525 wide, and will cost \$400,000. In the schedule all kinds of apparatus for generating and using electricity are included, and the development of the application of electricity to chemistry will be elaborately shown.

The indoor exhibits of Forestry and the Department of Fish and Game are to be housed in a single building with a frontage of 400 feet and a depth of 600 feet, costing \$350,000. Forestry, its development and methods, together with the products of foreign industries, including appliances for gathering wild crops or products of the

soil, without culture, will be shown in this structure.

The Palace of Liberal Arts, in the classic French Renaissance style, will be 525 feet wide and 750 feet long, and will cost about \$500,000. The subjects in this department include exhibits pertaining to printing and appliances; photography and kindred sciences; books, publications, and bookbinding; printed music; map and map-making; scientific apparatus; the theater and its equipment; science of chemistry; paper and its manufacture; civil and military engineering; sea warnings; gas, water, and sanitation, and the building of tenements.

The Machinery Building is to be 525 feet wide and 1,000 feet long, and is to cost \$496,597. It will contain the power plant for the exposition, developing 10,000 horse-power and transferring 10,000 additional horse-power. The display will show motive power; transmission; machinery for making machinery; machines and systems for preventing and fighting fire; weighing machines; hydraulic machinery; tools and apparatus, and equipment illustrating the economics of machine-shop and factory practise. A boiler-house is to be built a few rods west of Machinery Building.

The Manufactures Building will have a width of 525 feet and a length of 1,200 feet, and will cover approximately 14 acres. It fronts on the main avenue and in the center has a grand court, while over the entrance is a square tower 400 feet high. Colonnades, courts, and loggias are salient features of the architecture. The classification of the exhibits is very extensive and will include representations from nearly all the industrial arts and crafts.

The building devoted to mines and metallurgy will be in the Corinthian style of architecture, with façades of open columns and inner courts. The estimated cost is \$5,000. In this building will be shown all kinds of equipment for use in the working of mines, ore beds, or stone-quarries, including tools, instruments, explosives, lighting apparatus, safety appliances, methods for handling products and for their above-surface transportation, machinery for working purposes, apparatus for washing, devices for milling, equipment for the handling of solutions, mechanical appliances for shaping marble, granite, slate, and all building-stones, equipment for the handling of clays, and apparatus for compressing fuel.

The Textile Building will be 525 feet wide and 750 feet long, with a central court. Its estimated cost is \$320,000. The exhibits form part of those included under the general head of manufacture, although restricted to the special products indicated by the title.

The Transportation Building will cover 15 acres and will be 525 feet wide by 1,300 feet long, and will cost \$700,000. The design of the building will indicate its purposes, the great arches at the ends and to the middle of the long façades simulating entrances for railway-trains. The floor plan provides 4 miles of tracks for railway displays, and ample space for marine transportation exhibits and displays of automobiles and road and farm vehicles of all kinds. Under the heading of transportation is included aerial navigation, which is to be made a prominent feature of the exposition.

The Varied Industries Building will be 525 feet wide by 1,200 feet long, with a central court. It is adjacent to the Manufactures Building, and like it has a tower 400 feet high. Its estimated cost is \$406,000. The exhibits are broadly included under those designated as manufactures. In front of the Liberal Arts, Manufactures, and

Textile buildings is a natural amphitheater sloping to what will be a great basin. Down the slopes of the hill above the cascades will be a long curved architectural screen, with a beautiful Festival Hall in the center and restaurant pavilions at the ends. Sculpture emblematic of 14 States and Territories will constitute an important decorative feature of the screen.

Of the other larger buildings, the Government Building will be on the plateau, east of the Art Palaces, and will be 175 feet wide by 800 feet long. Its estimated cost is \$450,000. The exhibits shown in it are under the supervision of a Government board, organized as follows: J. H. Bingham, Department of Agriculture, chairman; William H. Michael, Department of State; Walter C. Hills, Treasury Department; J. B. Brownlow, Post-Office Department; Frank Strong, Department of Police; Edward M. Dawson, Department of the Interior; B. F. Peters, Navy Department; John C. Schofield, War Department; G. W. Hanger, Bureau of Labor Statistics; W. de C. Ravenel, United States Fish Commissioner; Williams C. Fox, Bureau of American Republics; W. V. Cox, Secretary; W. M. Geddes, Disbursing Officer.

Immediately adjacent to this building will be the pavilion of the United States Fish Commission.

The office of administration will be housed in the building of the Washington University, which has been leased for that purpose. It is of Missouri pink granite and Bedford (Indiana) sandstone, and will cost \$740,000.

In the extreme southwest corner of the grounds will be the department devoted to Physical Culture, which will include a gymnasium 182 feet long and 94 feet wide, to cost \$150,000. The athletic field will be 750 feet long and contain one of the finest tracks in the world.

Among the other buildings of which information is available are: Hawaiian Building, in the form of a cross, being 90 feet each way on the axial lines; Missouri Building, to be a permanent fire-proof structure, to cost \$300,000 and to be used as a museum after the exposition; Press Building, a modest but commodious structure that was dedicated on Oct. 25, 1902; Temple of Fraternity, an adaptation of the Parthenon in Athens, to cost \$200,000, paid for with funds raised by the fraternal orders. The Burns Cottage Association will produce a replica of Burns's Ayrshire cottage and Stirling Castle. Acting under the authority of Congress, the United States Government Commission has appointed a board of 21 woman managers, as follows: Miss Helen M. Gould, New York city, President; Mrs. James L. Blair, St. Louis, Mo., Vice-President; Mrs. Louise E. Frost, Winona, Minn.; Mrs. John A. McCall, New York city; Mrs. John M. Holcombe, Hartford, Conn.; Miss Anna L. Dawes, Pittsfield, Mass.; Mrs. Fannie L. Porter, Atlanta, Ga.; Mrs. Frederick Hanger, Little Rock, Ark.; Mrs. W. E. Andrews, Hastings, Neb.; Mrs. Helen Boice Hunsicker, Philadelphia, Pa.; Mrs. Emily W. Roebing, Trenton, N. J.; Mrs. Jennie Gilmore Knott, Louisville, Ky.; Mrs. Belle Everest, Atchison, Kan.; Mrs. William H. Coleman, Indianapolis, Ind.; Mrs. M. H. DeYoung, San Francisco, Cal.; Mrs. Margaret P. Daly, Anaconda, Mont.; Mrs. Finis P. Ernest, Denver, Col.; Mrs. Edward L. Buchwalter, Springfield, Ohio; Mrs. Mary Phelps Montgomery, Portland, Ore.

Thirty-eight States and Territories have appointed or authorized world's fair commissions, committees, or bureaus. These are: Alabama, Arizona, Arkansas, Colorado, Connecticut, Flor-

ida, Georgia, Hawaii, Idaho, Illinois, Indian Territory, Iowa, Kansas, Louisiana, Kentucky, Maine, Maryland, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Philippine Islands, Porto Rico, South Carolina, Texas, Virginia, Washington, West Virginia, Wisconsin, and Wyoming. Also the following States have made appropriations of the amounts donated herewith: Arizona, \$30,000; California, \$300,000; Colorado, \$100,000; Delaware, \$10,000; Idaho, \$20,000; Illinois, \$800,000; Indiana, \$75,000; Iowa, \$50,000; Maine, \$40,000; Massachusetts, \$75,000; Michigan, \$100,000; Minnesota, \$50,000; Missouri, \$150,000; Montana, \$50,000; Nebraska, \$50,000; New Hampshire, \$25,000; New Jersey, \$20,000; New Mexico, \$25,000; North Carolina, \$25,000; North Dakota, \$25,000; Ohio, \$100,000; Pennsylvania, \$300,000; Rhode Island, \$25,000; Vermont, \$15,000; Washington, \$100,000; West Virginia, \$40,000; Wisconsin, \$65,000; Wyoming, \$30,000; total, \$2,695,000.

There will be, in connection with the exposition, a gathering of congresses, and it is expected that there will be meetings of the different trade-unions. Efforts will be made to procure the meetings of the national conventions and associate conventions for the nominations of candidates for President and Vice-President.

Although nearly all the larger buildings are either completed or nearly so, it was found early in 1902 that the time was too short to prepare properly for a world's fair, and it was therefore decided to have a formal dedication of the grounds and buildings with appropriate ceremonies on April 30, 1903, and to open the exposition a year later, April 30, 1904.

The usual amount of attractive advertising material has been distributed by the Exposition Company, and the World's Fair Bulletin, the first issue of which appeared in November, 1899, is published monthly in the interest of the Louisiana-Purchase Exposition.

LUTHERANS. The statistics of the Lutheran Church in the United States and Canada, gathered and collated for the Lutheran Church Almanac, show a steady progress in every department of church work. The Lutheran Church is one in faith, though, on account of its polity, due very largely to diversity in languages used, it is divided into general and district organizations or synods. The Church, as thus organized, embraces 62 district synods, classified under 4 general bodies and 15 independent synods, all together having 7,090 ministers, 11,678 congregations, and 1,723,819 communicants. It has 4,478 parochial schools, with 3,170 teachers and 184,902 pupils, and 6,104 Sunday-schools, with 57,246 officers and teachers and 525,467 pupils. The benevolent contributions, exclusive of congregational and local expenses, amount to \$1,252,466.26. The statistics of the several bodies are as follow:

BODIES.	Ministers.	Congregations.	Members.	Benevolence.
General Council.....	1,308	2,106	361,048	\$290,390.68
General Synod.....	1,281	1,578	202,531	270,546.95
Synodical Conference	2,129	2,772	509,951	385,739.97
United Synod, South.	215	483	41,795	22,105.31
Independent synods..	2,212	4,789	518,494	383,783.85
Total.....	7,090	11,678	1,723,819	\$1,252,466.26

The educational institutions of the Church number 116, of which 23 are theological seminaries, with 905 students, 50 colleges with 8,833 stu-

dents, 32 academies with 2,962 students, and 11 colleges for women with 1,065 students. These institutions have property valued at \$5,971,642 and endowment amounting to \$1,724,809, with 342,610 volumes in their libraries, employing 898 professors and instructors, who have under their instruction 13,765 students, of whom 2,612 have the ministry in view. Here, again, language differences supply the reason for the multiplicity of institutions, for the list includes English, German, Swedish, Norwegian, Danish, and Finnish colleges and seminaries.

The charitable institutions of the Church number 99, of which 43 are orphanages, 18 homes for the aged and needy, 19 hospitals, 11 immigrant and seamen's missions, and 8 are deaconess institutions. These have property valued at \$4,113,827, and endowment amounting to \$252,655, and care for 23,709 inmates.

The total money value of the property and endowment of the 215 educational and charitable institutions is \$12,062,933. The endowment is an insignificant sum, amounting to not quite \$2,000,000, and comparatively few have any endowment at all.

The General Council embraces 10 synods, 1,303 ministers, 361,048 communicant members. The membership of this general body consists of English, English-German, German, and Swedish congregations, with a small number of Finns and Slavonians. No convention of the general body was held in 1902, but the various mission, benevolent, and educational operations were carried on by boards or committees. The home missionary operations carried on by the General Board and the boards of the district synods received careful attention and number more than 600, with a membership of more than 30,000. The missions in Porto Rico and in East India have received special attention, the former receiving two additional missionaries and the latter 7. This more than doubles the missionary force in India, counting only those that have been sent from America, the entire force of workers being 160. Progress has been made in the erection of new buildings, increasing the teaching force, and adding new courses and new departments in the various institutions.

The General Synod, the oldest general body in America, embraces 24 district synods, mostly English, 1,231 ministers, 1,578 congregations, and 202,531 members. No convention of this body was held in 1902, but its various operations were carried on by boards charged with specific duties. Its home missionary operations are extensive and widely scattered in many of the States, and its mission in India is in a flourishing condition, with a college having more than 700 students.

The Synodical Conference.—This general body, organized in 1872 and embracing 3 district synods, 2,129 ministers, 2,772 congregations, and 599,951 members, almost exclusively German, held its nineteenth biennial convention in St. John's German Church, Milwaukee, Wis., beginning July 23, 1902. Seventy delegates were present, representing the Synod of Missouri, Ohio, and other States; the General Synod of Wisconsin, Minnesota, and Michigan; and the English Synod of Missouri and other States. The following officers were elected: The Rev. John Bading, Milwaukee, Wis., president; the Rev. Philip Brand, Pittsburg, Pa., vice-president; the Rev. Prof. John Schaller, New Ulm, Minn., secretary; Prof. A. Ackermann, New Ulm, Minn., assistant secretary; and Mr. H. A. Christiansen, Detroit, Mich., treasurer. The Norwegian Synod, numbering 340 ministers, 850 congregations, and 76,370

members, though not a member of this general body, was represented by delegates who were warmly welcomed by the president. In response, the Rev. O. P. Vangness, of Story City, Iowa, emphasized the unity of spirit and friendly relations existing between his synod and the synodical conference. As the Norwegian Synod expects to celebrate the fiftieth anniversary of its organization in 1903, a committee, representing the synods in connection with the general body then in session, was elected to attend the anniversary convention. The request of the English Synod that the general body should cooperate in their work of carrying on English missions met with favorable action to the extent that those synods that have not yet created a fund for English missions were advised to do so. The necessity of prosecuting the English work was emphasized by various speakers. The request for a standard text of Luther's Small Catechism and explanation was referred to a committee with instructions to report at the next convention. The committee was also instructed to report on the question of liturgical uniformity in English congregations within the bounds of the general body, including the congregations connected with the Norwegian Synod, which body is to be represented in this work. The committee appointed at a former convention to revise the translation of Luther's Small Catechism, reported additional changes in the proof-text already issued. It was resolved to publish the amended text with editorial notes on the changes suggested, and to take final action at the next convention of the conference. The doctrinal treatise prepared by Prof. E. A. W. Krauss, director of the seminary at Addison, Ill., on the subject of alleged contradictions in the Bible was carefully and thoroughly discussed. A full report of the missionary operations among the negroes of the South was presented and ample time was given to its consideration, much interest being manifested in this difficult, but growing work. The receipts from all sources during the past two years amounted to \$36,085.97. Additional workers are to be placed in the field, and one, or perhaps two, preparatory schools for negro students are to be established. This body also carries on missionary operations in East India and in Brazil and other South American countries, but reports of these operations are not accessible. The next convention will be held in Winona, Minn., in 1904.

The United Synod, South.—This general body, organized in 1886 and consisting of 215 ministers, 433 congregations, and 41,795 members, almost exclusively English, held its eighth biennial convention in St. John's English Church, Charleston, S. C., beginning May 7, 1902. When the convention was formally opened, the president presented his report, in which he gave an account of work done, and presented a wide field of pressing work to be done in home and foreign missions, education, work among the orphans, and other benevolent operations. The following officers were elected: The Rev. Robert A. Yoder, D. D., Newton, N. C., president; the Rev. Andrew G. Voigt, D. D., Wilmington, N. C., vice-president; the Rev. Samuel T. Hollman, D. D., Newberry, S. C., secretary, and Charles Duls, Esq., Charlotte, N. C., treasurer.

The mission in Japan is in a prosperous condition, having several native pastors on the ground. Addresses were delivered, urging an earnest prosecution of the work. Home missionary operations occupied the earnest attention of the convention. The cry comes from the West

and Southwest for missionaries, in order that congregations may be organized among the scattered Lutherans. A plan was referred to the Board of Missions to place a traveling missionary in Mississippi. The general body signified its willingness and readiness to cooperate with the Northern bodies in the effort to develop the immense territory bordering on the Gulf, into which thousands of Lutherans are pouring from all sections of the country. The most encouraging feature of the convention was the announcement of the success in the effort to raise \$30,000 toward the endowment of the theological seminary at Mount Pleasant, S. C., thus enabling the institution to secure the service of an additional professor. The Sunday-school question received careful attention, and the work was referred to a permanent committee. One of the unique features of the convention was the attendance of a group of Eskimo Lutherans who superintended an exhibit at the Charleston Exposition. The next convention of this body will be held in Newmarket, Va., in 1904.

The Norwegians in the United States are organized into 4 separate and independent synods, numbering altogether 921 ministers, 2,701 congregations, and 277,826 members. Of these, the United Norwegian Church is the most active and progressive. The thirteenth annual convention of this synod was held in Minneapolis, Minn., June 18-26, 1902. The convention was attended by more than 700 clerical and lay delegates. The recent death of the Rev. Gjermund Hoyme, president of the United Church, whose familiar figure had been so prominent at every previous meeting, caused a spirit of deep sadness to pervade the gathering. The following officers were elected: The Rev. T. H. Dahl, Stoughton, Wis., president; the Rev. Nils J. Ellestad, Norway, Minn., vice-president; the Rev. Jens C. Roseland, Austin, Minn., secretary; and Hon. Lars Swenson, Minneapolis, Minn., treasurer. President Dahl, who was acting president during the Rev. Mr. Hoyme's sickness, presented a very interesting and encouraging report, especially of the English work. He called attention to the fact that those ministers who are without parishes would more readily receive calls if they could use the English language. He emphasized the necessity for more English-speaking graduates from the theological seminary, and recommended the election of an additional English Professor of Theology. He declared that the English question has become one of life or death among the Norwegians in America. This convention of the United Church marked the culmination of a great and successful effort to erect buildings for its theological seminary at St. Paul, Minn., and for its college at Northfield, Minn. During the two years preceding this convention the United Church collected and paid \$176,311.26 for these two institutions. On June 15, 1901, the large new college building at Northfield was dedicated, and on June 22, 1902, the new building for the theological seminary was dedicated free of debt. It is in St. Anthony Park, St. Paul, and cost more than \$80,000. The building has accommodations for 100 students, with lecture-rooms, chapel, fire-proof library, hospital rooms, dining-room, and kitchen. The building with its site of 9 wooded acres is worth \$100,000. The individual contributions toward this object were in many instances exceedingly small, but they came from all parts of the territory of the synod. A beautiful library building was erected at Northfield at an expense of \$13,000, the gift of Mr. Halle Steensland, Norwegian-Swedish consul at Madison, Wis., and

chairman of the United Church Board of Trustees. The synod also took steps at this convention toward the erection of a chapel at the college at Northfield as a memorial to the late president Hoyme, which is to cost \$20,000. Steps were also taken toward gaining control of all the academies now connected with the synod, and arranging their courses of study with reference to the synodical college at Northfield.

Icelanders.—The Icelandic Evangelical Lutheran Synod of North America held its eighteenth annual convention in the Icelandic Lutheran Church at Gardar, N. Dak., June 21-26, 1902. Gardar is a small settlement 7 miles north of Edinburg, and is thus described by the Rev. Alfred Bergin, representative of the General Council to this convention: "The settlement consists of people who call Iceland their native home. In the township of Gardar nearly every one hails from the little island in the Arctic Ocean. Every one belongs to the Lutheran Church of Gardar, of which the Rev. Frederick J. Bergman is pastor. Two stores, several residences, a town hall, a schoolhouse, and near it a beautiful church, make the center of this Icelandic settlement. The country round is very beautiful, lying among the groves and along the bubbling brooks on the slopes of the so-called Pembina mountains, among which the thrifty sons of the vikings have built themselves excellent and inviting homes." The synod consists of 8 ministers and 34 congregations, of which 16 are in North Dakota and Minnesota and 18 in Canada; the communicant membership is 3,726, whose church property is valued at \$40,975. The synod supports excellent Sunday-schools, an active Luther League, and Prof. Frederick J. Bergman as teacher in Wesley College, at Winniford. The synod has no institution of learning of its own; but it has a well-edited church paper, a Sunday-school paper, and political and literary journals. The whole number of Icelanders in North America does not much exceed 15,000. The officers of the synod are: The Rev. Jon Bjarnason, Winnipeg, Manitoba, president; the Rev. Frederick J. Bergman, Gardar, N. Dak., vice-president; the Rev. Bjorn B. Jonson, Minnesota, Minn., secretary; and Mr. Jon A. Blondahl, treasurer. The great need of the synod is a larger number of ministers, and mission work is carried on with great zeal. The next convention will be held at Argyle, Minn., in June, 1903.

German Iowa Synod.—The largest and most active of the independent synods is the German Evangelical Lutheran Synod of Iowa, organized in 1854, consisting of 451 ministers, 824 congregations, and 74,058 members, with a population of 150,000. The sum of \$352,341.51 was raised in 1902 for church, missions, education, and other purposes. The synod has a very efficient theological seminary at Dubuque, Iowa, a college at Clinton, Iowa, a teachers' seminary at Waverly, and two orphanages, also in Iowa. The synod is divided into 7 districts, covering all the territory from North Dakota to Texas, and from Ohio to Washington. These district synods meet annually, while the Iowa Synod proper, as a delegate body, convenes triennially. The last convention was held at Dixon, Ill., Aug. 19-26, 1902. The following are its officers: The Rev. John Deindorfer, D. D., Waverly, Iowa, president; the Rev. Fr. Richter, D. D., Clinton, Iowa, vice-president; the Rev. Emil H. Caselmann, Charles City, Iowa, secretary; and Prof. August Engelbrecht, Waverly, Iowa, treasurer. Besides the sessions at which much business was transacted, pertaining to missions and education, a large portion of the time was devoted to doctrinal discussion.

The subject discussed was What are the duties imposed upon Christian parents and congregations by the baptism of children? The General Council was represented at this convention by the Rev. Gottlieb C. Berkemeier, D.D., of Mount Vernon, N. Y. The next meeting will be held at Waverly, Iowa, in 1905.

General Lutheran Conference.—The second general conference of Lutherans in North America was held in Philadelphia, Pa., April 1-3, 1902. Representatives in large numbers were present from the General Council, General Synod, and United Synod of the South, and numerous topics bearing on the doctrines, worship, and life of the Church were discussed. The opening address was delivered by the Rev. Prof. Henry E. Jacobs, D.D., LL.D., dean of the theological seminary at Mount Airy, Philadelphia, who called attention to the fact that while the center of the Lutheran population is west of Chicago, the people of the three general bodies represented in the conference are massed mainly near the Atlantic coast, the original home of the early Lutheran settlers in this country. The following subjects were presented in carefully prepared papers, and discussed by the conference: Justification by Faith, the Rev. L. G. M. Miller, D.D., Roanoke, Va.; The Doctrine of Justification in its Relations, the Rev. Prof. J. W. Richard, D.D., Gettysburg, Pa.; The Relation of Young People's Societies to the Congregation, the Rev. C. Armand Miller, New York city; The Place of the Holy Spirit in Lutheran Theology, the Rev. Jason C. Moser, D.D., Hickory, N. C.; The Lutheran Doctrine of the Sacraments, the Rev. L. E. Busby, D.D., Salisbury, N. C.; Christian Liberty and its Limitations, the Rev. Prof. Stephen A. Repass, D.D., Allentown, Pa.; The Historical Deaconess Work and American Conditions, the Rev. Gottlieb C. Berkemeier, D.D., Mount Vernon, N. Y.; Parochial Schools in Relation to our Congregations, the Rev. George C. F. Haas, D.D., New York city; A Native Ministry for Congregations in Foreign Fields, the Rev. J. H. Harpster, D.D., Guntur, East India; Women as Helpers in the Practical Work of the Church, the Rev. J. P. Krechting, D.D., New Germantown, N. J.; The Spiritual Priesthood of Believers, the Rev. John A. Hall, D.D., Canton, Ohio; Are our Present Methods of Sunday-School Work Adequate? the Rev. David H. Geissinger, D.D., Pittsburgh, Pa., and the Rev. Prof. J. A. Singmaster, D.D., Gettysburg, Pa.; The Attitude of the Lutheran Church toward Current Discussions concerning the Holy Scriptures, the Rev. F. H. Knubel, New York city; Problems of Church Polity, the Rev. Prof. Jacob Fry, D.D., Philadelphia; The Defamers of Luther, the Rev. J. J. Young, D.D., New York city.

Luther League of America.—This association of young people of the Lutheran Church held its fifth national convention in St. Paul and Minneapolis, Minn., July 8-10, 1902. Representatives of 14 States, numbering 200, were present. The officers of the society are: William C. Stoever, Esq., Philadelphia, Pa., president; C. G. Grauer, Buffalo, N. Y., recording secretary; the Rev. Charles K. Hunton, Columbus, Ohio, statistical secretary; the Revs. Charles L. Fry, Philadelphia, Pa., and George H. Schnur, Chillicothe, Ohio, literary secretaries; and Mr. John F. Dinkey, Rochester, N. Y., treasurer. The first session of the convention was held in the First Swedish Church of St. Paul, which is also the oldest Lutheran church in that city. The business sessions were held in the English Memorial Church, beginning on Wednesday, July 9, 1902. Among the reports presented was that of the sta-

tistical secretary, the Rev. Charles K. Hunton, of Columbus, Ohio, which estimated the membership of the league at 34,305, although a large number of leagues had not reported. A conservative estimate places the total membership at 70,000. A large part of the time of the convention was devoted to the discussion of papers read. The topic of the convention was Praying and Working; Working and Praying, and this theme was chiefly considered in all the papers and addresses. The first paper was by the Rev. John E. Whitteker, D.D., of Lancaster, Pa., on Working and Praying must be Joined. The second paper was by Miss Josephine Maedel, of Kansas City, Mo., on Power and Prayer. Other papers followed bearing on different phases of the general subject, as Prayer without Work; Work without Prayer; Praying and Working—the Forces Moving the World. The interest of the convention was enhanced by the presence of Miss Ellen M. Stone, lately released from captivity among the brigands of Bulgaria, who spoke of her experience and release from captivity as a wonderful result of the power of prayer. According to its usual custom, the convention held a grand rally meeting, as its final session, in the auditorium, which comfortably held the 2,500 persons present. A special feature of this meeting was the Luther League Chorus of 200 voices, under the direction of Peter Johnson, of the First Swedish Church of St. Paul. Among the selections rendered by this chorus was Luther's great battle hymn—A Mighty Fortress is our God.

The most conspicuous event of 1902 in the history of the Luther League of America, as reported by the Rev. Charles L. Fry, of Philadelphia, is the election of its first general secretary, who is to devote his entire time to the furtherance of the league's work and have general oversight of its affairs. The election was held in Philadelphia on Nov. 15, 1902, and resulted in the unanimous choice of the Rev. Luther M. Kuhns, of Omaha, Neb. The major part of his support was generously tendered by the Luther League Review, a monthly published in New York city in the interest of the association. The league has also added another proof of its substantial value to the church as an educational factor, especially among young people, by beginning the publication of a Lutheran Calendar, under the editorship of the Rev. Charles L. Fry, giving 365 data of all phases of missionary activity and rescue work now prosecuted by the Lutheran Church in all countries on the globe. The salient features of each institution and agency named, from Jan. 1 to Dec. 31, are set forth in a few terse sentences. Women's missionary societies, representing the General Synod, the General Council, and the United Synod of the South, have combined with the Luther League in publishing and circulating the calendar. To bring about such a cooperation of all the bodies in the Lutheran Church of America was one of the chief objects of the league's organization.

The Lutheran Liturgical Association.—This association was organized at Pittsburgh, Pa., Oct. 3, 1898. Its officers are: The Rev. Luther D. Reed, Allegheny, Pa., president; the Rev. Prof. Elmer F. Krauss, Chicago, vice-president; the Rev. R. Morris Smith, Baden, Pa., secretary and treasurer; and the Rev. Prof. George J. Gonga-ware, Greensburg, Pa., archivarius. Its membership consists of clergymen and laymen in all parts of the Lutheran Church who are interested in promoting beauty, correctness, and a desirable uniformity in the external life of the Church.

upon the basis of a study of liturgical history in general and of the liturgical principles and usages of the Lutheran Church in particular. Its interests embrace the entire liturgical field of public worship and Christian art, and all that these include in liturgy, architecture and ornament, church music, hymnology, and ministerial acts. Monthly meetings are held in the First Lutheran Church, Pittsburg, Pa., at which papers are read and discussed. Many of these papers embody the fruits of years of investigation. They are published in the *Memoirs* of the association.

Payment of 50 cents annual subscription to the *Memoirs* constitutes the subscriber a member of the association and entitles him to every publication as it is issued during the current year. Nine papers were published in 1902, and these are now available in a bound volume. The association has had a remarkably rapid growth in membership and in the distribution of its literature. The present membership numbers 410, representing 20 States of the Union and the 4 general bodies of the Lutheran Church in America, besides various independent synods.

M

MADAGASCAR, an island colony of France, near the southeast coast of Africa, formerly a kingdom, proclaimed a French protectorate in 1885 and declared a colony on Aug. 6, 1896. The colony is administered by a Governor-General, Major-Gen. Gallieni. The area of the island is estimated at 227,750 square miles, including the small islands of Nossi Bé, Sainte Marie, and Les Îles Glorieuses. The population at the end of 1900 was 2,244,872, composed of 2,242,443 natives, 488 Asiatics and Africans, 1,193 French, 374 English, 33 Germans, and 341 other Europeans. In 1901 there arrived 157 French immigrants, against 122 in 1900. The civilian officials number 760. Slavery was abolished in 1896, and forced labor on public works in 1901, when the personal tax was increased from 5 to 10, 15, or 20 francs and in the capital to 30 francs. Antananarivo, the capital, formerly the seat of the Hova dynasty, has about 50,000 inhabitants. The Hovas, who ruled the island before the French conquest, are a Malayan people who were partly civilized, and the majority nominally converted to Christianity. They number about 850,000. The Christian population in 1895 was estimated at 450,000 Protestants and 50,000 Catholics. A large proportion of the Protestants have since become Catholics. The French have organized a system of public schools wherever their actual jurisdiction extends unless mission schools were already in existence. The ordinary revenue in the year ending June 30, 1901, was 19,400,000 francs, and expenditure 17,100,000 francs. The French Government gives a subvention of 700,000 francs, but the expenditure of France in 1902 was 31,340,003 francs in addition to this. The old Malagasy debt was converted in 1885, and a loan of 60,000,000 francs has been raised for public works. The cost of the garrison in 1902 was 12,142,120 francs. There were 50 French officers, 8,763 French troops, and 8,235 native and African troops. The value of imports in 1900 was 39,895,897 francs; of exports, 10,623,810 francs, including 3,600,000 francs for gold and gold-dust, 2,025,000 francs for raffia, 1,825,000 francs for caoutchouc, 1,150,000 francs for cattle, 500,000 francs for hides, 500,000 francs for wax, and 225,000 francs for vanilla. The principal imports are textiles, beverages, flour and meal, and metal goods. Three French steamship lines run to the port of Tamatave, on the east coast, which has a population of 15,000. The number of vessels entered and cleared at all the ports during 1900 was 12,823, of 2,018,951 tons, of which 1,823,136 tons were French. The chief occupations are cattle-raising and agriculture. Rice, manioc, sugar, coffee, cotton, cacao, vanilla, tobacco, and sweet potatoes are the principal cultivated products. In the forests are obtained rubber and many valuable woods. The forests are preserved

by law. French settlers receive farms of 100 hectares free, and the same amount of land can be obtained by foreigners at a fixed price. The natives weave silk, cotton, and raffia fiber, and are skilful workers of metals. Gold is found in many districts, and copper, galena, sulfur, graphite, and lignite exist in extensive deposits, but are not mined on a large scale. There were 300 mining concessions, covering 1,425,000 acres in 1900. Many Boers during and after the South African War went to Madagascar, and some of them acquired land for settlement. Roads have been built by the French, who expended 3,126,405 francs for the purpose in 1899. The lagoons on the east coast are being connected by canals. There are 2,610 miles of connected telegraph-lines. The railroad from Tamatave to Ivondro connects with the canal, and from Jaroka, another point on the lagoons, a railroad is being built to Antananarivo, situated on the interior plateau. The western port of Mojanga has been improved and in 1902 exported 6,000 cattle. In 1901 prospectors for gold located 322 new claims, but only 60 placers were worked. The quantity of gold exported in 1900 was 1,114 kilograms; in 1901, 1,045 kilograms. Diego Suarez, where a French colony was established in 1895, has been converted into a first-class naval and military port. French enterprises and settlements are most numerous in this northern part of the island, and here several Boer families of French descent have located farms. With the completion of the road from Antananarivo to the series of coast lagoons and canals the system of human portage began to give place to transport in carts, drawn at first by men, who are being replaced by mules and oxen.

MAINE. (See under UNITED STATES.)

MANITOBA, a province of the Dominion of Canada; area, 73,956 square miles; population in 1901, 254,947. Capital, Winnipeg.

Government and Politics.—The Government of Mr. Roblin remained unchanged during the year, and also kept its place as the only one of the provincial governments of Canada that was purely Conservative. The executive was made up of R. P. Roblin, Premier, President of the Council, and Commissioner of Immigration and Railways; J. A. Davidson, Treasurer and Commissioner of Provincial Lands; D. H. McFadden, Provincial Secretary and Municipal Commissioner; C. H. Campbell, Attorney-General and Minister of Education; Robert Rogers, Minister of Public Works. The Legislative Assembly was made up of 26 Conservatives and 13 Liberals, under the leadership of T. Greenway, and 1 Independent, with W. Hespeler as Speaker. The session was opened by Lieut.-Gov. Sir D. H. McMillan, on June 9, 1902, with a speech from the throne, of which the following are the significant portions:

"The abundant harvest vouchsafed by Providence has been a source of great prosperity to the province. The Canadian Northern Railway Company have completed their line to Port Arthur. The much-needed consolidation of the statutes is being proceeded with by the commissioners, and will, it is expected, be completed within the year.

"I regret to say that the Federal Government has, notwithstanding the strenuous exertions of my Government, as yet failed to pay over to the province the accumulated interest upon the school moneys and the interest derived from the sales of school lands. You will be asked to take measures to convince the Federal authorities that the just demands of Manitoba in this respect should not be any longer disregarded. In consequence of the existing situation, it may be necessary to introduce legislation dealing with the moneys now paid to schools and to amend the school act. The Federal Government has, to the surprise and regret of my advisers, disallowed the real property act passed by this Assembly. This act was so obviously beneficial that it has been decided to reintroduce it, in the expectation that a measure purely provincial, and urgently called for, will not again be disallowed."

The House was prorogued on March 1 by the Lieutenant-Governor, who assented to several enactments, in the King's name, of which the following were the most important:

Respecting real property in the province of Manitoba.

Respecting Mennonite village agreements.

To amend the game protection act.

To amend the bills of sale and chattel mortgage act.

To provide for a charter for the city of Winnipeg.

To amend the assessment act.

To amend the corporations taxation act.

Respecting certain guaranteed bonds of the Canadian Northern Railway Company.

To amend the Manitoba interpretation act.

To amend the Manitoba trustee act.

To amend the public schools act.

Finances.—The budget speech of the Hon. Mr. Davidson was delivered on Feb. 4, 1902. He first dealt with the assets of the province, including \$3,578,941 in Dominion Government capital account, and \$314,853 in the same account, which the Federal authorities had not yet admitted as due by them to the province; \$99,259 advances by the province to municipalities; \$850,104, the value of public buildings owned by the province; 7,700,000 acres of provincial lands at \$3 an acre, \$23,100,000; \$41,065 drainage districts interest account; and \$145,903 cash on hand. The liabilities consisted of provincial debentures valued at \$4,040,013, and, deducting this from the total assets of \$28,130,128, left a surplus of direct assets over direct liabilities of \$24,090,115. He pointed out that there were also indirect assets and liabilities that balanced each other and were made up of guarantees on bonds of the South-western Colonization and Canadian Northern Railways and drainage district debentures. The ordinary receipts of the year were \$371,196, and the expenditure for matters over which the Government had control was placed at \$380,571.

He explained the use to which the \$500,000 loan of the preceding year had been put. The expenditures in this connection included \$238,146 upon the Greenway Government deficit; \$54,812 on public buildings; \$14,472 on the foundation of the Parliament buildings; \$17,772 on railway bonuses; \$7,775 given to Souris Branch Railway;

\$1,996 land refunds; \$7,417 interest on Emerson and Minnidosia loans; \$32,420 on drainage debenture interest; \$4,592 on half-breed mortgages; \$31,276 on seed-grain loans; and \$21,636 on land surveys—a total of \$442,310. "This," he explained, "is decreased by receipts on ledger accounts—such as school debentures, seed-grain loans, creamery loans, and other items—to the amount of \$27,717.91, leaving a total expenditure of \$414,592.97. This leaves \$85,407.03 of the loan unaccounted for. The surplus last year was \$11,051.34; this year, \$49,444.73. The total of these three items is \$145,903.10, which is the cash on hand." According to the public accounts the total expenditure of the province for the year ending Dec. 31, 1901—less certain items in open ledger and trust accounts—was \$988,250.

The estimates for 1902 were presented to the Assembly by Mr. Davidson on Feb. 4. The total proposed expenditures were \$1,288,868, and the total revenue was placed at \$1,534,613. The estimated revenue included a Dominion subsidy of \$557,513; interest on school lands' fund, \$350,000; fees from land titles of \$90,000; interest, \$38,000; from provincial lands, \$20,000; from lunatic asylums, \$48,000; succession duties, \$10,000; insurance act fees, \$14,600; corporation tax, \$32,000; railway tax, \$100,000.

Prohibition.—This question went through a new and important phase in 1902. The liquor act passed by the Macdonald Government in 1900, as a result of strong pressure at the polls and of a plebiscite in favor of prohibition two years before, which had recorded 12,270 votes for and 2,974 against, was now submitted to another referendum. The act, which practically prohibited the sale of liquor in the province, had been declared constitutional by the Judicial Committee in London; but instead of putting it in force by proclamation, the Government decided that conditions had changed, and that the 49,304 votes on the rolls which had not been polled for or against the policy should be considered. It was therefore decided to refer to the people the whole question of putting the law into force. The conditions of the vote were complicated. If 45 per cent. of the registered electors vote "Yea," then the law should take effect. Again, if 60 per cent. of those on the lists voted, and if 60 per cent. of those voting declared themselves in the affirmative, the act should become effective. But if fewer than 60 per cent. of the entire electorate voted, then the proportion required might be raised to 66½ per cent. of those voting, according as the total fell below 60 per cent.

By this arrangement, 36 per cent. of the registered votes would be entitled to enact prohibition. The result of this policy was a species of chaos in the temperance ranks. The Manitoba branch of the Dominion Alliance met on June 16 and passed resolutions, by a nominally unanimous vote, expressing non-confidence in the sincerity of the Government and its desire to enforce the liquor act, and advising Prohibitionists not to vote.

W. Redford Mulock, K. C., took a prominent part in arguing the unconstitutionality of the referendum. The resolutions were promptly presented to the Government, and in reply the Premier would only promise careful consideration. In the Legislature the Government policy was discussed at length, chiefly in connection with the second reading of the referendum bill on Feb. 25. The Attorney-General, in moving the measure, had explained its nature, its limitations, and the reasons for its enactment. Mr. Greenway, the

Opposition leader, declared himself to be the first prominent politician in the province to promise the Prohibitionists (in 1899) all they asked, and the first also to be turned down because of that position. The whole thing was a party question. He personally intended to go out and vote in favor of the enforcement of the act. Would the temperance people, for chagrin or vengeance, allow it to go out to Canada and the world that they did not want their own act?

The Premier's personal opinion of the liquor act of 1900 was expressed in a letter which was made public: "It is no prohibition bill whatever; it is simply a bill providing for free whisky without any control by the Government, which any man in the province can get at any hour and in all quantities that he desires. That being the fact, I do not think the indorsement or otherwise of the act is justification for classing a man a Prohibitionist or otherwise."

Meanwhile, the Dominion Alliance, on Dec. 26, 1901, had petitioned the Governor-General and the Lieutenant-Governor, asking them to disallow the act on the ground that the reference to the people would be subversive of the principles of representative and responsible government and injurious to the dignity and prerogative of the Crown, if not *ultra vires* of the British North America act. The Hon. Mr. McFadden, in a report to the Lieutenant-Governor on March 27, mentioned the fact of the measure's passing unanimously, and concluded that the questions involved were wholly within the constitutional rights of the province. On April 2, 1902, the vote was taken, and it resulted in the distinct defeat of the measure. The official statement of May 5 showed 73,897 entitled to vote, 38,071 actually voting, 22,464 voting against the act, and 15,607 for it.

Agriculture.—The prosperity of the province, as shown in its agricultural production of 1901 and 1902, was phenomenal. In the former year its farmers sold 50,502,085 bushels of wheat at \$25,251,042; 27,796,688 bushels of oats, \$7,505,078; 6,536,155 bushels of barley, \$2,287,304; 266,420 bushels of flax, \$319,704; 62,261 bushels of rye, \$24,904; 16,349 bushels of peas, \$9,809; 4,797,433 bushels of potatoes, \$1,199,358; 2,925,362 bushels of roots, \$292,536; 5,208,740 pounds of butter, \$837,964; 1,039,392 pounds of cheese, \$8,348; poultry and eggs, \$250,000; cattle (44,500), \$1,052,000; hogs (25,000), \$250,000—a total of \$39,368,051.

According to an official bulletin issued at Winnipeg on Dec. 12, 1901, the area under wheat had been 2,011,835 acres; the average yield per acre was 25 bushels. Under oats there was an area of 689,951 acres, with an average yield of 40 bushels. Under barley the area was 191,009 acres, with an average yield of 34 bushels. In flax, rye, and peas the total production was 345,030 bushels and the acreage 24,564. The total grain-crop of the province with its 35,000 farmers was 85,179,858 bushels. In potatoes there was an acreage of 24,429 and an average yield of 196 bushels to the acre. In roots the area under crop was 10,214 acres and the average yield 286 bushels. In 1901 the farmers of the province sold 77,220 turkeys, 33,940 geese, and 306,365 chickens. They erected new buildings to the value of \$1,434,880, and broke in 149,305 acres of new land for the crop of 1902.

Dairying was described in the bulletin as steadily increasing, and lists were given of 28 creameries and 37 cheese factories in the province. Of provincial lands available for sale at prices ranging from \$2.50 to \$6.50 an acre, there were in the beginning of 1902 about 2,000,000 acres.

The final bulletin for the year of the provincial Government was issued on Dec. 6, and gave the following statistics: Wheat area in crop, 2,039,940 acres; average yield, 26 bushels; total yield, 53,077,267 bushels. Oats, area in crop, 725,060 acres; average yield, 47.5 bushels; total yield, 34,478,160 bushels. Barley, area in crop, 329,790 acres; average yield, 35.9 bushels; total yield, 11,848,422 bushels. Flax, area in crop, 41,200 acres; average yield, 13.7 bushels; total yield, 564,440 bushels. Rye, area in crop, 2,559 acres; average yield, 19.5 bushels; total yield, 49,900 bushels. Peas, area in crop, 1,596 acres; average yield, 21.4 bushels; total yield, 34,154 bushels. Potatoes, acres, 22,005; bushels, 159; total bushels, 3,459,325. Roots, acres, 12,175; bushels, 265; total yield, 3,240,995 bushels. The total grain-crop of the province was 100,052,343 bushels. The poultry disposed of by farmers included turkeys, 83,905; geese, 34,270; chickens, 363,020. The land prepared for the crop of 1903 included breaking, 151,395 acres; fallowing, 563,730 acres; fall plowing, 1,015,870 acres. The total area prepared for the crop of 1903 was 1,730,995 acres.

Provincial Boundaries.—This subject was much discussed in connection with the claims of the Northwest Territories for provincial status and the consequent possibility of fixing boundary-lines. In the Manitoba Legislature a resolution was presented by the Premier on Feb. 28, 1902, and unanimously passed. It declares:

"(1) That this House is of the opinion that it is desirable, both in the interests and for the welfare of the province of Manitoba and the Northwest Territories, that the area of the former should be increased by an extension of boundaries so as to embrace and include a portion of the districts of Assiniboia and Saskatchewan, and northward to Hudson Bay. (2) That a committee—consisting of such members of this House as comprise the Executive and Messrs. Greenway, Mickle, and Burrows—be appointed to make all due inquiries into all and singular the best means of bringing about the said object, and to ascertain the most favorable terms and conditions upon which the boundaries of the province may be so extended."

The Grain Act.—A measure passed the Parliament of Canada this year and had its second reading in the Commons on May 7, dealing with important regulations regarding warehouses and station platforms, etc. It varied little in its final form from the bill as originally drawn by Mr. Sifton after consultation with the western Liberal members. The measure provided that buyers must receive all six standard grades; this was designed to meet a difficulty that farmers met with at a few points last season, when buyers refused to make room for the best grades of wheat. As to flat warehouses, there could be as many at any station as the commissioner thought necessary, and the railways would be obliged to furnish locations on a siding for all approved by the commissioner. Railways must within thirty days erect a suitable loading platform at any station, upon a petition from 10 farmers resident within 20 miles. There was to be no charge for the use of such loading platform; and where there was no loading platform the railways were to furnish cars for direct loading.

Provincial Lands.—On Feb. 4, 1902, the report of the department showed land sales of \$150,286; deferred payments of \$46,284 principal and \$17,074 interest; and miscellaneous receipts of \$6,992. In the year 161,786 acres had been sold for \$482,289. The prices ranged from \$2 to \$8 and averaged \$2.99 an acre. There was an in-

crease over 1900 of 91,930 acres sold, and the average price was 10 cents an acre greater. The total area of land acquired by the province was stated at 1,689,250 acres, and 291,897 acres had been sold.

Public Works.—Mr. Rogers reported on Jan. 30 to the effect that the Municipal Councils were rapidly learning the value of proper road work. Colonization roads had been built into several districts not supplied by railways. A road had been built for this purpose to Edrans, south of Arden. An outlet had been given the settlers in Gimli district, the Fairford road had been improved, a road was built near Whitemouth, and one was started that would run from Vassar to Pine River. The only bridges of importance completed during the year were at Portage la Prairie over the Assiniboine and at Rapid City over the Little Saskatchewan. Grants were made, to the amount of \$10,000, to assist in building bridges in other parts of the province. A great deal of work had been done in constructing drains. The Government had not only given financial aid to municipalities for this purpose, but had placed the services of engineers at the disposal of authorities.

Education.—The school population of Manitoba in 1901 was 63,881; the number of pupils registered was 51,888; the average attendance was 27,550; the number of teachers was 1,669, of whom 618 were men and 1,051 were women. According to the official report for the year ending Dec. 31, 1901, the total receipts were \$1,310,805, against \$1,229,878 in 1900, and including \$113,451 from legislative grant and \$653,359 from municipal taxes. The expenditures were \$1,272,616, including \$582,325 for teachers' salaries; \$148,987 for buildings, furnishing, etc.; \$35,415 for fuel; \$50,634 for repairs, etc.; and \$15,713 for salaries to officials. The assets were given as \$2,440,804—taxes due and value of school properties. The liabilities, chiefly debentures, were \$1,155,420. The organized school districts numbered 1,206, and 1,064 were in operation. In 283 schools religious exercises were used in closing, in 169 the Bible was used, in 879 temperance instruction was given, in 925 moral instruction was given, and in 254 the Ten Commandments were taught. During the legislative session two important measures were introduced and passed by the Government dealing with Galician education and the organization of the school districts.

Railways.—Railway facilities in the province were considerably expanded in 1902. Early in 1901 negotiations were concluded between the Government, the Northern Pacific and Manitoba Railway Company, and the Canadian Northern Railway Company for the control and operation, under secure conditions, of the system of the former company in Manitoba. The arrangement concluded was, shortly, the leasing by the Government of Manitoba for nine hundred and ninety-nine years of all the branch lines of railway of the Northern Pacific and Manitoba in consideration of the payment of the following rentals, namely: For the first ten years, \$210,000 a year; for the second ten years, \$225,000 a year; for the third ten years, \$275,000 a year; and for the rest of the term, \$300,000; and, in turn, the assignment of the lease by the Government, upon regular terms and conditions, to the Canadian Northern Company. The actual mileage of railway acquired from the Northern Pacific and Manitoba Railway was 354.65.

Contemporaneous with the acquisition of the lines of the Northern Pacific and Manitoba Railway Company in the province of Manitoba, the

Government, by agreement bearing date Feb 11, 1901, confirmed by act of the Legislature on March 20 of the same year, contracted to and with the Canadian Northern Railway Company, to aid that company by guaranteeing its bonds at the rate of \$20,000 a mile for a line of railway, estimated at 290 miles, extending from Port Arthur to, and connecting with, the lines of the company already constructed and opened for through traffic between Port Arthur and Winnipeg, on or before Oct. 1, 1901, unless unforeseen difficulties should arise through inability to secure men and materials. At the request of the company, the time for completion of the works was extended to Dec. 31, 1901. The Premier was able to announce in January, 1902, that the company had practically completed their contract on the latter date, "thereby giving to the people of the province of Manitoba, under most favorable and advantageous terms and conditions, an independent line of railway to the head waters of Lake Superior."

The mileage of the Canadian Northern Railway, in and outside the province, with respect to which a guarantee liability on the part of the province exists—when the whole system is completed—is 979 miles. The extent of the liability upon guaranteed debentures will be \$11,195,280.

The total amount of cash aid given by the province toward the construction of railways in Manitoba, at the close of 1901, was \$971,557, covering 545 miles. This was exclusive of the \$75,000 promised the Canadian Pacific Railroad for the Forrest and other extensions.

The direct liability of the province, at the close of the year, with respect to the Manitoba and Northwestern Railway, was approximately \$787,426, to cover which, with the interest to accrue until the maturity of the debentures, the province held as security 542,600 acres of land in the Northwest Territories.

The Doukhobors.—The main body of this sect, about 15,000 in number, occupies the high plateaus of Transcaucasia, in Russia. Here, where the rigors of the climate will not permit the maturing of ordinary crops, are great natural meadows, and cattle-raising is almost the sole industry. The inhabitants live largely upon beef; every year hundreds of animals are broken to the yoke, and one of their chief sources of wealth is the carrying of freight in their ox-wagons over the rough mountain roads. The society was founded in central Russia in the early part of the eighteenth century, and the name, given to it many years afterward by one of its leaders, is compounded from two Russian words: "doukh," meaning "spirit," and "bor," an abbreviation of "boratsia," meaning "to wrestle." Fanaticism has marked the history of these Doukhobors, or Spirit Wrestlers, from their inception, and they have suffered not alone from the terrible persecutions of the state and the church, but even more from the tyranny of their leaders, who from the beginning made themselves absolute in their power. These taught, in addition to the doctrine of the founder—that God dwells in the human soul, and that this indwelling essence is the supreme guide to life and light—that Christ himself was merely a sinless man, whose purity gave force to the divinity within him, and that their leaders were also sinless men, qualified by their superior excellence to guide the people. They also taught that it was a sin to read and write, that the Bible was not inspired, and that printing was the invention of Satan to lure souls to destruction. One of their leaders, toward the middle of the century, declared himself Christ's rep-

representative on earth, and surrounded himself with 12 apostles and 12 archangels to do his bidding. Kapustin, who followed him, taught that God in men dwelt in his fullest power in the most godlike men. This power was in him; therefore he was God. He called upon his followers to fall down and worship him, and brought down a flood of hatred and persecution upon the sect. Many of the Doukhobors were cast into prison, and all the powers of the church and the state were directed

and peace in a new land. Negotiations were opened with several governments in an endeavor to establish them in a colony, and finally they were accepted by Canada. The first colony, 2,000 in number, arrived early in 1899, under the leadership of Count Leo Tolstoy, who with other philanthropists had become interested in their welfare, and were granted free lands in Manitoba. The first impressions of the Doukhobors were most favorable, and in the following year their number was increased by additional immigration to about 7,000 in Manitoba and the Northwest Territories. The Government loaned to the poorer families seed, plows, and other facilities for making their first crop. About three-fourths of this loan was repaid out of the crop of 1900. They had the esteem of all their neighbors, filled the schools with their children, and were rapidly learning to speak and read the English language. The climate, so similar to that of their old home in the highlands of Transcaucasia, seemed especially adapted to their advancement, and from poverty they had struggled into comfortable circumstances and many were saving money. A few realized the necessity of adapting their beliefs to their new conditions of life; but the great majority, particularly those of the Swan river settlements, in Manitoba, and about Yorkton, Assiniboia, clung to the old doctrines. In addition they adopted a vegetarian diet, refusing not only to eat butter, eggs, or any article of food that was even remotely connected with an animal, but as well to wear any clothing of animal origin or to use cattle or horses as beasts of burden.

Their first difference with the Canadian Government came about through their refusal to take the patents for their land individually, insisting that all holdings should be communal. Then they refused to comply with the laws of the Dominion in regard to marriage and divorce, insisting upon settling all these questions according to conscience and their interpretation of the Bible. In 1901 the Swan river Doukhobors, mindful of their lifelong feud with the Russian Government, refused to pay the school taxes. Their stock was seized and sold to meet the arrears, and this seems to have taught them a permanent lesson. They are gradually adopting the use of animals for heavy farm work, and very few, if any of them, joined their brethren in the uprising of 1902. Their strange beliefs excited much curiosity and interest, but no serious trouble was expected until the summer of 1902, when, without warning, they turned all their horses, cattle, and sheep loose upon the prairies, and men and women took their places at the plow and hauled the heavy loads of farm produce to the towns, in some instances 50 miles distant. The mounted police rounded up the herds, and the stock was sold by the Government and the money put to the credit of the communities. The harvest was gathered with reaping-hooks and thrashed out with flails. During the autumn agitators continued to work among them, and the people, earnest in their faith and unshaken in their belief in their leaders, gathered in great meetings. From time to time came rumors of villages deserted, and of mobs of fanatics preparing for a descent upon Yorkton in a great pilgrimage to seek Jesus, from whom they believed themselves to have received a message that his second coming was near at hand. These rumors were denied persistently by the authorities, who must have known the truth, and the result was that when, on the night of Oct. 27, between 1,500 and 2,000 Doukhobors, men, women, and children, camped within 3 miles

DOUKHOBORS.

against them. However, they appeared only to thrive under the persecution. In 1801 Alexander I ordered the persecution stopped and released those in the prisons; but he was soon forced to withdraw his kindly treatment, the Doukhobors growing under it even more arrogant and refusing to obey the civil laws. Finally the Doukhobors appealed to the Emperor to settle them in some uninhabited place where they might worship after their own belief without offending the orthodox. They were permitted to remove to the region north of the Sea of Azov, and here thousands of them built homes for themselves. But here, official restraint being removed, they were even more subject to the brutality and passions of their leaders, and within a few years conditions became so horrible that the Government, about 1835, removed the Doukhobors to what was then the wilderness of Transcaucasia. Here they have lived ever since, having almost no relations other than business with the people around them. In recent years, while they have followed implicitly the direction of their leaders in religious matters, under the careful surveillance of the Government officials many of the social and political abuses that they suffered formerly have been done away with.

In 1887 the sect was divided by a rival candidacy for the leadership, and the bitterness of this fight and the hard feelings growing out of it drove part of this unhappy people to seek homes

of Yorkton there was no organization to cope with the situation, and for ten days the Doukhobors overran the country. At no time was there any fear of violence from the pilgrims, for the Doukhobors' doctrine teaches universal peace; but the suffering from cold and starvation was pitiable, and, swayed as they were by their implicit faith in their crazy leaders, all efforts were futile to persuade them to give up the search and return to their farms. All night long fresh bands continued to arrive. Some remained awake, chanting and praying, but the majority, worn out by their long tramp and stupid with cold and hunger, lay down to sleep in the open, with little or no protection from the biting wind and with the thermometer 10° below freezing. In the morning the immigration officials, interpreters, and citizens attempted to persuade them to turn back; but this was only the signal for a fresh outburst of singing and praying, and the mob soon followed the deputation into the town. "It was a motley crowd that entered the public square. First came the men bareheaded, clad in the coarsest cotton garments, and not very much of even those. Most of them walked in their bare feet, but a few wore rubber boots, and some wore short boots made from braids of binder twine. As they marched along they chanted a weird, rhythmic hymn, which at times rose almost to a martial strain. Next in the line came the litters on which the sick were being carried, and at the end of the procession the women and children dragged their feet wearily one after the other. The women were clad much the same as

and the mounted police, cut out from the main body the women and children and the sick, and housed them in available places of shelter. These were not allowed to leave the buildings, and the men, realizing the firmness of the authorities, were forced to abandon them. The women refused all food, and pleaded passionately to be allowed to join the men on the march. During the days following, their condition, and particularly that of the children, was beyond description. Many became insane, all were starving, and all were insistent in their belief that they had received a spirit message and must find Jesus. After a night spent in prayer and the chanting of songs of praise, nearly 600 of the men set out on the long march of 300 miles eastward across the snow-covered prairie to Winnipeg, Manitoba, where they confidently expected to meet the Saviour, who, reincarnated, was to lead them forth to evangelize the world. An eye-witness thus describes the weird procession: "I overtook them at Binacarth, a little village on the Northwest branch of the Canadian Pacific Railway about 200 miles from Winnipeg. They came straggling into the town in a procession 2 miles long. Picturesque figures they were, mostly clad in blue and with gaudily colored scarfs. The wide, flaring skirts of their coats were kilted behind. Though the snow lay 3 inches deep on the ground, fully a score were barefoot. More than double that number were hatless. In front strode a majestic figure black as Boanerges and with a voice like a bull of Bashan. He was barefoot. On his head was a brilliant red handker-

DOUKHOBORS' FLOWING.

the men, and the children were also forced to adopt the inadequate cotton garments. Babies in arms clutched at their mothers' breasts in vain, and their thin, blue little faces, their starved appearance, and their heartrending cries were the first to bring the citizens to a full sense of the seriousness of the situation. Each of the pilgrims carried slung over the shoulder a bag containing about half a peck of bread, made from the whole wheat ground between stones and baked into a hard mass. This was cut into squares and soaked in what water could be found by the roadside to make it edible. This was all the food that the wanderers had brought with them, and it would be exhausted in a very short time. The young children could not subsist upon it, and many were on the verge of starvation."

The immigration officials, aided by cowboys

chief, and his body was clothed in a long, dusty, white felt mantle reaching almost to his feet. The Binacarth people gave them food—dry oatmeal, which they poured in little heaps on blankets, half a dozen pilgrims helping themselves from each heap. The meal was preceded by their favorite chant from the eighth chapter of Romans and by the repetition in unison of prayer. Then the pilgrims sat in parallel lines and ate oatmeal dry from the sack. This, with bread, apples, and the dried rose-haws picked from the prairie rose-bushes, formed their *menu*. After the meal, which lasted about an hour, they repaired to the back yards of the residences, and for a quarter of an hour the pumps were worked without cessation to satisfy their thirst. An hour afterward the procession was formed and the eastward journey resumed. . . . The snow began

to fall in light flakes. The pilgrims halted and made their pitifully inadequate preparations for camping. With their hands they tore up some long grass to serve as beds. From their pouches

that a brief account of them as described by Major W. C. Gorgas, the chief sanitary officer of Havana, will be of interest.

For a century and a half yellow fever has been

DOUGROBORA—THE VILLAGE BLACKSMITH.

each took a handful of dry oatmeal and munched it. Some scattered in the darkness to hunt for the dried fruit of the rose-bush. With no shelter, under the open sky, they lay down on the snowy prairie, wearied with their 20-mile tramp. Before flinging themselves down they sang a psalm and quoted Scripture verses responsively, standing meanwhile with bare heads while the snow fell quietly over them." Many dropped out of the ranks from sheer exhaustion and lack of nutritious food, and many others would have fallen by the way had not their stronger comrades made litters and bore them along. They arrived at Minnedosa, 100 miles west of Winnipeg, in the night of Nov. 7, and on the morning of the 8th attempted to resume their journey, with the thermometer at 10° below zero. They were forcibly detained by the townspeople and farmers until the arrival of a military special train with 500 mounted police. After a slight struggle, the whole body were locked in the cars and carried back to Yorkton, to be forcibly returned to their villages.

MARYLAND. (See under UNITED STATES.)

MASSACHUSETTS. (See under UNITED STATES.)

MEDICINE, ADVANCES IN. The Mosquito Diseases.—The remarkable etiology of yellow fever, which was worked out in 1901 by the Yellow-Fever Commission of the United States in Cuba, has during the past year received practical confirmation in a number of localities, notably in Havana. New measures for combating the disease, based on the mosquito theory, were adopted in that city immediately after the publication of the commission's report.

The altogether astounding results which have been obtained by the first year's application of these methods in Havana leave practically no doubt as to the mosquito's agency in causing yellow fever, and are almost equally emphatic as to this insect's being the sole agency for its spread. The results are so striking and furnish such convincing proof of the truth of the mosquito theory

endemic in Havana. As far back as the historic records go, a month has never passed until the American occupation without a death from yellow fever, "and there has probably in all this time never been a day on which there was not a case of this disease in Havana." Up to July of the first year of the American occupation there was little yellow fever in the city. Then immigrants began to pour in, and about 16,000 reached Havana between July and Dec. 31, 1899. During this period a serious epidemic began.

In February, when Major Gorgas was appointed chief sanitary inspector of the city, a system of compulsory notification was enforced; every case being promptly isolated and quarantined. In case of death the body was buried with all sanitary precautions, and the sick-room thoroughly disinfected. The general death-rate of the city was meanwhile decreasing under the improved sanitary conditions, but the greatest care and watchfulness produced no decrease of the yellow-fever death-rate. The epidemic continued throughout the spring and summer, and reached serious proportions, even for Havana, in the fall. During 1900 there were 1,244 cases, with 310 deaths. All classes suffered. During this work \$25,000 a month was spent, and 300 men employed every day. At the beginning of 1901 the non-immune population was larger than it had ever been before, and hence the conditions were favorable for a still more serious epidemic than that of 1900. The deaths in January and February were numerous. At about this time the results of the Army Board's investigation were published, and Gen. Wood, who was determined to do all in his power to improve the sanitary condition of the city, authorized Major Gorgas to go to any reasonable expense in testing the new theory.

As a result of this decision an ordinance was at once issued requiring all people within the city limits to keep receptacles containing water "mosquito-proof." Inspectors were appointed who went about and enforced this ordinance, ac-

accompanied by men with oil-cans, who covered the surface of all puddles and cesspools about the dwellings, and destroyed all the receptacles in which mosquito larvæ were found. After a sufficient time for compliance with the new rule was thought to have elapsed all persons on whose premises larvæ were found were fined. Fifty men were employed in this work, and 100 men in the suburbs killing larvæ and filling up puddles.

Coincident with these out-of-door measures all hospitals where yellow fever was received were ordered thoroughly screened. In cases occurring in private houses the house was screened by the health department. All infected buildings were thoroughly disinfected with pyrethrum powder; this drug stupefies the mosquitoes, which fall to the floor, and may then be swept up and destroyed.

This was used in preference to more powerful substances, because of its harmlessness to furniture, hangings, etc., and the short time required before the rooms are again ready for occupancy. Forty men were employed in this work. One hundred and ninety men were used in enforcing the new regulations as against 300 during the previous year.

In January, 1901, there were 24 cases of fever, with 7 deaths; in February there were 8 cases and 5 deaths. The new regulations were put in force on Feb. 27. In March there were 2 cases, in April 3, in May 2, and in June none at all. On July 1 all disinfection of so-called fomites—infected clothing, bedding, etc., was entirely discontinued. In July there were 4 cases and 1 death, in August 6 cases and 2 deaths, and in September 1 case. During October, November, and December there were none whatever. October and November have always been months when yellow fever was particularly rife in Havana. There is good reason for believing that the cases after those occurring in May were due to infection from a neighboring suburb, where a yellow-fever epidemic was in progress.

In the first ten months following the enforcement of the new regulations there were only 17 cases of yellow fever, as against something like 1,200 during the corresponding months of the previous year. As Dr. Gorgas says, "this is evidence of the practical demonstration of the mosquito theory."

On Nov. 6, 1902, he was able to say, before the New York Academy of Medicine: "It is now over a year since the last case of yellow fever occurred in Havana, and if the disease can be kept out of the city for twenty years, I think yellow fever will be completely exterminated in North America, for Havana has been the great center of infection."

The later Vera Cruz Yellow-Fever Commission has entirely confirmed the findings of the United States Army Commission in Havana. They attributed the prevalence of the disease in Vera Cruz to the custom of the Mexicans of gathering rain-water for drinking purposes, and allowing it to stand about unprotected. War on these water-barrels has reduced yellow fever in the city over 50 per cent.

Sanitary measures directed against malaria based on the mosquito theory have furnished equally convincing results.

The importance of the practical demonstration of the truth of these startling theories it is hard to overestimate. It may in many sections eventually lead to a large increase of real-estate values, and prove to have an important bearing in determining the feasibility of large engineering enterprises in tropical countries. The one prac-

tically insurmountable difficulty in the construction of the Panama Canal has been the health of the men employed. The work on this undertaking, and also on the isthmian railway, was stopped many times simply by the "dying off" of all the workmen. So that it may be fairly said that the building of the isthmian canal is "more a sanitary than an engineering problem." The two scourges of the isthmian country are malaria and yellow fever, and both of these diseases are now preventible, or at any rate can be controlled and kept within narrow limits by the use of mosquito-netting. Many sections of country in Africa and India are now practically uninhabitable because of malarial fevers, and whole districts in Ceylon have been almost depopulated by malaria; and even in this country in many sections the mosquito is an effective agency in preventing the growth of population and real-estate values. The vexatious and expensive methods of disinfection and quarantine which have heretofore been considered necessary in yellow-fever epidemics, and in the case of infected ships, have already been discontinued in Havana, and will probably soon be discarded elsewhere. Dr. Doty, the health officer of the port of New York, has recommended their discontinuance in that city.

At the annual Conference of State and Provincial Boards of Health of North America, held at New Haven, Oct. 28 and 29, 1902, Major Gorgas offered the following resolution:

"Resolved, That in view of the establishment of the fact that yellow fever is transmitted only by the mosquito, this conference is of the opinion that there is no longer necessity for the disinfection of clothing in yellow-fever cases, bedding fabrics, or effects of any kind, but simply to take measures looking to the control of the sick and the extermination of infected mosquitoes. In cases in which non-immunes have been exposed to infection, they should be observed during the period of incubation."

This resolution was the report of the Committee on Yellow-Fever Resolutions. It was spread upon the proceedings, but the conference refused to commit itself to the "sole mosquito theory."

At the meeting of the American Public Health Association in New Orleans early in December a long discussion of yellow fever and mosquitoes occurred; but although a majority of the delegates believed in the theory which holds the mosquito to be the sole causative agent, a small minority, who remained unconvinced, prevented a resolution favoring open quarantine.

The report of the Surgeon-General of the United States Army for the fiscal year ending June 30, 1902, states that there were recorded during the year 35,180 cases of malarial disease, with a death-rate of only 0.59 per cent. Important results regarding cases of so-called latent and masked infection were obtained at the Presidio general hospital in San Francisco. It is well known that malarial infections may remain latent for long periods. Among the returned soldiers from the Philippines, 219 of the 1,082 cases (20 per cent.) which showed malarial parasites in the blood were found to be of the latent type. The report insists on the importance of blood examinations in all tropical diseases, and states that a malarial infection complicating any other disease seriously compromises the patient's chances of recovery. Cases have been observed where the discovery of the malarial parasite has undoubtedly saved the patient's life.

Of interest in connection with the mosquito diseases is a recent monograph on The Culicidæ of the World, in three volumes, by F. W. Theo-

bald. It has been prepared and published under the direction of the British Institution, and is the most comprehensive work on mosquitoes yet issued. In it are described 300 species, 136 of which are new.

Consumption.—At the first International Conference, held in Berlin from Oct. 22 to 26, 1902, a number of interesting papers were read, but nothing new of great importance was announced. Prof. Fränkel, in the opening address, said:

"There are some points in the etiology of tuberculosis which are still unknown, but nobody nowadays doubts that the bacillus tuberculosis is the essential cause of the disease, and that the destruction of all the bacilli would mean the extinction of tuberculosis. . . . To cure a patient suffering from consumption is a preventive measure, because every patient with active tuberculosis is a danger to the healthy persons with whom he lives. . . . It should [now that sanatoriums are numerous] be the aim of the national societies to popularize the prevention of tuberculosis by the education of public opinion."

One of the most interesting and instructive features of the congress was the reading of the delegates' reports.

Prof. Brouardel stated that France now had 28 sanatoria, of which only 2 were for paying patients. A collective investigation was also under way, with official support.

Dr. Linroth, the Swedish delegate, stated that the first sanatorium in Sweden was opened in 1900 with 100 beds. Since that time two others had been established, the total number of beds now available being 500.

Prof. Schrötter, of Vienna, described but one institution, at Alland, near Vienna, which had 130 beds.

Dr. Egger, of Basle, reported 7 sanatoria in Switzerland, with 416 beds, at which 1,041 patients were received during 1901.

Another one was now in course of erection. These were apparently all free and public institutions, as 12 more private sanatoria were described by him.

Dr. Rördam, of Copenhagen, reported 5 sanatoria for children and 3 for adults in Norway, besides a number now in course of erection. A national association distributes pamphlets showing how to avoid consumption and how to treat it, and has also instituted a course of public lectures for the same purpose.

Dr. G. A. Heron said there were about 1,000 beds available for non-paying patients in England, and about 2,250 for pay patients.

Dr. A. Hillier, of London, a member of the British National Association for the Prevention of Tuberculosis, presented an encouraging report regarding the work of his association, which has 25 branches in England and her colonies.

Reports were also presented from Belgium, Hungary, Roumania, and Russia.

Compulsory notification of consumption was in general favor among the delegates, but was discussed at a private session.

According to Polk's Medical Directory for 1902, there are in New York city 3 hospitals devoted to consumptives, with a total of 468 beds, 2 of them being private institutions; to these may be added the tuberculosis hospital of the Department of Charities on Blackwells Island, with a capacity of 300. In the State of New York there are 2 sanatoria recorded, with a combined capacity of 168, both of them pay institutions.

Boston is credited with 2 hospitals and 70 beds, but there is no sanatorium given in the entire State of Massachusetts.

Philadelphia is given 3 consumption hospitals with 153 beds, and Pennsylvania 1 sanatorium containing 33 beds.

There are apparently no special consumption hospitals in Chicago, and no sanatoria in Illinois.

Bovine and Human Tuberculosis.—An investigation under the direction of Lord Lister has recently been carried out at the Jenner Institute of Preventive Medicine, in London.

The tubercle bacillus was first passed through pigs, cats, rabbits, and rats, and its effect then tested on calves.

The most important results, as they bear on Dr. Koch's pronouncement of last year, occurred in the case of the pigs subcutaneously inoculated with human tuberculous sputum. In 7 of the 8 pigs thus treated the post-mortem examination showed marked tuberculous lesions and disease of the lungs.

In 3 other pigs fed with tuberculous sputum local lesions were found, chiefly cervical and tonsillar. Hence the pig, at any rate, is capable of contracting a rapidly fatal general tuberculosis as a result of inoculation with tubercle bacilli of human origin. "The human tubercle bacillus is not markedly exalted in virulence for the calf by a single passage through the pig, cat, rabbit, or rat. At the same time the experiments show that the human tubercle bacillus is by no means innocuous to the calf, as the control animal infected directly with sputum contracted an extensive glandular tuberculosis." The authors believe that the various other forms of bacilli which must be injected, along with the tubercle bacillus, in the human sputum may have much to do with determining the virulence of the tubercle bacillus itself.

At the annual meeting of the British Medical Association Dr. J. Hamilton (Aberdeen) opened a discussion on the relationship between bovine and human tuberculosis. As the result of extended experiments he had found that the local infection by human tubercle produced in a calf was capable of causing general tuberculosis if transferred to another calf.

The human tubercle bacillus developed slowly in the calf at first, but in time produced general tuberculosis. It took the bacillus some time to get acclimated. The bovine-grown bacillus, as a rule, excited more acute and wide-spread disease than did the human-grown form, but the latter gained in virulence by inoculation from one calf to another.

Prof. Sheridan Delépine (Manchester) said the experiments of Koch were so contradictory to general opinion and to the experiments of other observers that even his great name was not sufficient to weigh down the balance on his side. Personally he had been able to produce in the calf true tuberculosis from human bacilli, and from this he got tubercle bacilli which were still more virulent.

Dr. T. Sherman (Edinburgh) had found that the bacillus tended to increase in virulence in passing through a series of animals of the same species, and to lose its virulence when transferred to an animal of another species.

Dr. Koch, in a brilliant address at the Berlin Congress, reiterated his views expressed in London last year, and was of the opinion that the severe measures concerning bovine tuberculosis prescribed by the sanitary laws were not justified.

Urea and Consumption.—Dr. Henry Harper, an English physician, announced in the early part of last year a series of experiments with urea

as a specific for consumption. He gave a number of theoretical reasons why the drug might be expected to affect the tubercular diathesis favorably, and then described several cases in which he thought its administration had produced a cure.

Dr. S. V. Pearson publishes (*Lancet*, Nov. 22, 1902, p. 385) an account of 7 cases of chronic tuberculosis which were treated with urea at the Brompton Hospital for Consumption. Some of the patients improved in general condition, but none in physical signs; and in several an undoubted extension of the disease occurred.

Dr. Pearson's conclusion was that "in chronic pulmonary tuberculosis there is no special action exerted by urea . . . either in arresting the ravages of the disease or in counteracting the deleterious effect on the constitution." He, however, states that it may have some value in other forms of tuberculosis.

The Diazo-Reaction in Consumption.—Dr. Raoul de Boissière, of the Victoria Hospital for Consumption at Edinburgh, describes a series of tests of the above reaction (*British Medical Journal*, Nov. 15, 1902, p. 1576). His conclusion is that the reaction only occurs in a small number of cases, usually only in those with fever, and in association with an advanced stage of the disease. He agrees with previous observers in thinking the presence of the reaction indicates a bad prognosis.

Cancer.—The year's study of the cancer problem has not produced any marked advance in our knowledge regarding its causation or cure. Cancer research has, however, been systematized and largely extended, especially in England, and definite results of the greatest importance will undoubtedly follow the concerted attack, which is now of world-wide proportions, on this mysterious scourge of the human race.

A scheme has recently been elaborated in England for the purpose of endowing cancer research laboratories at the hospitals. A similar organization exists in Germany. In France cooperative cancer work has been in operation for some time, and a special journal is devoted to the publication of its results. In New York State, at Buffalo, there is a State-subsidized cancer laboratory.

According to the report of the Cancer Commission of the Harvard Medical School, which was made possible by the Carolyn Brewer Croft legacy, the work done in the past two years in the study of the etiology of cancer has been wholly negative in its results, in the sense that an increasing doubt has been thrown upon the parasitic origin of the disease and upon the pathological significance of so-called cell inclusions.

The director of the State Laboratory at Buffalo says, on the other hand, that the results of the past year's work have been to strengthen the conviction that cancer is infectious.

Leopold, of Dresden, thinks "blastomycetes may be the cause of malignant new growths in man; they may convey the disease by inoculation from man to animal, producing exactly similar new growths which are fatal to the animals affected." Among his experiments Leopold mentions the implantation into a rat of tissue from a carcinoma of the ovary. The animal died in sixty-one days from a tumor the size of a walnut, which was found to be an adenosarcoma.

Dr. Henry Morris, a leading London surgeon, opened a discussion on cancer at the meeting of the British Medical Association. He summed up his conclusions regarding treatment in part as follows:

The serum treatment of malignant disease is not of the slightest use in carcinoma. Not one-half of the cases of spindle-celled sarcoma disappear under treatment with Coley's fluid (see last year's *Annual on RECENT ADVANCES IN MEDICINE* for an account of the various modern methods of treatment in which Coley's fluid is described). This treatment has many dangers, and should never be employed except in absolutely inoperable cases. Beatson's treatment is limited in its action to cases of mammary carcinoma, and even in these cases only a small proportion are favorably influenced by it, and it can be relied upon neither as a palliative or cure in any given case. Rodent ulcer has in the Finnsen light and the X rays its most successful treatment so far as we at present know. Sarcoma, epithelioma, and other forms of carcinoma are best treated, whenever possible, by early excision. With few exceptions the attempts to cure cancer by means other than early and free operations have hitherto been almost invariably futile.

The cases of wonderful cures of cancer by various novel remedies which are continually appearing in the medical journals and newspapers are probably, most of them, not cases of cancer at all, but simply some benign form of tumor, which to a cursory superficial examination may present the characteristics of carcinoma.

Serum Therapy. Typhoid Fever.—Dr. A. E. Wright, Professor of Pathology at the Army Medical School, Netley (England), gives a detailed account of the results thus far obtained with the antityphoid serum (*Lancet*, Sept. 6, 1902, p. 651). His conclusions may be summed up as follows: In almost every epidemic the use of the serum has diminished the number of cases at least twofold, and sometimes as much as twenty-eight-fold. Superadded to the diminished incidence a striking diminution of case mortality occurs. "It may be taken that in the aggregate the proportion of deaths to cases among the inoculated is approximately half that among the uninoculated."

The combined effect of the diminished occurrence of the disease and the reduction of the death-rate produce a total decrease of mortality, which has often exceeded and seldom fallen below 75 per cent. There is, says Dr. Wright, a certain amount of risk in all protective inoculation. (a) There is the case where the patient's resistance is naturally low, or has been reduced, as is often the case, by a previous attack of typhoid fever. (b) Where a full dose is inoculated in actually infected surroundings. (c) Where an excessive dose is given or a normal dose too soon repeated.

It must be the task of the future to try to minimize the risk, on the one hand, by working out an adequate method of standardization of the vaccine, and, on the other hand, of combining with the study of the changes produced in the blood by the antityphoid inoculation the study of the blood in the typhoid convalescent and the study of the gradual success or failure of the process of immunization in the actual typhoid attack.

Another and less favorable view of the typhoid antitoxin is presented in a report by Alexander Crombie. As a result of statistics obtained on 250 officers invalided from South Africa during the Boer war he arrives at the following conclusions:

Up to the age of thirty years the advantage of a single inoculation is distinct, the incidence of the disease being 27 per cent., as against 51

per cent. among those not inoculated. Beyond the age of thirty years the results are reversed, the advantage being with the non-inoculated, the incidence among them being only 14.3 per cent., as against 24.7 per cent. among the inoculated.

The first period is that at which susceptibility is greatest. Dr. Crombie also states that a second inoculation increases the susceptibility to typhoid.

In a study of the fatality of typhoid in various sections of the United States at different seasons whose results form No. 59 (vol. viii), 1902, of the quarterly publications of the American Statistical Association, the following table of results showing the death-rate per thousand is given. The year is divided into four quarters, 1 indicating January, February, and March, 2, April, May, and June, etc.

LOCALITIES.	1.	2.	3.	4.
Massachusetts.....	21.1	18.8	17.8	12.8
New York city.....	26.5	24.9	24.1	17.9
Berlin.....	17.1	15.3	11.4	13.8
Providence.....	29.8	45.6	31.7	33.7
Massachusetts General Hospital..	14.8	11.0	11.9	12.0
Boston City Hospital.....	17.6	17.3	12.2	10.8

It will be seen that, contrary to the generally accepted notion, the fall is the least fatal period.

As a result of an investigation of the thromboses following typhoid fever, Drs. A. E. Wright and H. H. G. Knapp, of the Army Medical School, Netley, conclude that the tendency to thrombosis is due primarily to an exclusive milk diet; secondarily to an excess of lime salts in the blood, which much increases its coagulability. The milk should either be decalcified or citric acid be given with it. Decalcification may be accomplished by adding 20 to 40 grains of citrate of soda per pint of milk.

Rheumatism.—Investigations by Drs. Poynton and Paine (Lancet, Aug. 2, 1902, p. 273) indicate the presence of a definite germ in cases of acute rheumatism. This is a diplococcus, which is found in the blood, the valves of the heart, in the pericardial exudation, in the joints, and in the subcutaneous nodules. Pure cultures of this organism when inoculated into rabbits produce symptoms similar to those of acute rheumatism in man.

In the *Zeitschrift für diätetische und physikalische Therapie*, vol. vi, No. 4, July, 1902, Menzer describes a curative serum based on the germ theory of the disease. The germ is obtained by scraping the tonsils of rheumatics; it is cultivated on ascites fluid, and then injected, in graduated doses, into larger animals. The serum thus made is antibacterial (that is, a disinfectant), not antitoxic, and its introduction into the body is supposed to supply the latter with bacteriolytic agents. It at first increases the inflammation, but finally subdues it.

In 20 cases treated with the serum Menzer reports that although there was no appreciable modification of the symptoms until the defervescence stage was reached, after this point convalescence invariably occurred rapidly and with no relapses. Chronic stubborn cases which had resisted all other remedies, including the salicylates, were cured or greatly benefited in two or three weeks' time. Further experiments with an antistreptococcal serum in rheumatism are described in the *Zeitschrift für klinische Medizin*, Nos. 1 and 2, vol. xlvii, 1902, p. 109.

Plague and Cholera.—According to the report of the sanitary commissioners for Bengal, inocu-

lations for cholera have lamentably fallen off, because they are now entirely optional. Inoculation for plague is also decreasing. In Calcutta only 40 were made during the year covered by the report.

During the last fiscal year plague has caused over 200,000 deaths in India. The rapid growth in intensity of the present epidemic has led the Punjab Government to appropriate \$400,000 for a wholesale inoculation of the inhabitants with plague antitoxins. Arrangements were to be made for over 6,000,000 inoculations.

New Serum Institute in Denmark.—Of interest in connection with the growth of the serum treatment of disease is the erection in Copenhagen of a Government school for the instruction of students in serum therapy and manufacture, and for the conduct of original research.

In 1894 Prof. C. J. Salomonsen, director of the University Laboratory of Medical Bacteriology of Denmark, made a request to the Minister of Educational and Ecclesiastical Affairs for a small sum of money (\$2,000 or \$3,000) with which to carry on the manufacture of diphtheria antitoxin. He obtained the grant, and with it, besides making the antitoxin, instituted a small class for the instruction of his students in the technique and theory of serum therapy. The product of the work of the laboratory was distributed free of cost. The experiment proved so satisfactory that a site for a separate serum institute was finally secured on the island of Amager, just outside the old fortifications of Copenhagen. This institution was formally opened on Sept. 9, 1902.

The following general rules may be laid down as the result of the clinical work thus far accomplished with the various sera: The method of administration is of considerable importance. In tetanus (lockjaw), for instance, it has been found that injections near the brain are by far the most effective, direct intracerebral inoculation being desirable. Early use of the sera is of the greatest importance, and their administration is recommended even while the diagnosis is provisional. The dosage should be large; many failures have probably been due to the administration of insufficient quantities. (In this connection, however, see Prof. Wright's statements above regarding typhoid.) Great care should be taken to secure a fresh, undeteriorated product.

Phototherapy.—The recent work in this branch of medicine has been chiefly clinical. According to Dr. L. Freund, of Vienna, all radiant phenomena—the X rays, ultra-violet light, Finsen light, etc., have the same physical basis, and the effect of rays on the body varies, like that of chemical agents, with the dosage, and may range from mere stimulation to actual destruction of tissue.

In weak doses the rays seem to favor organic processes, such as the growth of hair and the production of pigment. In stronger doses they lower vitality and produce inflammatory reaction. The clinical effects of all forms of radiotherapy are similar. The physiological effects are in direct proportion to the intensity of the ray, but in inverse proportion to the wavelengths. The reaction appears after a latent period, the length of which is inversely proportional to the wave-length and intensity of the ray. Those rays which have the property of exciting fluorescence are physiologically the most powerful. The Finsen lamp has a greater penetrating power than the ultra-violet lamp. Dr. J. M. H. McLeod describes experiments for increasing the reaction after Finsen treatment.

The liquids he found to be especially useful were (a) a 1-per-cent. solution of potassium permanganate, (b) a weak solution of iodine with glacial acetic acid, and (c) pure carbolic acid. According to Dr. G. G. S. Taylor, the application of pyrogallol greatly enhances the effect of Finzen treatment.

Frequent descriptions of cases of tubercular or cancerous skin diseases successfully treated by one of the several forms of therapeutic rays have appeared in the medical journals during the year. Among the most striking of these is a series of 50 cases reported by Dr. C. W. Allen (Medical Record, New York, Nov. 15, 1902, p. 762), Professor of Dermatology at the New York Post-Graduate Hospital. Of 33 epitheliomas and 10 mammary cancers, 52 per cent. were discharged as clinically cured, and 10 per cent. were still under treatment.

Smallpox.—The serious and wide-spread epidemic of smallpox which occurred last year on both sides of the Atlantic led to renewed discussion of compulsory vaccination and the methods by which the disease is spread.

In the section on State medicine at the last meeting of the British Medical Association the following resolution regarding vaccination was adopted:

That inasmuch as there is strong evidence to show that the effect of infant vaccination has very largely lost its effect after ten or twelve years, it is desirable that all children should be vaccinated at the age of twelve. The president expressed his opinion that compulsory vaccination was an absolute necessity, as the recent serious epidemics had demonstrated. "No one would object to the compulsory squelching of a man who persisted in haunting theaters and concert-halls with his pockets full of dynamite, yet many of those who refused to be vaccinated were quite as dangerous to the public."

The question of the aerial transmission of smallpox was again raised by a paper in the *Lancet* (London, Feb. 22, 1902) regarding the effect of the hospital ships anchored near the villages of Purfleet. The statistics given in this article seemed to indicate that those portions of the town over which the prevailing winds blew after passing across the ships suffered more severely from smallpox than other sections of the town.

While it is true that any contagious disease may be transmitted from person to person by an actual transference of material particles of contagium, and that wind may be, and undoubtedly is, in certain diseases—in tuberculosis, to cite a common example—the carrier of the morbid agent, the popular conception of the aerial transmission of a subtle gaseous poison, is entirely opposed to the results of modern research. The modern scientific view being that without an actual material transference of the poisonous agent there can be no infection.

A rather striking illustration of the value of vaccination has occurred during the last two years in Porto Rico. Soon after the Spaniards left the island in 1898 smallpox became epidemic, and by January, 1899, says Major Ames, the Director of Vaccination for Porto Rico, the disease had "honeycombed" the island, and in February "was spreading at a gallop." In February compulsory vaccination was begun. By July 1 860,000 vaccinations had been performed among a total population of 960,000. During the two and a half years since then the mortality has been 2 per year, against a previous smallpox death-rate of over 600.

Intraspinal Anesthesia.—Dr. H. Littlewood, F. R. C., surgeon at the Leeds General Infirmary, gives the following account of his experience with this method of anesthesia.

"I do not think that I have ever been more impressed in my life than I was with my first case, and I believe that all who saw the operation were equally impressed. It was difficult to realize that within a few minutes of introducing a third of a grain of cocaine into the spinal canal one could deliberately amputate through the knee-joint, the patient being conscious all the time, and yet not feeling any pain."

In all but one of Dr. Littlewood's cases "it acted admirably." This was a very nervous man who cried out apparently more from fear than pain. Among his cases were foot and leg amputations, and several "radical cures" for femoral and inguinal hernia.

The Germ of Syphilis.—Prof. Max Schüttler, whose work in connection with the cancer germ has been rather freely criticized, and who in 1900 stated that he had found certain characteristic bodies in the lesions of all stages of syphilis, publishes further researches on the subject in the *Centralblatt für Bakteriologie* (Nos. 5, 6, 7, 8, and 9, Bd. xxxii, 1902). In all his syphilitic preparations he has found certain capsulated bodies, some with protoplasmic contents, some empty, which he considers one stage in the life history of the parasite. Another peculiar form with a characteristically striated wall he thinks a young form of the germ. He states that he succeeded in cultivating this bacterium in closed flasks at 37° to 38° C. Inoculation experiments with the cultivated germ on rabbits seem to have been unsuccessful. Prof. Schüttler considers the parasite as belonging to a class about which little is as yet known, but which, he thinks, includes the form already described by him as characteristic of cancer growth.

Examination of Blood.—During recent years the examination of the blood has come to be more or less of a routine operation in diagnostic work.

The four methods in general use are: (1) The estimation of the number of red and white corpuscles. (2) The examination of stained blood films. (3) The determination of the agglutinating power of the blood. (4) Its bacteriological examination.

In many diseases the information obtained from the use of one or more of these methods is of the utmost value, both in determining treatment and in prognosis.

Dr. William Savage, of Cardiff, calls attention in a recent issue of the *Lancet* (London, Sept. 27, 1902, p. 866) to an improved method for counting the white blood-corpuscles. It is based on that of Stengel.

The blood is collected by means of a Thoma-Zeiss small pipette, such as is ordinarily used in determining the red corpuscles (the pipette should always be filled up to the 1.0 mark). The blood is then diluted with some colored fluid, such as Toisson's solution, or Sherrington's fluid. The red corpuscles are first counted in the ordinary way. To count the leucocytes the eyepiece is drawn out until a diameter of the field of vision is just spanned by an exact number of squares; this number is called x —i. e., equals the number of squares which exactly stretch across a diameter of the field of vision. The ruled squares need no longer be taken into account. The number of leucocytes in any recorded number of fields of vision is now counted, care being taken that the fields do not in any

way overlap. The stained leucocytes can be readily distinguished from the red corpuscles. The average number of leucocytes in each field is then determined, and this is called y . The larger the number of fields of vision counted, the more accurate will be the result. If the blood has been diluted 100 times the number of leucocytes per cubic millimeter may be found by the following formula: $\frac{5.600000 y}{11 x^2}$.

X and y only have to be determined, and a simple calculation gives the result. "Such a formula is available for any microscope and for any eyepiece."

The Sleeping Sickness.—A curious disease of the brain variously called the "sleeping sickness," "sleeping dropsy," "negro lethargy," etc., has been occasionally mentioned by medical travelers in certain portions of Africa. But very little has been known regarding its causes and symptomatology, as owing to its comparative rarity it passed for a long time unnoticed by the modern pathologist.

A considerable increase during recent years in its ravages in the Uganda district, and on Princess island and the province of Angola, has finally led both England and Portugal to send out commissions for studying it. The report of the Portuguese commission, which worked on Princess island, is summarized in the following account:

The most remarkable symptom of the disease is fits of absolutely uncontrollable sleepiness. At first these can be partially overcome, but as the disease progresses they not only increase in frequency, but become so entirely irresistible that the patients fall asleep with their mouths full of food, or while drinking. The sleeping finally becomes almost continuous. It is not so deep, however, that the patients can not be aroused, even as the end approaches—it is almost always fatal—but they immediately fall asleep again. According to Dr. Patrick Manson, the onset of the disease is preceded by a lightening and reddening of the hair. The disease is almost entirely limited to negroes. In the early stages there seem to be no marked mental changes, but later there is nearly always great depression of mind. According to Dr. Manson, the disease as observed in the Congo is frequently attended by insanity. Usually, even up to the fatal day, the sufferer understands and answers questions when aroused, and shows signs of pleasure—one patient smiling when presented with a cigarette a few hours before his death. The memory seems to be but slightly impaired, but the will and power of concentration are markedly weakened almost from the start. The senses—sight, hearing, and taste—remain active to the last. Sometimes during the early stages of the disease, between the fits, instead of the usual depression there is excessive and noisy hilarity, every occurrence being an excuse for "boisterous guffawing."

A number of pathological bodily conditions were found in the various organs (for which see the report of the commission published in the London Lancet, Sept. 27, 1902, p. 885), but the most marked and constant changes were found in the brain.

The cephalo-rachidian fluid, a small amount of which is present in the ventricles of the brain and canal of the spinal cord in health, was always found to be considerably increased in quantity and slightly turbid, although not purulent. The increase of fluid was accompanied by inflammation of the membranes of the brain, vary-

ing much in extent and severity in the different cases, but always present to some extent.

Microscopic sections of the brain substance showed an infiltration with leucocytes.

Bacteria were of course suspected and searched for. In the vessels of the pia mater, in the cerebral and medullary capillaries, in the cephalo-rachidian fluid and in the brain substance itself there was constantly found a diplo-streptococcus, which measured from 1.5 μ to 2.0 μ in diameter. It was found very difficult to cultivate this coccus artificially, although a slight growth was obtained on a culture medium of ascitic fluid and meat broth in equal proportions. Guinea-pigs and pigeons were unaffected by inoculations with the coccus, but rabbits were somewhat sensitive, and it was fatal to mice.

The conclusion reached by the commission was that the disease is a form of meningo-encephalitis, and that treatment "will be difficult, but may be possible in the early stages."

At Princess island the exciting cause of the disease appears to be excessive labor, poor food, and bad sanitation. All negroes of either sex are liable to contract it, except those over forty years of age. From one of the cases examined some ground is given for believing it contagious. These people eat from the same bowl with their fingers, and lick the latter after each mouthful.

Nothing could be learned regarding the incubation period. The onset may be sudden and marked by furious delirium with homicidal tendencies, but it is commonly preceded by a period of general malaise, lack of appetite, and incapacity for work.

At a meeting of the pathological and microscopical section of the Liverpool Medical Institution on Nov. 13 Dr. W. B. Warrington stated that the stress of the disease falls upon the lymphatic system, and especially that of the central nervous system. His observations agreed with those of Dr. F. W. Mott and supported the toxin view.

Alcohol in the Human Body.—The Practitioner devotes its issue for November, 1902, to an exhaustive discussion of the alcohol question from the medical point of view. It has obtained the views of eminent English physicians—such men as Sir Samuel Wilkes, Sir Henry Thompson, Sir William Broadbent, Prof. G. Sims Woodhead, and J. Milne Bramwell. Regarding their personal use of alcohol, Sir Samuel Wilkes has been a teetotaler practically throughout his working life, Sir Henry Thompson found his health much improved after stopping the use of alcoholic beverages, and Prof. Sims Woodhead attributes his early success in athletics and his present ability to do a good day's work largely to total abstinence. James Edmunds, of the London Temperance Hospital, gives statistics that indicate a considerably longer life among the total abstainers than in the case of even the so-called moderate drinkers. The general opinion of three of the practitioners may be summed up in the statement that alcohol is a useful drug, but a dangerous beverage.

In a recent memoir on alcohol (sixth memoir of the eighth volume [1902] of the National Academy of Sciences) W. O. Atwater and F. G. Benedict first call attention to the fact that as alcohol contains no nitrogen, it can not build or repair tissue, and hence that its only food value must lie in its heat-producing qualities. This function may be fulfilled in two ways: First, indirectly by stimulating secretion and the digestion of other food, and, second, by its own oxidation. Alcohol as a food can only be com-

pared with the starches, sugars, and fats, and not at all with the nitrogen-containing foods, such as meat.

A series of experiments were conducted on 3 young healthy men, 2 of whom had always been abstainers. The alcohol was taken in small quantities—2½ ounces per day in 6 doses—equivalent to 6 ounces of whisky or a bottle of claret.

It is expressly stated by the authors that their conclusions have no bearing whatever on the effects of long-continued drinking, nor of the effect of alcohol drinking on the ability to do hard muscular work.

They found that over 98 per cent. of the ingested alcohol was oxidized (which means utilized) in the body. Compared with the ordinary food substances as heat-producers, the following figures were obtained:

SUBSTANCES.	Heat of combustion.	COEFFICIENT OF AVAILABILITY.	
		Of material.	Of energy.
Protein.....	Calories. 5.65	98 per cent.	70 per cent.
Fats.....	9.40	98 "	98 "
Carbohydrates (starches, etc.)	4.10	97 "	97 "
Alcohol.....	7.07	98 "	98 "

FUEL VALUES

SUBSTANCES.	REFERRED TO AVAILABLE ENERGY.		REFERRED TO AVAILABLE MATERIAL.	
	Per gram.	Per pound.	Per gram.	Per pound.
Protein.....	Calories. 4.4	2,000	Calories. 4.	1,800
Fats.....	9.4	4,280	9.4	4,040
Carbohydrates.....	4.1	1,880	4.	1,800
Alcohol.....	7.1	3,210	6.9	3,140

The proportions of food and the several kinds of nutrients digested and made available for use in the body were practically the same in the experiments with and those without alcohol in the greater with the alcohol diet than with the ordinary diet, but the difference was extremely small.

The potential energy of the alcohol was transformed into kinetic energy in the body as completely as that of the ordinary nutrients. The efficiency of alcohol in the protection of body fat from consumption was very evident. Its efficiency in protecting body protein was evident, but it was not fully equal in this respect to the isodynamic amounts of the ordinary nutrients. The results, however, were not the same with the different subjects. An increased excretion of nitrogen at first occurred in the men unaccustomed to the use of alcohol; this, however, disappeared in the course of five or six days.

"That a part of the potential energy of the alcohol was transformed into the kinetic energy of muscular work these experiments do not prove, though they make it highly probable. We repeat," say the authors in closing, "that there is a very essential difference between the transformation of the potential energy of alcohol into the kinetic energy of heat, or of either internal or external muscular work, and the usefulness or harmfulness of alcohol as a part of ordinary diet. Regarding this latter question, the experiments bring no more evidence than they do regarding the influence of alcohol upon the nervous system, or its general effect upon the health and welfare."

Surgery of the Heart.—Dr. H. M. Sherman, of San Francisco, has collected the records of 34 cases of surgical operations on the heart. Of these, 5 died on the operating-table from hemor-

rhage; 10 died soon after leaving the table; 6 died later from blood-poisoning; and 13 recovered. The ventricles, owing to their much thicker walls, may be more successfully sutured than the auricles. Sir Lander Brunton, as the result of experimental work on heart-wounds, suggests that it may be possible to treat mitral stenosis (a form of heart-disease caused by the gradual closing of the mitral valve) by surgical means.

Surgery, Bloodless.—Dr. Adolf Lorenz was born in a small town in northern Austria forty-nine years ago. His father was a watchmaker, and was poor. The son entered the University of Vienna in 1875; soon won an endowed scholarship, and with the aid of this and what he could make by tutoring managed to complete the course, and obtained his degree in medicine in 1880. He soon became clinical assistant to Dr. Albert, Professor of Surgery. His ambition was to become a general surgeon, but a special sensitiveness of his skin to the antiseptics that were then coming into use in surgery—carbolic acid and bichlorid of mercury—so seriously hampered him that he was obliged to stop his clinical work. Prof. Albert advised him to devote himself to orthopedic surgery, and to this he reluctantly turned. He is 5 feet 2 inches in height, and muscular in proportion.

ADOLF LORENZ.

Prof. Hoffa, a surgeon of Würzburg (since removed to Berlin) devised, about 1890, an operation for the cure of congenital hip dislocations, which now goes by his name. Dr. Lorenz, after operating according to Hoffa's method several times, modified and improved it by considerably reducing the cutting, and the operation became known as the Hoffa-Lorenz method. Dr. Lorenz performed this operation several hundred times in Vienna, and out of the experience thus gained came his so-called bloodless method. This he performed for the first time in 1892, on a little Viennese girl. It proved successful, and he used it in other cases, improving the technique on each occasion. The operation was first called to the attention of the profession at the twenty-fifth Congress of the German Association of Surgeons at Berlin in May, 1896. It was then generally conceded that a new and valuable principle of treatment had been discovered. Paci, an Italian surgeon, declares that he discovered and announced the same operation as early as 1888. But there is considerable difference between the two methods, although both are bloodless. The Paci operation is apparently much less thorough, and consequently less effective. The Lorenz operation was first performed in the United States about six years ago by Dr. George R. Elliott, a pupil of Prof. Lorenz, on a girl of five years, who presented a typical congenital dislocation of the right hip. Other American surgeons have since performed the operation in several cases, with varying success; and, in fact, it was tried unsuccessfully in the case of the Armour child before Dr. Lorenz was sent for. She had a double

congenital dislocation, both hips being deformed, and the Chicago surgeon's operation resulted, it is said, in curing but one joint. The hip-joint is formed by a hemispherical depression in the pelvic bone, called the acetabulum, and a round, ball-like protuberance from the upper end of the thigh bone, or femur, set almost at right angles to the shaft. This protuberance fits into the socket of the pelvic bone and forms what is known as a ball-and-socket joint. In congenital dislocation of the hip, either because of some imperfection in the ball or in the socket, or through a prenatal accident, the ball and the socket are separated, and because of the arrangement of the muscles surrounding the socket, the head of the femur is displaced upward, usually either backward or forward. The object of the Lorenz operation is to replace the ball in the socket and hold it there until the joint has recovered its power sufficiently to retain the correct position without the use of the knife. After the dislocation has existed for some time the surrounding muscles become contracted, and great force is required to stretch or tear them sufficiently to permit the ball to drop back into its socket. Hence the essential part of the operation consists in stretching and tearing the muscles until they are limp and functionless. This is accomplished by Dr. Lorenz in the following manner: An anesthetic is given; an assistant then firmly holds the pelvis of the child, while the doctor raises the leg forward and upward until the foot is carried to the shoulder; this is done gradually, the muscles meantime being kneaded and massaged, especially at the points where they are fastened to the bone. The child is now turned on its face, and the same extreme stretching produced in the opposite set of muscles by carrying the leg backward and upward. The leg is drawn away from its fellow—abducted, as it is called—and the inner thigh muscles thus stretched and torn. These movements are continued until the muscles about the thigh are all quite flaccid. The skin is usually considerably bruised during this operation. The femur is now drawn down until the ball is opposite the socket, and then manipulated until it drops into the latter. Dr. Lorenz is thus quoted regarding the sensations produced by the curious click that is heard when this occurs: "The event, always expected with great tension of mind and deep longing, is accomplished like the triumphal entrance of a princely lord through the doors of his hereditary residence, from which he has been excluded for a long time through stress of circumstances, amid the chiming of bells, the beating of drums, and the firing of cannon which shakes the foundation of his castle. And yet this plaintive music of nature is for the parched ears of the operator a sound-intoxicating song of the spheres; as long at least as he preserves, during his laborious work, a receptive soul for such enjoyment."

Owing to the flaccid, rag-like condition of the muscles, the newly formed joint is not stable, so that a redislocation is very apt to occur. In order to prevent this, the leg is drawn out sideways so that it rests at an angle of 90 degrees with the body, and maintained in this position by a plaster cast. The pains due to the operation subside in a few days, and the child is then encouraged to walk about and play. Dr. Lorenz lays great stress on the early use of the limb, holding that the pressure of the head of the femur in the acetabulum, caused by the weight of the body, is an important element in causing the reformation of a useful and efficient joint.

In his earlier operations mechanical contri-

vances were used for stretching the leg and drawing down the femur, but these are now rarely required by Dr. Lorenz, although it is probable that the surgeon of average strength will have to resort to them much more frequently. He now leaves the plaster cast in place for six months to two years; his early practise was to remove it after three months, and, if necessary, put on another. He holds that a cure is obtained in about 60 per cent. of his cases, and an improvement in nearly all. It is said by other surgeons that the cutting operation is equally successful.

Dr. Lorenz has applied the same bloodless methods to the treatment of other joint and bone deformities, and even to wryneck. Stiffened knees and clubfoot are corrected by the intra-articular modeling *redressement*, as he calls his powerful massage, and the shortened (sternocleidomastoid) muscle in cases of wryneck is torn apart and stretched instead of cut, as by the old method.

One of his principles is to save the bone, even at the expense of the soft parts. He believes that efforts should always be made to cause the patient's own anatomical apparatus to correct a deformity, or a tendency thereto, whenever possible, rather than to clothe him in a suit of mail or a cage of steel rods. In chronic joint disease he uses as little apparatus as possible, and discards it early.

The Lorenz bloodless operation is by no means entirely free from danger. Among the few patients operated on in Chicago there was one case of fracture of the femur, another in which an extensive blood tumor formed, and a third in which severe tearing of the perineum occurred.

METALLURGY. General.—In a lecture on the Relations between Metallurgy and Engineering, delivered before the Institute of Civil Engineers, Sir W. C. Roberts-Austen pointed out that when metallurgists gave engineers mild steel they provided a carbon-free solid solution of iron and carbon. All subsequent advance had been due to recognition of this fact and to the profound studies of metallic solid solutions. Sir John Hawkshaw had said that if the strength of iron could be doubled the advantages might be equal to the discovery of a new metal more valuable than iron ever had been. The lecturer believed that this was exactly what metallurgists had done with regard to steel. By suitable thermal treatment and by suitable addition of comparatively rare metals they had doubled the strength of steel as it was made in the early days. Having explained the nature of solid solutions, the lecturer dwelt upon the importance of allotropic modifications of iron, and cited evidence of the possibility of the past molecular history of a mass of steel being traced by microscopic examination of the metal. It was demonstrated that solid metals might reveal, by their structure, the vibrations to which they had been subjected. With regard to the efforts metallurgists were making to study the influence of rare metals on iron and other metals, the reducing power of aluminum on metallic oxides was shown. The need for the careful measurement of high temperatures in connection with the treatment of large masses of metal was illustrated by reference to the new Alexander III Bridge in Paris. In the construction of this bridge 2,200 tons of cast steel had been employed, and a peculiar molecular structure was imparted to this steel by rapidly cooling it in air from a temperature of 1,000° C. to 600° C. This gave the metal certain mechanical properties which it would not otherwise have possessed. The use of copper, aluminum, and other metals in

electrical engineering was referred to, and the lecture ended with an appeal for the more extended study of the physical properties of metals.

The report of the committee of the Iron and Steel Institute which was appointed to ascertain whether it would not be possible to make the terminology of metallography less complicated and more precise comprises a glossary of the more important terms used by authors of memoirs dealing with the subject, with the exact equivalents in French and German. Care was taken in performing the work to exclude controversial matters, and when a definition was not universally accepted to quote the definition given by the specific author.

The investigations of Prof. J. O. Arnold and Mr. Andrew McWilliam on the composition of steels were confined to pure iron and carbon steels such as are produced in the best crucible practise. The authors reached the conclusions that the clear and definite constituents of hardened steel are (a) hardenite, Fe_3C , of which the whole mass consists only in the case of 0.89 per cent. carbon steel; (b) ferrite, Fe , which segregates more or less in unsaturated carbon steels in spite of the rapid action of quenching; and (c) cementite, which segregates more or less in saturated steels in spite of the rapid action of quenching. The indefinite portions of the hardened steels consist in unsaturated carbon steels of hardenite containing more or less unsegregated ferrite, or in supersaturated carbon steels of hardenite containing more or less unsegregated cementite. Martensite is not a constituent, but a crystalline structure developed at high temperatures. It is marked in saturated carbon steels by preferential etching lines; in unsaturated carbon steels by striæ of ferrite; and in supersaturated carbon steels by striæ of cementite. The existence of the constituents sorbite, troosite, and Austenite is extremely doubtful. Students should guard against apparent or false constituents really due to optical causes or to obscure polishing or etching effects. The views expressed by the author were opposed on the reading of their paper at the meeting of the Iron and Steel Institute by Sir W. C. Roberts-Austen, Mr. J. E. Stead, and others.

Iron and Steel.—The first paper read at the summer meeting of the Iron and Steel Institute, at Düsseldorf, Germany, was by Mr. W. Brüggemann, of Dortmund, and showed that almost all of the increase in the world's production of pig-iron from 18,300,000 tons in 1880 to 39,000,000 in 1901 had been shared by Germany and the United States, the weight of pig-iron made in America in 1901 having been more than three and a half times what it was in 1880, and that of Germany more than three times greater. The large increase in the German production was ascribed by the author to the development of coal-mining, which had made available a good supply of native fuel, and to the opening up of the iron deposits of Luxemburg and Lorraine, by which a supply of native ores suitable for the basic process of steel-making had been placed at the disposal of the manufacturer. The dephosphorization of iron in the converter exercised the most important influence in the rise of the German iron industry. While the make of basic pig-iron had developed to be more than 4,800,000 tons, or 2,000,000 tons more than the total iron production of 1880, and the make of foundry pig-iron had also increased from 200,000 tons in 1880 to 1,500,000 tons in 1900, the manufacture of puddling-iron and spiegel had declined from about 2,000,000 tons to 1,800,000 tons. The reduction in wrought-iron is regarded as no more than the inevitable consequence of the

advance in steel. Notwithstanding the development of the German iron industry, the blast-furnaces of the land have not been able to meet the demand. The author spoke of the excellent equipment of the German iron-works, and said that their appliances had to a large extent been based on those of American works, but were not mere copies of them. Among special features of German iron-making practise spoken of were the recovery of by-products from gases evolved in coke-making, improvements in mechanical appliances, the extensive adoption of the practise of carrying iron in the liquid state from the blast-furnace to the steel-works, the increasing utilization of blast-furnace gas, and the application of surplus power to the manufacture of cement from blast-furnace slag.

Mr. Axel Wahlberg, reviewing Brinell's researches into the influence of chemical composition on the soundness of steel ingots, maintained that the percentage of carbon and the casting temperature, which had hitherto been considered the agents responsible for the presence and position of blow-holes, were to be regarded as exercising a secondary influence. The principal cause of the defect was the presence of manganese and sometimes of aluminum contained in the ingot metal at the moment of casting.

In a paper on the Properties of Carbon in the Hearth of the Blast-Furnace, read before the Iron and Steel Institute, Mr. W. J. Foster showed that by increasing the temperature and diameter of the hearth more carbon would be exposed to the oxids, with proportionally less interruption by the gases that are decomposed in the neighborhood of the tuyères; hence more carbon would be converted into carbon monoxid in the hearth per unit of air introduced at the tuyères, and consequently an increased rate of driving would result.

In a paper on the overheating of low-carbon mild steel, Prof. Heyn, of Berlin, submitted as his principal conclusions that when low-carbon mild steel is annealed at temperatures above $1,000^\circ \text{C}$. there is an increase in the degree of brittleness, if the annealing process is sufficiently long. This increase is more considerable and manifests itself the sooner the higher the temperature of annealing. Prolonged annealing, say uninterrupted for fourteen days at temperatures between 700° and 890°C ., produces no increase in brittleness. In such cases, where the brittleness of the material in its initial state was not yet at the lowest degree possible, that degree is attained by this treatment. Between $1,100^\circ$ and 900°C . there exists a temperature limit, above which, if annealing is carried on for a longer period and at an increasing temperature, the degree of brittleness increases. Below this limit, however, such is not the case. Overheating does not occur at most extreme white heat, but manifests itself at considerably lower temperatures, which must, however, exceed the temperature limit just referred to. By suitable annealing, the brittleness of overheated low-carbon mild steel can be eliminated. If annealing is carried on above 600°C ., a short period of about half an hour is sufficient. Longer annealing must be the more carefully avoided the more the temperature limit between $1,100^\circ$ and 900°C . is exceeded, otherwise the signs of overheating will reappear. Below 800°C . an annealing of even five hours is not enough to eliminate the brittleness in the overheated metal; but by annealing of one day's duration at temperatures between 700° and 850°C . this object can be attained. If low-carbon mild steel which has been annealed for a longer period at a high enough temperature, so that after undisturbed cooling it

would show extreme brittleness, is rolled or forged during cooling to bright-red heat it will exhibit no brittleness when cold. The fracture of the overheated steel generally shows a coarse grain, although this is not necessarily always the case. The single crystal grains of which the structure of the iron is built up, which can be detected under the microscope by suitable etching, are often of considerable dimensions when in the state of overheating. Nevertheless, this is not to be considered as proof positive that overheating has taken place, since the method of cooling also exercises a great influence over the size of the ferrite grains. Rapid cooling from the temperature causing overheating produces fine ferrite grains, without reducing the brittleness appreciably. Moreover, it is possible, by heating low-carbon mild steel for days together at between 700° and 890° C., to bring the material into such a condition that it will show exceedingly coarse ferrite grains, and yet not exhibit brittleness.

A new method of compressing steel during solidification and while still liquid in the ingot mold, which the author called "wiredrawing," is described by M. A. Harmet. When molten steel is poured into the ingot mold it may suffer various changes in character, being subject to contraction, crystallization, and liquation, with injurious effects upon its qualities. When the metal begins to cool, it shrinks from the walls of the mold, a solid steel shell is formed, enclosing liquid, and this continuing to cool, shrinks, becomes plastic, and attaches itself progressively to the shell, leaving a hollow corresponding to the shrinkage, and extending along the axis of the upper part of the ingot. The lower central part of the ingot also has porosities and tiny cracks, and fissures may be detected by the microscope pervading the whole mass. Injurious stresses are set up, crystals are formed having little cohesion between themselves, whereby the liability to crack is increased, and the metalloids that enter into the composition of the steel have a tendency to separate from the iron by liquation. The ingot, as cast, may therefore be useless, and require mechanical treatment to remedy its defects. The author's method is intended to effect compression on the steel while it is in the mold. Pressure is applied by means of a hydraulic press to the bottom of the ingot while it is liquid in the mold. Owing to the form of the modern ingot mold, tapering toward the top, the upper diameter is less than that of the lower part. By applying pressure from below, the ingot, which has shrunk on cooling, is thrust upward into the smaller part of the conical mold. The cooled shell thus presses on the central part, and the hollows due to shrinkage are not free to form. By hastening the solidification in this way the tendency to coarse crystallization is counteracted, and the tendency of carbon to accumulate in the part of the ingot where solidification last takes place is lessened. The process is called wiredrawing because of a supposed similarity between the pressing of the metal into the upper part of the mold to forcing it through a draw-plate. Advantages are claimed for this method over that of Sir Joseph Whitworth, who applied pressure from the top, in that the pressure as applied by him is more effective and thorough. The author represents that with it production is increased 25 per cent.

In the Blau-Thiel process as described by Mr. J. W. Cabot, the fluid iron from the blast-furnace was charged in the refiner with 7 per cent. of quicklime; 10 per cent. of ore was added, and then a second ladle of iron. The charge was

made of 15 tons. The pig-iron contained 3.70 per cent. carbon, 1.35 phosphorus, 0.90 silicon, 0.40 manganese, and 0.05 sulfur. After boiling in the refiner two hours, 90 per cent. of the phosphorus and 95 per cent. of the silicon had been removed, while more than two-thirds of the carbon remained. The finishing furnace, containing 3½ per cent. of lump lime, 7 per cent. of ore, and 7 per cent. of scrap, having been brought up to heat, the refined metal was tapped into it after the slag had been skimmed off. After boiling two and a half hours the phosphorus was brought down to 0.01, and the bath was ready for tapping.

The belief that the percentage of graphite in iron is independent of the amount of silicon present is attributed by H. M. Howe to a wrong interpretation of the evidence. Mr. Howe shows that the graphite content in normal and relatively pure commercial pig-iron is influenced only indirectly by the percentage of silicon, in that silicon lowers the solvent power of iron for carbon, and thus lessens the proportion of combined carbon and increases that of graphite, provided the total carbon remains constant; the decrease of combined carbon is rapid at first, especially as the silicon rises from zero to 0.75 per cent., and then becomes slower and slower. The influence of silicon is often masked by that of the variables. Sulfur is known to raise the saturation point of cast iron for carbon; by increasing the combined carbon content it lowers the graphite content. It is estimated that the proportion of combined carbon in pig-iron is increased 0.02 per cent. for each 0.01 per cent. increase in sulfur when the iron contains from 1 to 2 per cent. of silicon, and 0.03 per cent. for each 0.01 per cent. of sulfur when the iron contains from 2 to 3 per cent. of silicon.

In well-equipped foundries, the cinder from the cupola is usually crushed in a tumbler and the shot separated from the pulverized cinder. C. H. Putnam further passes the pulverized cinder over a magnetic separator, and thus saves additional iron, recovering daily from the dump of two cupolas 550 pounds of siftings, which give 450 pounds of strongly mottled iron after melting. This iron is to be worked in with the regular cupola charge, in amounts to be found by experiment. The daily saving by the combined crushing and magnetic separation with two cupolas amounts to \$3.

By the Giebler process of hardening steel it is claimed that all sorts of iron can be given strength and hardness double that obtained by the Harvey, Krupp, and Boehler processes, while the cost of production is reduced 50 per cent. Experiments made with it at the Technical High School, Charlottenburg, Prussia, were very satisfactory.

The objections have been made to the new methods of rail production that the rail made by them is so low in carbon and has so soft a head that the wear makes them useless in a much shorter time than the older rails of lighter section. It is claimed that these difficulties are obviated in the Copen process, by which a rail is produced with a hard, tough face and free from scale and strain, showing a finer grain of steel in the head, and having from a third to a half superior durability to the usual rail.

Lieut.-Col. Davis, of the Naval Ordnance Bureau of the United States, has produced an armor-plate which, when tested at the proving-grounds at Bethlehem, gave results encouraging the belief that the armor-plate has again overtaken the gun in the struggle for supremacy. This plate is obtained by a novel process, carbon being driven directly into the surface of the hot metal by an

intensely powerful current of electricity, the result being a face as hard as glass and of any thickness desired, supported by a tough back, which, it is claimed, can not be cracked. The depth of the hardening is regulated by the length of time the current plays upon the plate. It is claimed that an average plate can be completely treated electrically in five hours. Moreover, it is asserted that the plate is a third lighter for the same resisting power.

Among the advantages offered by nickel-steel, R. S. Tappender mentions the smaller liability, arising from its greater tension, of fractures when started to extend, than exists in common steel or iron. The elastic limit of nickel-steel is also much higher in proportion to its tensile strength than that of steel or iron.

Not many brands of hard tool steel can be used with advantage and economy for the preparation of the various cutting tools employed in the machinery of modern armor-plates. A steel prepared by Sergius Kern, of St. Petersburg, has the following composition:

Tungsten.....	2.00 per cent.
Molybdenum.....	0.50 "
Carbon.....	0.90 "
Manganese.....	0.20 "
Silicon.....	0.18 "

The phosphorus and sulfur must be kept down as low as possible, on the average not more than 0.03 per cent. of the combined elements, of which not more than 0.01 per cent. should be sulfur. The steel is, and must be, prepared by the crucible process. Such a self-hardening tool steel is very convenient for the machining of hard metals.

A paper on the probable existence of a new carbide of iron, Fe_3C , was communicated by Prof. E. D. Campbell and Mr. M. B. Kennedy, of the University of Michigan, to the Iron and Steel Institute at its summer meeting in Düsseldorf.

Titanium.—In illustration of the importance of the metallurgy of titanium, Mr. Augustin J. Rossi, in the *Journal of the Franklin Institute*, refers to the extent of the deposits of iron ores containing a notable amount of titanic acid which occur all over the world in immense quantity, especially in the formations of Sweden, Norway, Canada, North Carolina, and other regions, and the Adirondacks. As a rule, these ores are Bessemer ores, usually free from phosphorus and sulfur, though not invariably so. It is obvious that if these ores were to be regarded in the same light as other ores equally rich in iron, they might form an excellent stock for blast-furnaces for years to come, as their supply might be called inexhaustible. The objections that have been alleged against the use of these ores are characterized by the author as unreliable, contradictory, and contrary to the facts. Mr. Rossi's own experiments and other evidence are cited to show that instead of the presence of titanic acid in blast-furnace slag rendering it infusible, such slags are worked without difficulty from that cause. An objection based upon relative economy of production is declared not valid, because of the better quality and higher value of the pig produced from the titaniferous ores. A general consensus of opinion is alleged to the effect that the pig smelted from really titaniferous ores, whether smelted alone or in important proportions, with other ores, is strong, "wonderfully good," "a splendid iron," "all that can be desired," etc. The addition of from 10 to 15 per cent. of titaniferous pig to a cheap grade of foundry pig raised the tensile and transverse strength, with a deeper chill, and at a cost of several dollars less per ton.

This titaniferous pig does not, however, contain titanium to any important extent. The influence of that element in the smelting seems to be more one of purification, eliminating obnoxious elements, than a direct one. The author has experimented with alloys of titanium and iron, and has found that as the percentage of titanium increases the fusibility diminishes. All the alloys, both with carbon and those free from it, are much lighter than cast iron, their specific gravities varying with the amount of titanium. Added to steel, titanium increased the ductility considerably. It has been suggested that titanium may have an indirect action besides its specific one, when added to steel—acting not only as a deoxidizing agent, but also by removing from the steel the nitrogen which is undoubtedly present in it, and which has an unfavorable influence on its strength, titanium burning in nitrogen at 300°C ., with incandescence, as iron burns in oxygen. If such be the case, the use of the titanium alloy, even when containing carbon, would be well indicated, since the titaniferous ore could be used as a recarbonizer on account of the high percentage of carbon it contains, as a deoxidizer (with or without ferro-manganese), and perhaps as a denitrogenizer; and since, in the case of smaller converters for steel castings, the heat of formation of titanic acid, which is much higher than that of silica, would prove advantageous in raising the temperature of the bath, even were but a small percentage of titanium to remain ultimately in the finished product, there would seem to be, with suitable adaptations of open-hearth furnaces, a promise of the opening for these titanium alloys of a large field of usefulness and for the titaniferous ores a very important application.

Gold, Silver, Platinum, and Mercury.—The oxidized gold ores of the Lydenburg district, Transvaal, are composed of quartz, oxides of iron, and dolomite, and contain, besides the gold, small quantities of manganese, bismuth, silica, and copper. In the cyanid treatment of these ores, manganese dissolves only when an insufficient amount of lime is used, bismuth presents no difficulties, and 10 per cent. or less of silver is recovered. Copper is present in different forms to the extent of 0.4 per cent., and collects in the metallic form on the amalgamating plates, while a small proportion is dissolved by the cyanid, with formation of potassium cuprocyanid, 3KCyCuCy . The method of removing the copper is to heat the ore with the cyanid solution obtained in ordinary practice, containing cuprocyanid, but no free cyanid. This solution would dissolve the copper, and, after having been freed from it again by the Siemens-Halske electrolytic method of precipitation, could be used over again.

In pyritic smelting or smelting of dry silver ores in connection with pyrites to form a matte, F. R. Carpenter, dealing with ores of the silicious gold belt near Deadwood, S. Dak., successfully followed the general work of Mansfeld, Germany. The matte fall rarely exceeded 5 per cent. Iron sows formed in the operation, and helped to carry down the gold, so that clear slags could be made in the absence of copper, which has heretofore been deemed essential to the production of waste slags free from precious metal. The refining of the matte was at first accomplished by treating with lead ores; then it was found that matte as well as iron sows readily gave up the gold to the lead, while the extraction with silver was not so perfect. In a second method described by the author the matte was smelted for cop-

per bottoms, which being granulated, oxidized, and resmelted with sulfur-bearing material, gave a second bottom very much richer than the first. The presence of some lead is essential to obtaining a perfect concentration. Six parts of lead to one of copper give satisfactory results; but the bottom from the second selecting was so rich in lead that it could be expelled, often directly, without any addition of that substance. The first bottoms could be resmelted directly with sulfur-bearing material without granulating and oxidizing; and the operation could be repeated until the concentration had reached the desired degree. The author also found this method satisfactory in smelting Cripple Creek ores in Colorado.

Platinum is a metal of great value to the chemist and the artisan on account of its melting only at an extremely high temperature and its resistance to the action of all acids except the nitrohydrochloric. It is largely used in chemical processes, in the forms of crucibles, dishes, spoons, spatulas, foil, and wire. Its coefficient of expansion being nearly the same as that of glass, it has been largely employed in the construction of incandescent electric lamps for connecting the outside copper wire with the carbon filament. It is used in the manufacture of the contact points of telegraph-keys, in the pins for attaching artificial teeth to the plate, in stills for the concentration of crude sulfuric acid, when it is alloyed with about 3 per cent. of iridium; to some extent in jewelry; in the manufacture of platinotype paper for printing photographs; in the construction of fine weights for chemists' balances, for surgical and other scientific instruments, for making balance-wheels and hair-springs of non-magnetic watches, for obtaining a silver color on porcelain, for producing what is called "oxidized silver," and for the fuses of electrically exploding dynamite cartridges. Although platinum has been supposed for many years to exist in New South Wales, its actual discovery there in paying quantities dates only from 1893. The amounts at present obtained are limited, the chief difficulty in the way of production being the scarcity of water in the districts where it occurs. It is found in the native state alloyed with iron, iridium, osmium, and other rare metals. It usually occurs in grains or scales, sometimes in irregular lumps or nuggets, and rarely in crystals. In the Fifield district, about 322 miles west of Sydney, it is associated with gold, the metals occurring in fairly coarse water-worn grains, confined as a rule to the cavities of the bed-rock, and to the wash-dirt for a few inches above it. As compact platinum does not amalgamate with mercury in the cold, it can easily be separated from gold by means of that agent. Platinum is also found in the beaches of the northern coast of the state of New South Wales, where it is obtained from the auriferous sands. Here the gold, platinum, etc., which are concentrated on the beaches during stormy weather are brought down by the action of the waves from an ancient beach deposit which occurs at an elevation of about 6 feet, and which has locally received the name of "black rock." The only other form than those mentioned above in which platinum is found is that of an arsenide, in the mineral sperrylite, which occurs in minute cubic or cubo-octohedral crystals having a tin-white color and a black streak.

In the treatment of cinnabar ores at the works of the Marfa and Mariposa Mining Company, Brewster County, Texas, as described by E. B. Spalding, the crushed ore is charged hourly by a

car holding 900 pounds, and every half-hour half a car of spent ore is withdrawn below. It takes the ore about twenty-four hours to pass through the furnace. The fumes leaving the furnace by a 16-inch sheet-iron pipe, zigzag through 6 condensers, each with a partition wall before they pass through a long flue into the air. The condensers are dry on account of the scarcity of water. Most of the quicksilver collects in the first three chambers, which are freed from soot weekly, while the other three have to be cleaned only once a month. The condensed quicksilver runs off continuously into a storage-tank to be bottled. The soot is freed from a large part of its quicksilver by working on an inclined plane, where it is added in small amounts to the ore charge. The yield in quicksilver is estimated to be 90 per cent. In five months 1,200 flasks of quicksilver were produced.

Aluminum.—A purity is said by W. Murray Morrison to be attained now in electrolytic aluminum of 99.5 and 99.6 per cent., the impurities being 0.25 per cent. of iron and 0.17 per cent. of silicon. Another example analyzed by Prof. E. Wilson gave 0.31 per cent. of iron and 0.14 per cent. of silicon. Such a standard of purity has been only gradually obtained. The importance of purity is insisted upon by the author in his paper in the *Journal of the Institute of Electrical Engineers*, since impurity affects the value of the metal as an electric conductor in two ways: by lowering the conductivity and by increasing the liability to atmospheric corrosion. The evidence is somewhat conflicting as to the power of aluminum to withstand atmospheric influences; but on the whole the metal seems fairly satisfactory in this respect. The thin film of oxid which immediately forms on its surface in air acts as a protective coating. The usefulness of aluminum in metallurgy, of which much has already been said in previous volumes of the *Annual Cyclopædia*, is continually becoming more apparent and better appreciated. Of the part it plays in this field, Mr. Morrison speaks of the improvement secured to the finished product through the addition of a small quantity of aluminum (from 2 to 5 pounds per ton) in the casting of steel, iron, brass, and other metals, when the aluminum combines with the occluded gases, with the effect of reducing the blow-holes and rendering the metal which is being cast more fluid and ultimately more homogeneous. Much is expected from the application of Dr. Goldschmidt's use of aluminum for producing high temperatures to the welding of rails, pipes, etc. (noticed in the *Annual Cyclopædia* for 1901), which has not yet become of commercial importance. By virtue of the low specific gravity of aluminum it is used in cases in which weight is a drawback—in naval and military equipments, motor-car construction, and like applications—in which the metal finds considerable and increasing employment. For cooking utensils, for which it is eminently suited, its use is steadily increasing. The chief drawback to the general use of aluminum is its low tensile strength. This may be improved to some extent by alloying with a small quantity—less than 10 per cent.—of nickel or copper. A table has been prepared by Prof. Wilson incorporating data with reference to some of these light alloys. Substituted for copper in electric conductors aluminum allows wider spans; but when insulated cables are wanted for low-tension work, the increased diameter of aluminum conductors involves increased cost in insulating material. In lead-covered cables, the increased weight of lead would almost, if not quite cancel the de-

crease in weight caused by substituting aluminum for copper. For high-tension cables, aluminum may possibly be in some cases cheaper than copper. The author suggests that since the cost of power required for the electrolytic conduction of aluminum is higher than that of any other electrolytic manufacture, it will be advantageous to use water-power.

Mr. W. H. Preece has observed that when aluminum wires break, they give way at points where impurities exist; and for that reason, he remarks, it is satisfactory that the purity of the metal has been increased by recent processes.

It is shown by Prof. T. W. Richards that in the classification of alloys of aluminum the useful ones fall into two groups—those in which small amounts of another metal are present with aluminum, and those in which aluminum is added in small amounts to other metals. Generally speaking, according to William Campbell and John Mathews, the metal present in the smaller amount should not exceed 15 per cent.; and in alloys of the first class much smaller proportions give the maximum improvement in the alloy, hardness being one of the qualities most sought. Aluminum seems to be able to take up considerable quantities of certain metals without undergoing change of volume, though the density and probably the hardness are improved in such cases. Aluminum seems to form intermetallic compounds more readily than any other single metal, unless it be the metals of the alkalis. On the other hand, there are several metals with which it will not combine or even mix to give homogeneous alloys except when the added metal is present in very small quantities. Among the metals of this class, lead, bismuth, and cadmium may be mentioned.

Specimens of alloys of aluminum in the form of wire 0.126 inch in diameter were placed by Prof. E. Wilson on the roof of King's College, London, where they remained about thirteen months, in order to investigate the effect of exposure to a London atmosphere. The percentage of variation of specific resistance had a somewhat wide range, according to the conditions. Corrosion increased with the percentage of copper. Nickel alloyed with copper had the effect of slightly increasing conductivity during exposure. The conclusion was reached that copper alone should not be used in light aluminum alloys. The presence of equal amounts (about 1 per cent.) of nickel and copper certainly reduced conductivity to a small extent, but the gain in mechanical and non-corrosive properties was great.

From tests made at the Zurich Polytechnic Institute of aluminum bronzes furnished by the Neuhausen Aluminum Company, it is found that the specific gravity of the metal first rises and then falls, as the percentage of aluminum increases. The maximum strength for soft alloys was obtained with 3.4 per cent. of aluminum, and for hard alloys with 1.4 per cent. of that metal. For brass, the elasticity decreases with the increase of aluminum, and is extremely low with 2 per cent. of it. Iron in the proportion in which it is present in the alloys was not observed to influence sensibly the physical characteristics. Aluminum bronze containing 10 per cent. of aluminum with 1.5 per cent. of silicon and iron is too brittle to be of any practical value. As regards abrasion by friction, the hard alloys, with less than 89.6 per cent. of copper, lose little in weight, while the soft alloys, with less than 6 per cent. of aluminum, heat and wear away rapidly.

The addition of a small quantity of aluminum

has been found by E. S. Sperry advantageous in the manufacture of German silver. It greatly improves the qualities of the alloy, causing it to fill the molds completely and entirely preventing the formation of blow-holes. Less than 0.05 per cent. of aluminum is required to impart this quality. The addition of larger proportions, as from 3 to 3.5 per cent., gives the metal qualities that make it more like tempered steel than any other of the non-corrosive alloys. Hard and stiff bars can be worked and machined. As the best formula for this hard alloy, Mr. Sperry gives: Copper 57, nickel 20, zinc 20, and aluminum 3 to 3.5, according to the stiffness required.

Tin.—In the process of Paul Bergsøe for the electrolytic recovery of tin from scrap and waste alloys, the tin-bearing materials are reacted upon by stannic chloride, and the stannous salts formed are subjected to electrolytic treatment. In theory the process is identical with the Hoepfner process for extracting copper, which depends upon the varying valences of the metal. This process consists in bringing a salt of copper in a higher state of oxidation into contact with the ore, whereupon copper passes into solution and the solvent is reduced from the cupric to the cuprous condition. This solution is then electrolyzed with insoluble anodes, whereby it is caused to deposit one-half of its metal, with restoration of its valence and solvent power and recovery of an amount of metal equivalent to that dissolved. The Hoepfner process has encountered in practice the very serious obstacle of a low reaction velocity—a solvent action so slow as to render its application to the most commonly occurring ores of copper, the sulfides, of doubtful practicability. From this defect the tin process is free, for the stannic salts are energetic solvents. The successful treatment of tin scrap, however, has proved in the past a difficult problem, on account of its very low tin content and because of the tendency of the iron to pass with the tin into solution. The industrial value of the new process as applied to this purpose is therefore yet to be investigated.

Two electrolytic processes for the recovery of tin from tin scrap as carried out in work in Germany are described in an anonymous article in the *Zeitschrift für Electrochimie*, both of which are based on the use of scrap as anode material. In one the bath contains sodium chloride and hydrate; in the other, hydrochloric acid. It is an advantage of the former method that less iron gets into the solution; but, on the other hand, the energy efficiency of the process is lower, and when it is used, the deposit obtained at the cathode is more spongy. The failure to get metallic tin directly is a disadvantage of both processes. The metal can, however, according to the article, be obtained in the electrolytic bath under certain conditions. Pfenhauser has suggested that avoidance of the formation of sponge may be simply a question of maintaining the concentration of the tin-salt solution near the cathode—a condition which appears to be difficult in works treating tin-scrap on an industrial scale. The problem of producing metallic tin at the cathode is complicated further by the slow, gradual increase of impurities in the electrolyte. Of several works that have been built in Germany for carrying out the electrolytic process, the largest is that of Goldschmidt at Essen, where from 50 to 60 tons of tin-scrap are treated per day. Other works have been or are being built in Austria and Germany, and a company was formed in England in 1901 to operate an electrolytic works.

In the Gelshart process for the electrical separation of pure tin from waste tin cuttings, the tin is recovered by electrolysis, and the cleansed iron is sold as best scrap or is converted into green copperas, which may be further converted into red oxid or Nordhausen sulfuric acid. The electrolyte in the stripping tanks is a 14-per-cent. solution of commercial hydrochloric acid, to which is added a small quantity of oil of vitriol.

Copper, Zinc, Nickel.—In poling copper Mr. E. S. Sperry leaves the reduction of cuprous oxid uncompleted, in order that the traces of bismuth, arsenic, and antimony in the copper remaining shall be present as oxids, where they are less harmful than as metals. Small amounts of cuprous oxid are liable to make copper somewhat cold-short, but not hot-short; hence the metal is rough rolled hot and finished cold. In making brass, some of the zinc is oxidized at the expense of the metallic oxids contained in the copper. In experiments made to see what effect the oxygen of the copper had in brass-making the copper used was oxidized by exposing it in a melted condition to the air. Analysis gave from 1.2 to 1.52 per cent. of oxygen. Oxidation with niter proved unsuccessful. The base composition of the brass used was copper 60 per cent. and zinc 40 per cent. The experiments showed that the amounts of oxygen usually contained in economical copper (from 0.010 to 0.012 per cent.) have no harmful effect on the quality of brass intended for rolling into sheets; the oxygen may reach even 0.55 per cent. and do no harm if specific care be taken. An excessive amount of oxygen causes the formation of a salamander, a mixture of infusible zinc oxid and copper. If oxygen is present in not sufficient amount to form a salamander, but in the proportion of about 0.55 per cent., the brass will show a tendency to crack, owing to the presence of zinc oxid.

In a process for copper-matte concentration described by Thofelm and St. Seine (Oesterreiche Zeitschrift), a mixture of air, superheated steam, and silica is blown upon a bath of molten matte or crude metal in a reverberatory furnace. A rapid oxidation and scorification of the metals to be removed take place in the zone of action of the tuyères without any mingling of the slag with the bath, the action of the blast being to drive the slag toward the skimming doors and keep the bath of metal in the blast zone uncovered. The walls and the hearth of the furnace are not affected during the scorification. The process is applicable to furnaces of large size.

The dictum that barytes in zinc ores is injurious by causing the formation of a sulfid of the zinc has been contradicted by the experiments of Prof. Prest and others. The evidence of these experiments is confirmed by the studies of K. Sander, who charged 10 retorts with 400 kilograms of roasted blende containing lead and 9.2 per cent. of barytes, and another set of 10 retorts with roasted blende free from barytes. The residue from the former set of retorts assayed 2.70 per cent., and that from the latter 3.54 per cent. of zinc. In a repetition of the experiments the percentages of zinc in the residues were 2.08 per cent. and 2.92 per cent. respectively.

In the application of the Mond nickel process to the Sudbury pyrrhotite, the ore is roasted and melted to a matte containing about 20 per cent. of nickel. This is Bessemerized to a product containing 18.62 per cent. of copper, 31.37 per cent. of nickel, and 0.7 per cent. of iron. The matte thus concentrated is dead roasted and treated with dilute sulfuric acid, whereby about two-thirds of the copper and from 1 to 2 per cent. of

the nickel are extracted. The residue after drying assays from 40 to 60 per cent. of nickel. It is treated in charges of 500 kilograms with water-gas in a reduction-tower at a temperature of not more than 300° C. The tower is fitted with 14 hollow shelves heated to 250° C., on which the material is raked from one to another to the lowest shelves, which are cooled. The reduced copper is then transferred to another similar tower called the volatilizer, in which the metal is treated with carbon monoxid at a temperature not exceeding 100° C. The residue from the volatilizing tower goes back to the reducing tower, and the charge is thus passed back and forth from tower to tower for from eight to fifteen days. When 60 per cent. of the nickel has been volatilized as carbonyl, the residue is returned to the roasting furnace. The nickel carbonyl is treated in the decomposing apparatus, in which the nickel is recovered as granules of from 99.4 to 99.8 per cent. purity.

Alloys.—The Committee on Alloys reported to the British Association that the research for which it was formed had been completed, and a summary of the results had been published in the Proceedings of the Royal Society. The work consisted in a study of the chemical compounds and solid substances to be found in alloys composed of copper and tin. The report shows that at least three series of solid solutions are formed during the solidification of these alloys. The first series, which may be called Alpha, consists of crystals isomorphous with pure copper and varying in composition from pure copper to an alloy containing about 9 per cent. by weight of tin. These alloys solidify to a uniform mass, and apparently remain unchanged at all lower temperatures. The second series, which may be called Beta, contains percentages of tin varying from 22.5 to 32. Alloys containing between 9 per cent. and 22.5 per cent. of tin solidify as a complex of crystals of Alpha and of Beta. But all such alloys having from 9 per cent. to 32 per cent. of tin undergo important recrystallizations after they have wholly solidified, and their final condition below 500° C. is that of a complex of Alpha and of a crystalline body which is probably Cu₃Sn. Alloys from 32 per cent. of tin to 52 per cent. begin to solidify by the formation of a third type of crystalline solid substance, which may be called Gamma. But the Gamma crystals break up at lower temperatures into a complex of crystals of the body Cu₃Sn and another substance. The alloy of the formula Cu₃Sn is apparently a solid solution when first solidified, and is not converted into the compound until a lower temperature is reached. Gamma crystals containing more than 41 per cent. of tin have the peculiarity that, in cooling, they break up into solid Cu₃Sn and a liquid. Between 57 per cent. of tin and 43 per cent., the first solid that forms when the liquid alloy begins to solidify consists of Cu₃Sn; but when the temperature falls to 400° C. these crystals become unstable, and a reaction takes place between them and the liquid, which results in their partial transformation into a body which is really a quite pure CuSn. Between 93 per cent. and 99 per cent. of tin, the substance CuSn is the first body formed during solidification. Between 99 per cent. and 100 per cent., tin appears to crystallize first. The paper closes with a summary of the condition of the alloys at common temperatures, it being assumed that they have been cooled with sufficient slowness.

Fuels.—A paper on smokeless fuels read in the Engineering Club of St. Louis, Mo., mentioned powdered coal as promising to be the cheap-

est and most available, but found the greatest hope of relief from smoke to be in learning how to burn the ordinary fuels smokelessly. Much might be done by careful firing alone. No patent device would work satisfactorily with careless firing. Special devices were divided by the author into four classes: 1. Steam jets above and below the grate were reasonably effective, but were not economical of fuel. They should be turned on at the time of firing, and turned off in two or three minutes after the fuel has ignited. 2. Cooking-furnaces or fire-brick arches were capable of giving almost perfect results if properly designed and intelligently operated. They were best adapted for plants where the service is reasonably uniform. 3. Down-draft furnaces have proved very successful, and have come into extensive use where excessive demands for over-work are frequently made. One form was mentioned which has one grate above the other, the bars of the upper grate being water-tubes connected with the circulating system of the boiler. The gases must pass downward through the bed of fuel. 4. Automatic stokers, including fan devices and chain-grates, have come into use in large modern plants. Their first cost and the expense of repairs are high, but they save materially both labor and fuel. They are not all equally well adapted to all fuels, and the question should be studied out for each one separately. 5. Powdered fuels have been employed successfully in cement kilns and under boilers. The plant necessary is somewhat elaborate, and as the fuel is liable to spontaneous combustion it must be produced as it is used, and thus can not be stored or handled in large quantities. Combinations of these five types are frequently made, as, for instance, the fire-brick arch with the mechanical stoker and steam-jet. On locomotives and steam-boats, brick arches and steam-jets have given the best results. Oil is used also. But no apparatus or device can dispense with intelligent handling.

The subject was treated in papers in the section of engineering of the British Association, when Mr. W. H. Booth pointed out the difference between long and short flaming coal, and discussed the effect of volatilizing solid hydrocarbons on the distribution of temperature in a furnace and the production of heat at and beyond the grate surface. Though less heat was produced at the grate surface, the total heat production of bituminous coal was eventually secured if suitable furnace arrangements were provided for the purpose. The bad effect of cold water-pipes in the path of the furnace gases was referred to. Though so bad as usually fixed, the common form of water-tube boiler could easily be set so as not to produce smoke. The furnaces should be so arranged that all the gaseous products would be swept together with all the admitted air, and not be cooled down until sufficiently burned to admit of being used. For this purpose furnace lining should be non-heat absorbent. The author's conclusion was that smokeless combustion of bituminous coal was as easy and certain as the reverse method.

Mr. J. S. Raworth described a system of preventing the formation of smoke in a boiler furnace by injecting a mixture of air and nitrate-of-soda solution upon the fire.

Owing to the growing scarcity of good coking coals in Great Britain and on the Continent of Europe, efforts have been made to improve the quality of the coke derived from the output of inferior coal-seams. Experiments and apparatus for compressing the fuel before coking were de-

scribed by Mr. John H. Darby at the meeting of the British Iron and Steel Institute in May. The essential appliances of the apparatus are stamping-machines and compression boxes for preparing the coal for the coking ovens. In the result it was found by the author that the compressed coke was considerably denser than the ordinary coke, the lumps were larger and firmer, and the breeze, or small, coke was greatly reduced in quality. A cognate paper was that of Mr. J. Thiry on the recovery of by-products in coke-making. The Otto Hilgenstock oven was described in detail, and the gases produced were shown by the analyses to be very pure when freed from the by-products. Further, a high-class coke, both as to quality and yield, was obtained.

The briquetting process, according to a paper by Mr. W. C. Irwin, is applied in the United States to mineral fuels, fine ores, fine dusts, and ores of the precious minerals. In briquetting minerals, lime is used as a binder. In briquetting coal, the coal is reduced to pulp, heated to from 100° to 200° F., and cemented by the warm binding material, without altering the chemical composition of the coal or the binder. It is pressed at 5 tons to the square inch. Coal is briquetted with petroleum at Stockton, Cal. Many smelters in the West, by briquetting their fine dusts and slimes, save from 20 to 50 per cent. of their ore. Bricks are made so hard by means of the improved mineral presses that the danger of crumbling is avoided. Fine iron ore is briquetted at many iron plants at a total cost of less than \$1 a ton. In large smelting-works where great quantities of dust are formed, this affords a practicable means of disposing of the dust and removing a dangerous explosive.

Furnaces.—The novel features of a proposed method of combining the blast-furnace and the open-hearth furnace described by P. Evermann consist in the employment of blast-furnace gas in the open-hearth furnace, in arrangements for improving the quality of the gas, and in the application of air-nozzles to one of the hearths.

An apparatus designed to obviate the difficulty met in storing dust fuel arising from its liability to spontaneous combustion and its property of absorbing moisture has provision for the creation of a supply of powdered fuel as fast as it is consumed. It comprises a crusher in which the raw coal is pulverized to the size of rice or buck-wheat coal; a drying furnace, which is used when the coal contains more than 6½ per cent. of moisture; a grinding-machine; an air-separator, with elevators and storage-bins; and a burner through which the dust fuel is admitted to the boiler-furnace. In the grinder the crushing action of metal balls is used. These are held loosely in pockets in the circumference of a rotating disk enclosed by a steel ring. The air-separator is provided with a fan so arranged as to lift the fine dust from a central shoot to an external annular chamber, while the coarser particles fall down the central passage and return to the grinder. The finished dust is fed automatically by a vertical pipe from the storage-bin to the burner, which consists of a short horizontal pipe with a nozzle for a jet of compressed air, placed centrally. The air and coal-dust issue well mixed and in the manner of a stream of gas issuing from an orifice.

Damage to the ends of air-blast pipes by the high temperature is prevented in a new system invented by J. Foster, in which the water is not applied under pressure, but is aspirated through the tuyère by suction; and the tuyères are cooled

in such a way that leakage of water into the furnace is prevented. When a tuyère becomes damaged or leaks, instead of water entering the furnace, air tends to enter the tuyère and to destroy the vacuum, and the molten iron and slag usually close up the hole immediately. The vacuum system possesses several collateral working advantages, among which is the rapidity with which a defective tuyère can be removed and replaced by a sound one.

Electrical furnaces are described by C. E. Jacobs having pure carbon block linings, reinforced by magnesia or chalk blocks or other poorly conducting material, with which a temperature approaching $4,000^{\circ}\text{C}$. may be obtained and commercial work carried on at temperatures of from $2,500^{\circ}$ to $3,000^{\circ}\text{C}$. In such furnaces at high temperatures silicids of the alkali-earth metals— CaSi_2 , BaSi_2 , and SrSi_2 —are formed when oxides, carbonates, sulfates, or phosphates of the metal are mixed with silica in suitable proportions with carbon to reduce them; or by mixing alkali-earth silicates with carbon. These silicids are white or bluish-white, with metallic appearance, oxidize slowly, and decompose water with evolution of hydrogen. With dilute hydrochloric acid, calcium silicid forms calcium chloride and silico-acetylene— Si_2H_2 —as a yellow crystalline solid. When heated in a close tube these substances give hydrogen and amorphous silicon. Barium silicid treated with water is a cheap and convenient source of hydrogen when it is desired to obtain that gas on a large scale; and is efficient in operations of reduction. It can be used in perfectly neutral solutions. Melted with iron containing sulfur or phosphorus, the alkali-earth silicids form sulfides or phosphides of the alkali metal, while the silicon unites with the iron. By oxidation the sulfides or phosphides become sulfates and phosphates, and pass into the slag; and it is represented that in this way sulfur and phosphorus have been entirely removed from iron.

An electric furnace for steel smelting was completed at Gysinge, Sweden, in 1900, and on the experimental trial was found to produce steel of excellent quality, but not on the scale then adopted. Larger furnaces, working on a commercial scale, have since been erected. The steel produced is described by F. A. Kjellin, engineer of the works, as being of superior quality and characterized by strength, density, uniformity, toughness, and ease of working in a cold, unhardened condition, even when containing a very high percentage of carbon. Compared with other steels it has less tendency to crack or warp when hardened. The manufacture of special steels, as nickel, chrome, manganese, or wolfram, is not considered likely to meet with any difficulties. The chrome steel and wolfram as produced at Gysinge have proved to be excellent for lathe tools. When used for permanent magnets, the Gysinge wolfram has been found to give stronger magnets than other wolfram steel, and has not wasted in the hardening. The furnace also promises to be economical in operation.

The Chartier oil-melting brass-furnace consists of a cylindrical iron casing lined with fire-brick, set on axial trunnions, turned by a hand wheel, fed at one end by an oil air-burner. The products of combustion pass out through a hopper into which the brass to be melted is dropped. With oil at 4 cents a gallon, the cost is 15 cents per hour. Natural gas may be used. The furnace at the J. W. Paxson Company's mills, Philadelphia, melts 600 pounds of copper-tin bronze ingots in one hour, and 600 pounds of turnings in two hours.

Processes and Apparatus.—The Stassano electrometallurgical process aims at replacing the heat of the combustion of coal in the ordinary metallurgy of iron by the electric arc. The roasted and powdered ore is first passed through a magnetic separator in order to prepare a material rich in iron. This is analyzed, and the amount of carbon required for its reduction is calculated. The mineral is next mixed with the necessary amount of powdered wood charcoal and tar, the percentage of carbon in which is known, and a slag-forming material, and is made into briquettes. These are then introduced into the electric furnace. The chemical reaction is at first very lively, but becomes quieter after a time, and the amount of heat necessary continually decreases. A furnace of 150 horse-power will yield in from one-half to three-quarters of an hour nearly 30 kilograms of wrought iron. By varying the amount of carbon added according to the analysis which has been made previously, it is possible to prepare a cast-iron of a certain fixed percentage of carbon. A plant is at present working at Darfo in the province of Brescia, Italy, and uses a fall of 30 meters of 5 cubic meters of water per second.

In a new welding process by S. Baldy, Sr., of Chester, Pa., a master-mold having been made from the original pattern, a number of fusible patterns are cast in it. The fusible pattern is then put into an iron flask, which is filled with sand by means of compressed air. On exposure in the drying-oven, the fusible flask is melted out, after which the casting is made in the dried mold. Skilled labor is not required in this process, and the resultant castings are seamless and without fins. It is practicable by this process to produce utensils in exact duplicate.

In the process of Petersky and Ivanoff for utilizing petroleum in the production of pig-iron in connection with a certain amount of solid fuel, the solid fuel is placed in a special generator, into the lower part of which the treated gases from the combustion of petroleum are introduced. The fuel charged from above gradually falls to the bottom and becomes heated. Dry distillation results, and the gaseous products are drawn off from the upper part of the generator and utilized for fuel, while the resulting coke continues to descend. The products of combustion entering the lower part of the generator pass over the incandescent coke, are deoxidized, and are thus available as reducing agents which can afterward be used in a second furnace. This furnace, which is used for producing iron, resembles an ordinary blast-furnace, from which it differs merely in having a tube running down the center. The ore and fluxes are placed in the space between the walls of the furnace and the central tube, the latter being charged with a quantity of coal sufficient to supply the iron with the requisite amount of carbon for converting it into pig-iron, and also, if necessary, with fluxes for changing the composition of the slag.

As an example of a new departure in the processes by which the materials used by engineers are formed into machines or tools, Mr. W. J. Taylor, in the British Association, instanced the formation of a milling cutter between 3 and 4 inches in diameter, with deep teeth on its periphery and on both faces. This cutter had been formed cold from a blank of tool steel by hydraulic pressure, and was said to serve its purpose as well as any cutter milled from a solid blank. In operations of this nature, time was of considerable importance. Some remarkable work had been done, in cycle-making and other in-

dustries, in the drawing of sheet metals in the press. One of the limitations of the method arose out of the hardening of the metal during treatment. In forging steel, small articles were produced satisfactorily in quick-acting drop-presses; large articles demanded the slowly acting hydraulic press. In dealing with the problem of cutting action, the author pointed out that cutting was largely composed of shearing. In turning mild steel, for example, the tool acted by compressing the material in front of it until ruptures occurred by shearing in front of the chip. In an extremely plastic substance, or one which was both elastic and plastic, chips could be removed without shearing action, because they would be sufficiently elastic or plastic to bend or flow without rupture, and would permit the passage of the tool. In planing wood with the grain the chips would not be removed by intermittent shearing, but, if ruptured at all, would be ruptured by bending. Should rupture occur in advance of the cutting edge of the tool, perfect cutting action would cease, and rupture of the chip would not be an essential part of the cutting action. Passing to the action of grinding machinery, the author pointed out that the removal of metal by abrasion at high velocities was probably largely due to the heating of the particles removed.

Facts respecting the workings and economy of installations of electric machinery for the transmission of power were given in a paper read by Mr. D. Selby-Bigge at the summer meeting of the Iron and Steel Institute. In one of the Westinghouse Company's works a reduction of more than 32 per cent. in coal consumption was made by the adoption of electric transmission. An article was quoted from the journal *Traction and Transmission* in which it was said that the saving due to the electric transmission of power was probably nearer 60 per cent. than 50 per cent. In a colliery the sum of £1,500 was saved per annum at one shaft by the use of electric motors for pumping. In another colliery, where the pumps were originally driven by endless wire rope, the expenditure of a little more than £3,000 in electric plant resulted in the annual saving of between £1,500 and £1,800. A similar case was quoted of a Scottish colliery, and other details were set forth as to the cost of labor and material for driving by electricity and other means of transmitting energy, all more or less in favor of the former. The importance of utilizing gas from blast-furnaces was also dealt with in this paper. Gas-engines have been driven in this way, and they should be made to actuate blowing-engines or dynamos from which currents could be distributed throughout the works. At Seraing a Cockerill gas-engine of large size used about 100 cubic feet of average blast-furnace gas per effective horse-power per hour. This was less than one-fourth of the gas that would have been burned in the boilers of good modern condensing steam-engines. It is estimated that for every 100 tons of coke used in an ordinary Cleveland blast-furnace there is a surplus of at least 1,500 horse-power. "It would be impossible," the author said, "to overrate this new development in power production." The sources from which electricity can be produced most economically for the transmission of power when sufficient sources of water-power are not accessible "will be undoubtedly due to the development of large power gas-engines making use of the surplus gases from the blast-furnaces, which would otherwise be wasted."

Miscellaneous.—The finest monochromatic shades can be produced on platinum and German silver by the electrolytic decomposition of manga-

nous salts, the metal to be treated being connected with the positive electrode. In determining the strength of the manganese solution, the power of the electric current should be considered; the weaker the current the stronger the solution should be. The color produced changes greatly and quickly, so that the current must be broken the instant the color desired has been produced. Golden yellow, green, and purple are obtained with particular brilliancy. The metal should be removed from the bath as soon as the current is stopped; rinsed with distilled water; and carefully dried with soft blotting-paper. If manganese chloride or lead acetate is used, the colors appear in rings instead of as a uniform layer, and of all the colors of the rainbow in the softest shades—the paramount hues being green, golden yellow, and blue, while each whole system of rings is surrounded by a yellow zone.

The observation is made by G. P. Blakiston that pieces of wrought iron or steel in crucibles or open-hearth furnaces melt inside first, leaving an outer film which is later in melting. The author's explanation of the phenomenon is that the melting-point of the outer layer is made higher by oxidation, while the melting-point of the unoxidized metal within is not changed.

Finding from comparative examinations of their microstructure as revealed in ends that have been sawed that rails that have been hot-sanded are finer-grained than those which have been cold-sanded, S. S. Martin infers that it is best to work the iron while it is hot, with a low temperature for finishing; but that the severest microscopical test is obtained with cold-sawed rails.

An important paper on the metallurgy of the cupola was read by H. E. Field before the American Foundrymen's Association, and is published in the *Age of Steel* for July 5, 1902.

Rails that had failed in service which were examined by R. Job were found to be characterized by a coarse, regular granular structure and by containing an excess of foreign matters, such as oxides, slags, and occluded gases; while rails of the same general composition which had proved satisfactory in service were relatively free from foreign matter and gas, and presented a generally fine granular form, interlocking and broken up.

An invention which has been tested in Chicago for applying electricity to the cutting of iron or steel includes a carbon attached to a wooden handle by means of a metal clamp; to this clamp a wire is fixed, which is connected at the other end with the object to be operated upon. As the carbon is moved along the object it cuts its way through even such metals as Bessemer or chrome steel. In the case of the Chicago experiment, a wide space was cut away in the plate of a large boiler foundation which was to be removed, at the rate of about one foot every five minutes.

From the investigations of the sulfur contents of slags, described by Baron Juptner at the meeting of the Iron and Steel Institute, the following conclusions were drawn: If during metallurgical processes a state of equilibrium is established between the slag and the contiguous metallurgical product under treatment, the sulfur distributes itself between the two in a constant ratio—the coefficient of distribution—the value of which is dependent on the composition of the two phases under consideration and the temperature. In general the value of the coefficient of distribution increases with the basicity of the slags. It increases also apparently with the proportion of lime and manganese oxid, and probably also with that of fer-

rous oxid and zinc oxid in the slag. In the case of alloys of iron it increases and diminishes with the increase and decrease of the basicity of the slag. The same law holds good with respect to the influence of a higher percentage of lime and manganous oxid in the slag. The conclusion reached regarding the effect of the composition of iron alloys may be explained by the supposition that the capacity of manganese, and perhaps also that of iron carbide, or at least of iron rich in carbon, to absorb sulfur is very low, while that of pure iron and phosphid of iron is very high. These facts show that in metallurgical operations in general it is impossible to eliminate entirely from the product the whole of the sulfur contained in the charge. The extent to which desulfurization can be carried depends on the coefficient of distribution—that is, upon the composition of the two phases occurring during the process. For this reason, the desulfurization of irons rich in carbon and manganese (ferro-manganese and pig-iron) is more complete than that of irons low in carbon and manganese, such as the irons produced by the open-hearth of the Bessemer process. In the Bessemer process, the phosphorus exercises an additional counter-influence to desulfurization; but this appears to be possible only when the phosphorus is largely decreased; in such case, however, the carbon and the manganese have almost entirely disappeared. In order, therefore, to keep the sulfur down to the lowest possible margin of iron which is very low in carbon and manganese, we must select a charge that contains the lowest possible sulfur, consisting of pure iron or iron that has been desulfurized; or must repeatedly remove the old slag, permitting the formation of new slag. In this method a mixer could be employed with good effect, since it supplies a raw material low in sulfur, and its use also necessitates the removal of the mixer slag and the formation of new slag. The possibility is suggested of a third phase, a mixture of oxides and sulfides, occurring together with the slag and metal. The phenomenon seems to occur during certain segregations.

Experiments were carried on at McGill University, Montreal, by Profs. Anderson and Nicholson, in which filings or turnings of brass, iron, copper, tin, or other metals were forced under pressure into solid bars of metal differing very little in appearance and strength from such as are found in ordinary use. By bringing a pressure of 78,000 pounds to the square inch to bear upon them, the filings or turnings were welded into a solid whole. They were first encased in a jacket made of steel and conical in shape. At the end of ten minutes of continued pressure the tube was removed and opened, when a solid bar of metal was found. It was even found easy to solidify the filings of Pittsburg brass, which is perhaps the hardest brass manufactured. The metal proves to yield readily to pressure.

METHODISTS. I. Methodist Episcopal Church.—This Church comprised in 1902 129 annual conferences, 11 mission conferences, and 15 missions. The following statistics are given in the Methodist Year-Book for 1903: Number of bishops, 21; of ministers in full connection and on trial, 17,922; of local preachers, 14,024; of lay members and probationers, 2,997,772; of Sunday-schools, 32,669, with 351,402 officers and teachers and 2,758,429 pupils; of churches, 27,875, valued at \$126,085,111; of parsonages, 11,742, valued at \$20,519,559. Contributions: For missions (church, \$913,565; Sunday-school, \$431,679; Woman's Foreign, \$396,499; Woman's Home, \$296,

908), \$2,038,651; for church extension, \$145,499; for the Sunday-School Union, \$25,502; for the Tract Society, \$21,830; for Freedman's Aid, \$135,218; for education, \$280,072; for the American Bible Society, \$30,595; total, adding \$1,765, the distribution of which is not indicated, \$2,679,132. The number of members shows an increase for the year of 47,257 with 61,316 pupils added in Sunday-schools. The increase in benevolent contributions was \$307,501. The enrolment of the Epworth League comprised 21,366 senior chapters, 8,082 junior chapters, 202 affiliated Christian Endeavor Societies, and 100 affiliated Junior Endeavor Societies. The Twentieth Century thank-offering fund of \$20,000,000, to be applied to purposes of education in the United States and foreign lands, charitable and philanthropic work, city evangelization, support of conference claimants, payment of debts on church property, and any specific objects in mission fields, which was undertaken on the recommendation of the bishops in 1898, was completed in the later months of 1902.

Committee of Church Extension.—The General Committee of Church Extension met in Philadelphia, Nov. 5. The receipts for the year had been, on the General fund, available for donations, \$183,694; on the Loan and Annuity funds, \$435,368; making the total amount available for use, \$619,062. Three hundred and thirty-eight churches had been aided. The total net receipts of the committee from its beginning in 1865 had been \$7,748,781, and the whole number of churches aided had been 12,356. The committee had been assisted in making additional grants in certain conferences beyond the amounts regularly appropriated to them by occasional frontier and memorial gifts of \$250 each; and it desired to form a new Permanent Building fund, to be administered on frontier conditions. The work of building frontier churches by the application of special gifts of \$250 each had been largely extended. More than 700 churches had been made possible by this form of donation. By the aid of these gifts churches are erected worth \$1,250 above the value of the ground. More than \$9,000 had been given and a loan of \$3,000 granted to churches in Porto Rico. The sum of \$5,000 (by special memorial gift and grant from the Church Extension funds) had been spent on a church in Manila, Philippine Islands. The sum of \$892,214 had been received in response to a call for a Twentieth Century thank-offering for church extension of \$1,000,000. This fund was to be applied partly to the erection of churches, one for each year of the Christian era to the end of the twentieth century, partly in securing additions to the Loan fund, and partly in the cancellation of debts on churches which had been aided by the committee. The estimates for the coming year called for the collection and appropriation of \$334,000.

Freedman's Aid Society.—The annual meeting of the Freedman's Aid and Southern Education Society was held at Troy, N. Y., Nov. 10 and 11. The total receipts of the society and the schools for the year ending June 30, 1902, had been \$480,500, showing an increase of \$101,073 from the previous year. Of these receipts, those from conference collections had amounted to \$105,182. The debt had been diminished by \$25,698, and was now \$110,249. Cash annuity gifts had been received during the year and invested of \$35,935, and were held to provide for the gradual liquidation of the debt. Of 24 schools among the colored people, 18, with property valued at \$1,410,000 and 6,306 students, and of 21 schools among

white people, 4, with property valued at \$515,000 and 1,654 students, belonged to the society, making the total valuation of property held by it \$1,925,000. The attendance at the schools had been the largest for many years, and aggregated 10,329 students under the care and instruction of 434 teachers, of whom 277 were preparing for the ministry and 708 to be teachers. The effort of the people to help themselves was especially mentioned. New buildings for three institutions had been largely erected and completed at an aggregate cost of nearly \$60,000, all of which had been collected through the local conferences or by special gifts made for the purpose. Students had paid \$84,830 during the year for tuition, room rent, and board, an increase of \$17,560 over the previous year. Increased appropriations had been made for industrial work, and industrial trade-schools which had been closed during times of stringency were now doing efficient work. In all the schools 3,569 students were receiving some form of industrial instruction. Appropriations of \$139,758 were made for the ensuing year.

General Missionary Committee.—The annual meeting of the General Missionary Committee was held in Albany, N. Y., beginning Nov. 12. The treasurer reported that the receipts for the year ending Oct. 31 had been \$1,345,298, and the disbursements \$1,219,597. The receipts showed an increase from the previous year of \$112,112. A balance in the treasury of \$29,143 was returned. A motion to employ a field secretary among the colored people in the South to inform them concerning missionary work in the South and stimulate their interest in it, was referred to the favorable consideration of the Open Door Emergency Commission. This commission reported that the Open Door Emergency movement had been very successful during the past year in stimulating the Church to greater activity and liberality in the cause of missions. The Board of Managers was requested to renew the commission, the missionary office was asked to cooperate in its work, and the expenditure of as much money as might be necessary for the vigorous prosecution of the same was authorized. Appropriations were made for carrying on the work of the missions during the ensuing year as follow:

I. Foreign missions: Germany, \$35,700; Switzerland, \$7,250; Norway, \$11,600; Sweden, \$15,000; Denmark, \$7,000; Finland and St. Petersburg, \$5,200; Bulgaria, \$7,239; Italy, \$45,000; South America, \$79,167; Mexico, \$51,586; Africa, \$40,000; Eastern Asia (China, Japan, and Korea), \$203,630; Southern Asia (India, Malaysia, and the Philippine Islands), \$175,570; total for foreign missions, \$683,942.

II. Missions in the United States: Conference missions, \$107,330; work in the mountain region, \$59,707; work on the Pacific coast, \$35,280; white work in the South (Maryland and Delaware excepted), \$46,350; colored work, mostly in the South, \$42,300; non-English-speaking missions, \$204,330; total for domestic missions, \$495,297; miscellaneous appropriations, \$166,058; total appropriations, \$1,345,297.

General Missionary Convention.—The first General Missionary Convention of the Methodist Episcopal Church met in Cleveland, Ohio, Oct. 21. Delegations were present from churches in nearly all parts of the United States, and all the foreign mission fields were represented by missionaries or by bishops who had recently visited them officially or who now had episcopal supervision of them. The object of the convention was to review what had been accomplished by missionary work in the past and to study the present condition of mis-

sionary enterprises, their needs, the openings they offered; to consider ways and means of continuing and enlarging them, to stimulate interest in them, and to promote a spirit of personal devotion in sustaining them and in engaging in their service. A program had been prepared for the meeting, embracing 31 topics for addresses, treating upon every subject bearing upon missionary work, each of which was presented by a speaker selected with respect to his qualifications to discuss the theme assigned to him. These themes included the emergency which confronted the Church in its missionary work, created by its very success and rapid growth, and the opportunity lying before the Church in the work of worldwide evangelization; Spiritual Preparation for Missionary Service, the allies of the missionary society (or cooperating agencies) in the work of evangelization; a review of Methodist missions in the nineteenth century; the problems presented by the negro, foreign populations, and the cities; Open Doors in the Pacific islands, Latin countries, eastern Asia, Africa, and southern Asia; practical phases of the missionary problem as applying to individuals, churches, and church workers; The Place of Prayer in Missionary Work; The Young People and Missions; the necessity of going forward in missionary work; and spiritual and economical aspects of the subject. One of the sessions was given to sectional conferences—of presiding elders and district missionary secretaries; of pastors; of editors; of the Epworth League and Young People's Societies; of college presidents; and of laymen. The appeals made during the meetings for offerings of money brought subscriptions amounting to \$330,000. The convention requested the General Missionary Committee, at its coming annual session, to ask the Church for an average of at least \$1 per member for missions for the year 1903. An appeal was ordered to be made to the Church, setting forth the need of cooperation on the part of the entire body and asking that the convention subscription be increased to \$500,000. The appeal, as issued, further asked for subscriptions of \$3,000,000 for the next year, and added that 148 new foreign missionaries were needed in the near future, in addition to the pressing requirements of the home fields.

The Woman's Home Missionary Society had 193 missionaries and teachers, besides a large number of deaconesses employed in city work. It had erected the Tillman Avenue Mission Building, in Detroit, for work among the Poles and Bohemians, had completed the Boston Medical Mission Building, and Rust Hall, in Washington, for the training of missionaries and deaconesses; had opened a new Deaconess Home at Portland, Me.; and had purchased buildings for the training of Christian workers and for Spanish work in San Francisco.

The Woman's Foreign Missionary Society sent out 21 missionaries in 1902, and had at the end of the year 246 missionaries in service.

Under the auspices of the National City Evangelization Union, local societies for city evangelization were maintained in 52 cities.

The new constitution of the Church, which was submitted to the annual conferences by the General Conference of 1900 (see *Annual Cyclopædia* for 1900), and was voted on by them in 1901, having received the requisite three-fourths of the votes cast, its adoption as the fundamental law of the Church was proclaimed by the bishops at their semiannual meeting, May 6.

Consolidation of Benevolent Societies.—Under instructions of the General Conference of

1900, a commission of 15 members was appointed by the bishops to consider whether it is advisable to consolidate the benevolent societies of the Church, and if so, to report a practicable method of doing it so as to lessen the number of collections without diminishing the support of the causes represented. This commission met in Ocean Grove, N. J., July 2 and the following days of the same week. All the aspects of the subject were discussed; but inasmuch as many questions were started the decision of which required careful investigation and expert legal counsel, it was found impossible to reach a final conclusion. A subcommittee was appointed to collate material facts and compare the various propositions and report to a subsequent meeting.

Bishop Simpson Memorial.—A memorial window of Bishop Matthew Simpson, who was a bishop of this Church from 1852 to 1884, which was procured by means of money contributed by American Methodists, was unveiled in Wesley's Chapel, City Road, London, Nov. 14. Addresses were made on the occasion by the Hon. Joseph H. Choate, ambassador of the United States to the court of St. James, and the Rev. Herbert Welch, D. D., of the New York East Conference, representing the Methodist Episcopal Church. The window represents St. Paul preaching at Athens, and bears in one corner a medallion of Bishop Simpson. At the bottom is the inscription: "Erected by American Methodists to the memory of Bishop Matthew Simpson. He was born 21st June, 1811, and died 18th June, 1884. He was a holy man, an eloquent and mighty preacher, and a great bishop."

II. Methodist Episcopal Church, South.

The following are the statistics of this Church as given in its Year-Book for 1903: Number of bishops, 13; of annual conferences embraced in the plan of episcopal visitations, 48; of traveling preachers, 6,293; of local preachers, 4,982; of members, 1,516,516; of Sunday-schools, 14,133, with 103,486 teachers and 884,329 pupils; of Epworth Leagues, 3,234, with 115,099 members; of educational institutions, 77, with 11,983 students, and buildings and endowments valued at \$7,522,583. The years' receipts of the Missionary Society were \$357,248; of the Woman's Home Missionary Society, \$725,946; of the Woman's Foreign Missionary Society, \$104,018; contributions for the American Bible Society, \$10,424. The publishing house returned assets of \$926,095, 4 connectional publications, and 8 Sunday-school periodicals.

The General Conference met in its fourteenth quadrennial meeting at Dallas, Texas, May 7. The episcopal address, read at the opening session, reviewed in full all the various interests of the Church, showing their progress and tendencies during the past four years, and pointing to or suggesting such modifications or reforms as the conditions and the times seemed to make desirable. In reference to the action of the Joint Commission of Federation with the Methodist Episcopal Church, which had been ratified in full by the General Conference of 1898, the address referred to the action of the General Conference of the latter body in 1900, which modified these agreements at one important point, but accepted all the rest, and continued: "Here the matter of federation stood till a few weeks ago. A meeting of the joint commissioners was held in Baltimore, March 21, 22, 1902. After the most brotherly conference the commissioners from the Methodist Episcopal Church expressed their sincere regret that the original plan had not been adopted without alteration by their General Conference, and agreed to report it a second time with an urgent

recommendation that it be passed. The joint commission also, in the exercise of the authority bestowed upon it, advised that the bishops of the two Churches proceed to appoint the committees to prepare the common hymn-book, common order of worship, and common catechism for the two Churches. As all the steps were authorized at our last General Conference, it is not necessary, we think, that any further action should now be taken in the premises, except that the commission should be continued for another four years." In reference to the disquiet which the Church had suffered for several years past on account of the controversy concerning the collection of what was known as the "publishing house war claim" (see Annual Cyclopædia for 1898, pp. 443, 444), the bishops represented that their relation to the questions involved in the matter began with the meeting of the college of bishops at Nashville, Tenn., July 4, 1898, when, while reaffirming the justice of the claim, they insisted that the Church could not afford to accept payment of it as a gratuity or on conditions that reflected on its honor. "Inasmuch, therefore, as some Senators have affirmed on the floor of the Senate that they were induced to support the claim by misleading statements on the part of representatives of the Church—statements, however, which did not affect the merits of our claim—we hereby give this assurance: that if the Senate by affirmative action declares that the passage of the bill was due to such misleading statements, we will take the proper steps to have the entire amount returned to the Government." This was communicated to the president of the Senate, to be laid before that body. On May 5, 1899, the bishops made a statement that having found that the Senate after full investigation had exonerated the Church from all censure, "we transfer to our record that official action: 'Resolved, That the report of the committee made July 8, 1898, be approved, and that no censure should rest upon the Methodist Episcopal Church, South, for the misstatements and concealments of the book agents in connection with the passage of the bill for the payment of the claim referred to in the letter of the bishops now under consideration; that the injury resulting therefrom affected only the beneficiaries of the fund and not the United States; and that the Senate should take no further action in the matter.' The Senate having thus declared that the United States sustained no injury in the passage of the bill, and declined to take any further action in the matter, we have no occasion to make further communication to that body. . . . That your bishops correctly interpreted the action of the United States Senate, we have the personal and authoritative assurance of a large majority of the Senators." The last sentence referred to a correspondence which had taken place between Bishop Candler and Senators A. O. Bacon and A. S. Clay, of Georgia, which was laid before the General Conference. Bishop Candler wrote to Senator Clay, who had been a member of the Senate committee having consideration of the matter, March 24, 1902, saying that he had interpreted the final action of the Senate as entirely exonerating the Church from blame in the case, and as eliminating the question of returning the money to the Government, "but I find some extreme men still insisting upon the necessity of returning the money to the Government. Such a course appears to me to be entirely impracticable, not to say impossible, and as being open to many objections of both right and propriety. . . . I am jealous for the honor of the Church, and I earnestly desire that the final action of the General Con-

ference shall not fall short in any particular of perfect wisdom and righteousness." In answer, Senators Clay and Mason wrote, with the written concurrence of nine-tenths of the members of the Senate, whose names were appended to their letter, that from their personal familiarity with what occurred in the discussions of the Senate concerning the matter, and from the subsequent investigation made by the Senate and the resolution which was adopted by the Senate as the result of the investigation, they found the Church not under obligation, either of necessity or of propriety, to return the money which had been paid it. "From our personal knowledge of what occurred at the time of the consideration and the passage of the bill, we are enabled to say that no Senators who voted in favor of the bill thereafter expressed dissatisfaction because of any act by the Church in securing its passage, or because of any regret on his part that the Church had received the portion of the money which was left after the payment of the commission which was complained of. The dissatisfaction which found expression when the fact of the payment of the large commission became known, was not because the Church had received a part of the money, but because it had not received all of the money. There were expressions by Senators to the effect that if they had known of the contract for the payment of the large commission, they would not have voted for the bill. By this they simply meant that they would have required the bill to be so amended as to secure to the Church the entire amount appropriated, excepting only such an amount as they would consider a proper fee for services rendered." Two reports were presented by the committee to which the subject was referred, that of the majority, which, after criticizing the features of the transaction that were objected to, advised that the action of the Senate be taken as a final and definite settlement of the whole matter; while that of the minority reviewed the proceedings of the Book Committee and their agents in presenting the claim to the Senate, condemned certain statements made by them as "misleading and deceptive," and declared that in making those statements their authors "did not properly represent the Church and were not its exponents in the ethical questions involved," and recommended that the entire sum collected, \$288,000, be returned to the United States Government. Neither of these reports was satisfactory to the General Conference, and the subject was again referred to a committee which brought in a revised minute. This report held that in view of the record of the action of the Senate and the bishops and of the correspondence just mentioned, "we are unable to see upon what ground there can be based the contention that the Church should make a second offer, and invoke a second refusal from the Government, or any department thereof," and concluded with the resolutions: "1. That the Church distinctly repudiates all the acts of concealment, misstatement, or unfairness on the part of any and all persons representing the Church in the prosecution of the claim before Congress, either intentional or otherwise, and whether the same did or did not affect the vote or opinion of any Senator or Representative. 2. That we indorse the purpose of the bishops in their communication to the United States Senate, and do hereby ratify and confirm their conditional tender of the money, and make their action the act of this General Conference and declarative of the mind of the Church, and that this action be entered on the journal of the General Conference as a final disposition of the

whole matter." This report and the resolutions were adopted.

With respect to federation (with the Methodist Episcopal Church), the General Conference approved and adopted the acts passed by the Joint Commission on Federation of the two Churches at their late session in Baltimore, Md., and recognized those that had also been adopted by the General Conference of the Methodist Episcopal Church as having the force of law. It further declared that it would recognize the other measures as being in force when they should have been adopted by the General Conference of the Methodist Episcopal Church. The bishops were authorized to act in concert with the bishops of the Methodist Episcopal Church in the work of preparing a common hymnal for public worship, a common catechism, and a common order of worship. In continuing the Commission on Federation during the coming four years, with the same powers as heretofore, the Conference expressed itself as acting in the confident hope that the General Conference of the Methodist Episcopal Church would in its session of 1904 adopt the action of the joint commission recommending that the General Conference enact provisions to the effect that when either Church is doing the work expected of Methodism in a place, the other Church shall not organize a society or erect a church building until the bishop having jurisdiction in the case has been consulted and his approval obtained. Provision was made for the appointment of representatives of the Church to the General Council of the National Federation of Churches to be held in 1905. In view of the movement toward the organic union of the 6 Methodist churches in Japan, the Conference approved conditionally of the entrance of its church there into the union, and appointed a commission, with power, to confer with the commissions of the other churches on the subject. A commission was appointed with full power to negotiate with the Missionary Society of the Methodist Episcopal Church in regard to establishing a joint publishing house in China, where this Church already had a publishing house at Shanghai. The sense of the Conference was expressed by resolution that no part of the periodicals published for Sunday-schools should be used for any other purpose than to teach the people the great principles and truths of the Bible; and it therefore directed that no part of those publications should be used for advertising purposes other than relating to the publications and institutions of the Church. By special resolution the address on worldly amusements was continued in its present place in the Appendix of the Discipline of 1902. The Board of Missions was authorized to organize, with the approval of the annual conferences and in cooperation with their boards of missions, a system of city missions; these missions to cooperate in all cases so far as possible with the Church Extension Board and with the Woman's Home Mission Board. The office of deaconess was instituted and placed in connection with the Woman's Home Mission Society. The article adopted on the subject provides that the board of that society shall prescribe a course of training for candidates for the office, and shall pass upon the application of persons recommended by the Quarterly Conference for admission to the school; and shall, upon application, recommend deaconesses to Church agencies wishing to employ them. Deaconesses, when employed, shall report to the Quarterly Conferences of the charges in which they labor, and shall be, as far as is practicable, under the direc-

tion of the preacher in charge. A Board of Finance was instituted, to be composed of the secretaries of the administrative boards and the book editor, to meet every four years and calculate the basis of assessments. Assuming that the declared educational policy in the Church aims at a well-organized system in which there shall be no waste of means, the General Conference resolved that the purpose of the Church should be not so much to seek to establish new secondary schools as to care properly for such as have proved themselves worthy; that the policy of having the secondary institutions of each annual conference correlate themselves with the college of that conference should be insisted upon and enforced; and that the conferences, in making their collections for education should, so far as practicable, concentrate those collections on the colleges and secondary schools of the Church. The movement for the improvement of rural schools was commended. A Board of Insurance was appointed to make arrangements for the more general and adequate insurance of the Church property. The proportion of laymen in the Board of Missions was increased. A correspondence school was authorized, to be directed by the Board of Education and the theological faculty of Vanderbilt University. The Rev. E. E. Hors, D. D., and the Rev. A. Coke Smith were chosen additional bishops.

More than \$2,000,000 had been subscribed to the Twentieth Century fund, and the sum of \$1,411,512 had been paid.

Union of Publishing Interests in China.—A joint committee representing the Missionary Society of the Methodist Episcopal Church and the Book Committee of the Methodist Episcopal Church, South, met at Baltimore, Md., Aug. 5, agreed upon a basis for the union of the publishing interests of the two Churches in China, and adopted a plan for a joint publishing house to be established at Shanghai. The plan was adopted dependent upon the approval of the Board of Managers of the Missionary Society in New York, and of the Book Committee at Nashville, Tenn., and was approved by the former body Aug. 12, and by the latter Aug. 20. The minute recording this transaction affirms that "it is desirable to unite in Shanghai, China, the publishing interests of the two Methodisms throughout the Chinese Empire," and provides that "this joint publishing house shall be known as the Methodist Publishing House in China; that the capital shall not exceed \$100,000 United States gold, \$50,000 of which shall be paid in full in equal sums of \$25,000 each by the respective parties to the contract." If a larger sum is needed to secure the efficiency of the concern, it can be called for by the Board of Directors which is provided for, upon the approval of the managers of the Missionary Society and the Book Committee. The ownership and interest in the publishing house are guaranteed in equal proportion to the two parties. The management of the concern is committed to a board of six directors, three of whom shall be chosen by each of the parties to the transaction. Two business managers, one representing each Church, of equal and coordinate authority, will carry on the business under the Board of Directors, serving for terms of four years, to be chosen in alternation, one every two years. A supplementary minute recites that "in the foregoing arrangement it is understood to be the purpose of this joint committee to secure entire equality in the management and proceeds of the projected publishing house in Shanghai between the two parties represented and herein united, and to provide for the

perpetuity of the harmonious relations hereby established between the two Churches in the mission field. It is our hope and prayer that, beyond all considerations of gain or advantage to either Church, the greater interests of the Church of God may be served and advanced. To these ends we pledge the men and means devoted to this work, as well as our own joint and individual efforts and influence."

III. African Methodist Episcopal Zion Church.—This Church has 3,475 ministers, 2,955 churches, and 537,337 members.

The third annual session of the Connectional Council of the African Methodist Episcopal Zion Church was held in Louisville, Ky., in the later days of August. The report of the general secretary indicated progress along all connectional lines. The general steward reported that \$34,495 had been raised for the General fund, \$778 on account of the ministerial brotherhood, and \$427 for the Contingent fund, and that \$2,700 had been paid to the Chicago church. The contributions to Livingstone College had been liberal, and receipts of \$27,456 were reported. The number of students was 340. The Lancaster High School, Atkinson College, and Greeneville College were also favorably reported upon, and the educational secretary spoke of his work as having been fruitful. Special importance was attached to the new Church Extension fund, and measures were resolved upon which it was thought if vigorously executed would bring it to the attention of all the people and promote good collections. The General Committee of Church Extension was authorized to incorporate under the laws of Pennsylvania. The Widows' and Orphans' fund amounted to \$276. The societies of the Varick Christian Endeavor Union were not organizing as fast as they had been. Reports were presented by the missionary and Sunday-school departments. Protests were uttered in the discussions of the board against the indiscriminate conferring and acceptance of honorary degrees.

IV. Colored Methodist Episcopal Church.—The 19 conferences of this Church return 2,061 ministers, 1,433 churches, and 204,972 members.

The ninth General Conference met in Nashville, Tenn., May 7. The bishops presented a quadrennial address reviewing the more important features of the history and growth of the Church during the past four years and offering many recommendations. The life of the Church had been quiet and harmonious. The ministry had grown in intelligence, devotion, and loyalty, "with broader views of spiritual relations and connectional conditions." In its organized and connectional capacity the Church had more broadly impressed itself on the public heart, and had widened its sphere of influence more largely since the last quadrennial session of its legislative body than in any former years. Its representatives and public servants and its general literature had more generally and strongly fallen in line with the trend of thought and the march of spirituality, and it was adapting its forces and movements to meet new conditions, the natural results of human progress. The Epworth League, instituted by the authority of the previous General Conference, had flourished and presented hopeful promise for the future. "Its influence and results had been wholesome, far-reaching, and signal." While deprecating the disposition to found or begin more Church schools than can be sustained, the bishops avoided putting themselves in such an attitude on the question as to hinder outside help and such assistance as may come from persons of wealth who may make

propositions to the Church on certain conditions. The publishing department was regarded as in a healthy and prosperous condition, encouraging the hope that it was approximating a permanent and self-sustaining basis. The Sunday-school department likewise was doing well. Action was taken favorable to organic union with the African Methodist Episcopal Zion Church, and a commission was appointed to confer with a similar commission of that Church on the subject. The Rev. Dr. C. H. Phillips, editor of the *Christian Index*, the official newspaper of the Church, was elected an additional bishop.

Joint Commission on Union.—The Commissions on Union of the Colored Methodist Episcopal and the African Methodist Episcopal Zion Churches, which had been appointed by the last General Conferences of these bodies, met as a joint commission to consider the subject of union of the two Churches in Washington, D. C., Oct. 7. Previous to the joint meeting the two commissions met separately to consider the terms of union which they should offer, and drafted propositions which were identical in all essential points. The sense of the joint commission was expressed that union between the two Churches was desirable; and articles of agreement to serve as a *modus vivendi* while the negotiations for union are pending were adopted by a unanimous vote of the 30 members constituting the body in substance as follow: "1. We agree not to attempt to organize churches or schools in any community or territory where the other Church is organized unless in the judgment of the bishops presiding the population and needs are such as to warrant another Methodist church or school. 2. We will cooperate in all our missionary work, the manner of this cooperation to be decided upon by the bishops and mission boards of the two Churches. 3. When members of either Church move to a community where the Church of their denomination is not organized letters should be given them to the other Church. 4. That there be a compilation, publication, and use of a common hymn and tune book, and a common form of public worship. 5. Frequent interchange of visiting and fraternal delegates in district, annual, and General Conferences; and the exchange of pulpit courtesy, to promote acquaintance and fellowship. 6. That we suggest as a name, 'The Colored Methodist Episcopal Zion Church.' 7. Pending the union, preachers will not be received, unless in good and proper standing in their own Church and conference; that a meeting of this joint commission be called, and that all the bishops and general officers of both Churches be requested to be present; that the agents of each of the publication houses of the connections represented be requested to keep for sale all the publications of their respective departments." Another meeting of the joint commission was appointed to meet at Charlotte, N. C., July 14, 1903, to form further basis for the union. The final action of the commission will have to be submitted to the General Conferences of the two bodies—of the Zion Conference in 1904 and of the Colored Conference in 1906, and then to the annual and quarterly conferences.

V. Free Methodist Church.—The annual minutes of this Church for 1902 give the number of members and probationers as 29,507, showing an increase of 313; of Sunday-schools, 1,103, with 6,711 officers and teachers, and 36,382 pupils; of churches, 1,067, valued at \$1,196,975; of parsonages, 522, valued at \$372,125. The number of ministers in 1901 was 1,003. The missionary re-

ceipts of the year covered by the annual minutes were \$15,315 for missions, \$2,191 for the India Orphan fund, and \$166 for the Africa Orphan fund. The native contributions for all purposes were \$566. The missions in India and Africa returned 264 native members and probationers, 12 Sunday-schools, with 26 officers and teachers and 650 pupils, and property in land and buildings valued at \$60,085.

VI. Methodist Church in Canada.—The following statistics of this Church for 1902 were published by the General Conference statistician in July: Eleven conferences (including Japan) and the West China Mission; number of members, 291,895, showing an increase for the year of 2,733; of Sunday-schools, 3,425, with 33,396 officers and teachers and 272,566 pupils, showing an increase of 6 schools, 754 officers and teachers, and 6,143 pupils; of Young People's Societies, 1,809, with 69,402 members, showing a decrease of 16 societies and 1,586 members; of members received on trial during the year, 19,002; of baptisms, 17,371; amount of contributions of Sunday-schools for missions, \$22,113; amount contributed for missions in connection with the Forward Movement, \$24,568. The statistics of membership show a total increase of 11,358 for the quadrennium or four years' term since the last General Conference and a net increase of 122,092 since the union in 1883, by which the Church was constituted. The total missionary contributions for the quadrennium were \$83,103.

The sixth General Conference met at Winnipeg, Sept. 4. The General Conference is constituted of equal numbers of ministers and laymen. The address of the general superintendent showed that the membership of the Church had increased during the quadrennium, or four years since the preceding General Conference, 11,358. This was the smallest quadrennial increase since the union of the churches in 1883. A diminution in the number of Epworth Leagues and Young People's Societies was also remarked. According to the tables in the census of the dominion for 1901, the Methodists had advanced during the past ten years at all points in the country except for a small decrease in Prince Edward Island, and the advance had been specially large in Manitoba, British Columbia, and the territories. The recommendations of the preceding General Conference that an effort be put forth to make class-meetings more attractive and spiritually helpful had been in a measure carried out. Class-leaders' associations had been organized and institutes or conferences held in a number of cities and larger towns, and similar conferences had been held in connection with district meetings. A report was presented by a Memorial Committee recommending that the words "layman" and "laymen" wherever they occur in the Discipline be interpreted to mean women as well as men. It was shown that this question of the status of women in the Church had been decided in the previous General Conference to be a constitutional one, requiring a two-thirds majority for any valid action upon it; and the Conference voted that it deemed it inexpedient to reverse its previous decision. The clause coming up again for final action, a tie vote resulted and it was declared lost; but presidents of auxiliaries of the Woman's Missionary Society, if members of the Church, were constituted *ex officio* members of the quarterly official boards. A report on the indebtedness of St. James's Church, Montreal, showed that the debt had been reduced from \$622,224 in 1898 to \$512,822; but that large subscriptions had been promised and other reduc-

tions were practicable, whereby the additional amount it was necessary to raise was brought down to \$182,697. A day was appointed for bringing the matter before every congregation in the Church, and a committee was appointed to take charge of it. The principle of increased and more authoritative supervision in home mission work was approved; the appointment of 4 superintendents of missions was provided for—one for New Ontario, two for Manitoba and the Northwest Territories, and one for British Columbia; the Board of Home Missions was authorized to increase the number of local superintendents as the urgent needs of the work may require; the appointment of a corresponding secretary for Manitoba and the Northwest Territories to whom the superintendents shall report was authorized; and the institution of a special fund for the payment of the mission superintendents was advised. The office of a permanent secretary to be appointed by the General Conference, and to act as a field agent in the interests of temperance, prohibition, and moral reform, was constituted. The pastoral term (in which a minister may serve consecutively at the same station) was fixed at four years; but exception was made in the case of the Fred Victor Mission. The time required to elapse between two pastorates on the same field by the same man was shortened from six years to four years. Numerous memorials had been received concerning Rule 35 in the Discipline prohibiting dancing, card-playing, theater-going, etc., some asking that the rule be made admonitory instead of prohibitory, and others that it be not changed. The Conference decided upon no change. The General Board of Missions was empowered to work with the Presbyterian Board of Missions, with a view to lessening the expenses of administration; also to superannuate medical missionaries and pay their claims out of the mission funds. Provision was made for the trial of charges against foreign missionaries who still retain their home membership by a mixed court of foreign and native missionaries, with a right of appeal to the home conference, whose decision shall be final, except on points of law. The proposed union of the Methodist Churches in Japan was approved, and a committee was appointed to confer with committees from the other Methodist Churches and take action in the matter. An invitation from the British Wesleyan Church to engage in mission work in India was declined, on account of the great responsibilities confronting the Church in the West. All the ministers were advised to hold up before their people a high standard of Sabbath observance; and ministers working under the Lord's Day Alliance were permitted to do so without losing their claims upon the Superannuation fund for years of service. The injunction against ministers speaking too long or too loud was stricken out of the Discipline. The Conference declared itself in favor of a measure of organic unity wide enough to embrace all the evangelical denominations in Canada; declared, "in no spirit of exclusiveness toward others not named," that it would regard with great gratification a movement having in view the ultimate organic union of the Presbyterian, Congregational, and Methodist Churches in Canada, such as had been proposed; commended the movement to the prayerful interest and sympathy of the Church; and directed the appointment of a committee of seven ministers and seven laymen to receive communications and confer on the subject. A special fund of \$250,000 was provided for, to be raised during the next year in connection with

the bicentenary of John Wesley, to be used for purposes of the Missionary Society. The establishment and furnishing of parlors and reading-rooms in the central churches of towns and cities, especially for those whose resources for social enjoyments are scanty, were approved. The report on temperance, as adopted, included a paragraph on political corruption. The official name of the Church is "The Methodist Church." A proposition to change it to "The Methodist Church of Canada" was defeated. Provision was made for the preparation of a course of study for local preachers, with a view to making more extensive use of them. The conviction was declared that "the development and maintenance of Christian citizenship requires at least some measure of religious as well as ethical instruction in our schools, provided it be not sectarian." The minimum salary of a married minister was made \$750, instead of \$600, as heretofore. The Committee on Church and Parsonage Aid reported that with the limited fund of \$25,000 valuable services had been rendered toward securing places of worship and other church property, especially in the Northwest Territories. Economical and industrial questions and conditions were reviewed in the report of the Sociological Committee. The report of the Committee on Civil Rights recommended that the existing table of ecclesiastical precedence at state functions be abolished; or, in case this course is impracticable, that the order of precedence at Dominion functions be based on the numerical strength of the religious denominations as ascertained by the most recent census; a similar basis to be used in the several provinces.

The Board of Missions met in Brandon, Sept. 22. The report of the General Secretary showed that the total income for the year had been \$306,429, showing an increase of \$36,114 over the income of the preceding year, the figures representing the largest income and the largest increase of any year since the union of the churches. Four superintendencies in the domestic missions were formed, and the superintendents were appointed, together with a corresponding secretary for Manitoba and the Northwest and the British Columbia Conference, as directed by the General Conference. The Young People's Forward Movement, under which \$24,000 were contributed to the support of the missionaries, was commended. The interests of the missions to the French, to the Japanese and Chinese in British Columbia, and to the Indians, and of the missions in Japan and China were considered. A committee was appointed to confer and cooperate with a similar committee appointed by the Home Mission Committee of the Presbyterian Church on questions of comity.

VII. Wesleyan Methodist Church (Great Britain).—The statistical reports of this Church for 1902 gave the following members:

CONFERENCES.	Ministers.	Lay preachers.	Church-members and probationers.
Great Britain.....	2,328	20,228	496,710
Ireland.....	253	622	28,650
Foreign missions.....	395	2,085	64,614
French Conference.....	87	85	1,646
	2,923	22,970	591,620

Number of churches, 11,523; of Sunday-schools, 9,084, with 137,596 officers and teachers and 1,060,164 pupils. The South African Affiliated Conference had 202 ministers, 3,915 lay preachers, 93,660 members and probationers, 589 Sunday-

schools, 2,613 officers and teachers, 38,118 pupils, and 826 churches; the West Indian Affiliated Conference, 93 ministers, 907 lay preachers, 45,726 members and probationers, 301 Sunday-schools, 2,758 officers and teachers, 28,750 pupils, and 143 churches. The Australasian Methodist Church had 932 ministers, 8,432 lay preachers, 131,774 members and probationers, 4,103 Sunday-schools, with 21,476 officers and teachers and 211,082 pupils, and 5,539 churches.

The Church had 7,374 chapels settled upon the terms of the Model Deed, with sitting accommodations for 2,075,802 persons, showing an increase in ten years of 506 chapels connectionally settled, and 173,142 sittings. In addition there were 913 rented chapels or other preaching places, seating 111,703 persons. The whole number of sittings in Great Britain was 2,187,505.

Sixty Wesley deaconesses and 8 second-year probationers had been employed during the year in 42 circuits and 7 missions, besides 2 in the Transvaal, 1 in New Zealand, and 2 in Ceylon.

The report of the General Chapel Committee showed that 411 cases of new chapels, school-rooms, ministers' houses, alterations, enlargements, etc., had been sanctioned during the year, with an estimated outlay of £365,286, on which such provision for payment had been made as would leave an indebtedness aside from the connectional loans of not more than £89,640. A total additional accommodation would be furnished on the completion of these improvements of 14,787 sittings. Of the new chapels, 39, to seat 7,253 hearers, were to be erected in places where there were previously no Wesleyan places of worship. Two hundred and twenty-five cases of erections, enlargements, etc., had been reported through the district synods as completed, at a cost of £178,718, with an entire indebtedness of £41,588. The net amount of debt cleared off during the year was about £12,000.

In the eighty-third annual report of the General Committee for the maintenance and education of ministers' children the amounts raised for the general purposes of the fund were given as £30,755 for maintenance and £4,977 for education. The sum of £10,608 had been appropriated to allowances for 884 ministers' children educated at home; and other appropriations had been made to schools.

The total income of the Home Mission fund had been £35,831, showing an increase of £1,304; and the expenditure had amounted to £33,396. This left a surplus of £2,434, available for the reduction of the adverse balance carried over for several years to £1,122. Grants of £4,791 had been made toward the support of home missionary ministers in circuits; £3,123 had been spent on lay agency; £1,691 on district missionaries; £1,872 on village evangelists; £8,798 on dependent circuits; £290 on university circuits; and £1,000 on special extension work. Toward the cost of army and navy ministers—£4,387—the Government gave £2,454 in capitation grants. More than 100 home missionary ministers and 8 connectional evangelists were supported by the fund. Twenty Gospel cars were in service, 5 of which had been added during the year, and were manned by 40 evangelists.

A novel legal question has arisen at Gloucester. The votes of 2 Wesleyan ministers were objected to by the Conservative agent at an election on the ground that the ministers had not resided in the district during the time required to qualify them as electors. The Liberal agent, supporting the votes, contended that the ministers in being transferred from one circuit to another were

"successors to a benefice or office," and as such were entitled to vote. The case came before a King's Bench divisional court, Nov. 7, on an appeal from the refusal of the revising barrister at Gloucester to allow the claim of the ministers. The Lord Chief Justice said that the question raised was one of importance to a great number of ministers who at present lost the right to vote for one year by reason of changes in circuits. The point was whether the revising barrister was right in this instance, on the evidence before him, in holding that the applicant had not proved that the post of Wesleyan minister was an "office" which came within the meaning of the statute, and gave him a right to vote by reason of succession to that office. The Chief Justice held, with the concurrence of the other justices, that the revising barrister was right. The applicant was backed, in making his appeal, by the Committee of Privileges of the Wesleyan Conference.

Wesleyan Missionary Society.—The annual meeting of the Wesleyan Missionary Society was held in London, May 5, Mr. Peter F. Wood, of Chiselmurst, presiding. The total ordinary net receipts for the year had been £100,478, while the addition of special contributions, miscellaneous income from investments, legacies, and lapsed annuities would bring the amount up to £136,528. The expenditure had been £143,617, leaving a deficiency of £7,088. Forty-four missionaries had been sent to India, Ceylon, Burma, West Africa, China, the Transvaal and Rhodesia, the West Indies, the Bahamas, South Africa, Honduras, Paris, Naples, Gibraltar, and Malta; 17 woman missionaries had gone to various parts of the field; and one lay agent had been sent to India. The general summary of the mission fields gave the following numbers: Of principal stations, 325; of chapels and other preaching places, 2,466; of missionaries and native ministers, including supernumeraries, 395; of other salaried agents, 3,337; of unpaid agents, 6,260; of full and accredited church-members, 50,132; of members on trial, 14,482; of pupils in mission schools, 100,738. These numbers show an increase of 26 stations and preaching places, 31 missionaries, 96 other salaried agents, 158 unpaid agents, 1,384 members, 860 on trial, and 4,355 pupils. Among the striking features of the work of the year were successful labors among the Italian navvies in the Simplon Tunnel; progress toward a self-supporting and self-governing church in Ceylon; revivals in South India; reconstruction and readjustment in China; improved conditions in South and West Africa; and beneficial legislation in the West Indies.

Wesleyan Conference.—The Conference met at Manchester, July 22. The Rev. John Shaw Banks, Professor in the Theological Institution, was chosen president. The following resolution was adopted concerning the education bill:

"The Conference once more declares that the primary object of Methodist policy in the matter of elementary education is the establishment of school boards everywhere, acting in districts of sufficient area, and the placing of a Christian unsectarian school within reasonable distance of every family. The Conference therefore deeply regrets that the present education bill is intended to destroy the school board system, and to make no adequate provision for the just claims of those parents who do not desire their children to be drawn into denominational schools. The Conference has no wish to abolish denominational schools, or to prevent them from being used with equitable restriction, for the purpose of giving denominational education to those children

whose parents desire it. But the Conference expresses once more its deep conviction that no increased grant from public funds should be made to denominational schools, unless that increased grant is accompanied by adequate and representative public management. If, however, denominational schools are to be almost wholly maintained from Imperial taxes and local rates, the 'irreducible minimum' of the rights of conscience and public justice demands that at least a majority of the local educational authority and of the governing committee of every school shall consist of publicly elected persons."

The Committee on the Twentieth Century fund reported that in payments more than £900,000 had been reached. About £880,000 were drawing interest (3 per cent.), and from this source nearly £35,000 had accrued. For the Methodist House in London, which formed part of the fund's program, the committee had entered into negotiations for the purchase of the Royal Aquarium premises at Westminster. A deposit had been paid, and, subject to the approval of shareholders (which was given before the close of the Conference), the Aquarium site, containing 100,000 square feet, would become connectional property before the ensuing February. The building to be erected thereon would include one large hall seating 3,000 persons, a smaller hall seating 1,000 persons, a large library, and many suites of rooms for connectional organizations. The attention of the Conference was occupied in a very large degree with the case of the Rev. Dr. Joseph Agar Beet, a professor in the college at Richmond of the Theological Institution, in which a question of heresy was involved. Dr. Beet had published a book entitled *The last Things*, in which he asserted that the doctrine of the natural immortality of the soul was not taught in the Scriptures; and while denying the doctrines of annihilation at death and of immortality in Christ alone, he held that the soul has a conscious existence after death and the souls of the impenitent exist in conscious suffering, but it is not taught that this continued existence is endless. The case had been before the Conference four years before, and was dropped on Dr. Beet's promising to withdraw the book. Since then he had published another book, *The Immortality of the Soul: a Protest*, in which similar views to those formerly objected to were advanced. He was charged before the Conference with having violated his pledge given at the Conference of 1898 to withdraw the book *The Last Things* by republishing the substance of it in another book, and with having published in the latter book doctrines contrary to the standards of the Church. The case was referred to a special committee, upon the report of which the Conference found, with regard to the first charge, that Dr. Beet had not kept the pledge given to the Conference in the sense in which it was generally understood. But the Conference recognized the great difficulty and perplexity in which he was placed at the time the promise was made, and while deeply regretting his action, regarded it as arising from a serious error of judgment rather than from want of good faith. In regard to the second charge, it was found that Dr. Beet "has published in the aforesaid book doctrines contrary to the standards of our Church (a) in exalting the moral sense to an authority in religious belief above Holy Scripture, (b) in regard to the immortality of the soul and the endless sufferings of the lost. In regard to (a) the Conference finds that though his language was unguarded and liable to misconception, and some passages of the book seem to place the moral

sense above Scripture as an authority in matters of religious belief, Dr. Beet has no intention of doing this, and he emphatically denies that there is any real conflict between the two. In regard to (b) Dr. Beet stated before the committee that in some small details his teaching contravened the teachings of our standards, but that it is in harmony with the general system of doctrine that underlies them. The Conference finds that Dr. Beet rejects as without foundation the doctrines popularly known as those of annihilation, conditional immortality, universal restoration, and probation after death, and maintains that though the Holy Scriptures teach that all our souls will survive death for a period to which no limit can be affixed, and that utter hopeless and final punishment will overtake the impenitent, they do not assert or assume the essential permanence of the soul, though neither do they deny this. And that, while the Holy Scriptures give no ground for hope that the agony of the lost will ever cease, they do not plainly and categorically assert its endless continuance. The above is the statement of Dr. Beet's views made at the Conference of 1898, and accepted by Dr. Beet before the committee as a statement of his present position. The Conference decides that this teaching falls short of and contravenes the doctrine held and taught in our Church. In regard to the whole case, in view of the dread solemnity and admitted mystery of the subject and the necessity of allowing some freedom of opinion upon it, and out of respect to the fidelity of Dr. Beet to our general system of doctrine, the Conference resolves that on condition that Dr. Beet does not teach in our pulpits the doctrine of this book, and that he publish no further upon the subject except with the consent of the Conference, the Conference will take no further action." The reelection of Dr. Beet as a professor in the Theological Institution was opposed on account of his position respecting these doctrines; but he was chosen, receiving 377 votes out of 577 cast. The home mission department reported a rising income; but the foreign mission report embodied a complaint that the contributions were stagnant, and the Church was in danger of being outstripped on the mission fields. A series of missionary conventions on a large scale was directed to be held during the coming year in London and 11 other of the more important cities.

VIII. Primitive Methodist Church.—The following is a summary of the statistics of this Church reported to the Conference in June: Number of traveling preachers, 1,048; of local preachers, 16,016; of class-leaders, 10,569; of members of society, 195,651; of Sunday-schools, 4,107, with 58,881 teachers and 450,396 pupils; of hearers, 589,784; of connectional chapels (home), 4,321; of other chapels (home), 632; value of church property (home), £4,019,239; debt on the same, £1,016,678. In Africa and New Zealand were 60 connectional chapels and 101 other chapels and rooms, and the value of the church property was £45,843, less debt of £9,564.

The General Chapel fund had granted during the year £783 toward reducing debts and £211 toward new erections, and had promised £2,200 additional. The Chapel Loan fund amounted to £12,313. The Legal Defense fund amounted to £271. The London Chapel Extension fund had received £191, and had granted £250 for the purchase of sites. The Church Extension fund had an income of £4,400, and had promised assistance to projects involving a cost of more than £150,000. The connectional fund returned an income of £11,563. The Superan-

nuated Ministers' Widows' and Orphans' fund had supported 315 annuitants, widows, and orphans, and returned an income for the year of £8,511. The Local Preachers' Aid fund reported an income of £1,139, showing an increase of £249, with 133 pensioners on the permanent list.

The annual meeting of the Primitive Methodist Missionary Society was held in London, May 12, the Rev. Thomas Whitehead presiding. The net income for the General fund had been £13,168, and the expenditure £13,649. The net income of the African fund had been £6,160, and the expenditure £7,772. The home missions returned a net increase of 224 members. Since the union of the Methodist Churches in Australia, the only colonial stations remaining in direct association with the English Conference were in New Zealand. The churches there exhibited a healthy and vigorous life. Reports were made of foreign mission stations in West Africa, where one of the centers had been disturbed by the declaration of the district as German territory; South Africa, where the station at Aliwal North, which had been seriously injured by the war, was regaining its normal conditions, and, with 1,173 members, constituted the largest church in the connection; and Central Africa, where the work was just in its beginning. The institution of the Church Extension fund had led to the creation of a number of new causes in suburban places, and the fund was cooperating in the erection of nearly 50 new buildings. The Sustentation fund had come under partial review during the year, and the inquiry was not yet complete.

The eighty-third annual Conference met in Hull, in June. The Rev. Thomas Mitchell was chosen president. The statistical returns showed the largest connectional increase the Church had known for many years. The committee which had been engaged in codifying the connectional regulations made an *ad interim* report, and was reappointed, with the addition of two new members. In the case of an appeal of a minister for compensation because he had been removed from one circuit to another without notice, while some hardship was admitted, the Conference insisted that it must maintain its absolute right to place its ministers where it will. A question arising concerning the recognition to be given to degrees conferred by colleges of no reputation, the matter was referred to the General Committee for inquiry, and it was determined that in the published Conference minutes there should be entered after each degree inserted the name of the institution from which it came. The organization of the Missionary Committee was modified; and instead of there being two committees, one meeting fortnightly in London, and the other quarterly at various centers, the quarterly meeting was made the General Missionary Committee, and an Executive Committee was constituted, of 19 persons, 8 of whom must be laymen, to meet monthly in London, and to be directly responsible to the quarterly committee. The unit of representation in the Conference was changed, to be in the future 1,000 members, instead of 3,000, as in the past, with no district to have less than 3 delegates. A petition was adopted for presentation to the House of Commons, showing that the members of the Conference were strongly of the opinion that the education bill before Parliament was fraught with great injustice to Free Churchmen and detrimental to the best interests of education and of the nation.

IX. Methodist New Connection.—From the reports made to the Conference it appeared that there had been an increase of about 1,200 mem-

bers at home, but a decrease in China brought down the net increase in the membership of the Church to 1,081. Through the Boxer troubles in China 288 candidates had been lost to the Church. A gain of 717 pupils in Sunday-schools was shown, and an increase of 278 pupils who are members of the Church.

The income of the Loan fund for the year had been £305, showing an increase of £38. Its capital had risen from £10,441 to £10,721. During the year 10 new loans had been issued to the amount of £1,450, and others to the amount of £2,570 had been sanctioned. Nearly £12,000 had been lent without interest in the last seven years. The Chapel Committee returned an income of £747.

The one hundred and sixth Conference met at Stockport, June 9. The Rev. Martin J. Birks was chosen president. The Committee on Church Union reported that the result of negotiations with the Irish Wesleyan Church with reference to union had been unsatisfactory. In response to the resolution concerning Methodist Union passed by the Methodist Ecumenical Council of 1901, the Conference declared that believing that union among the Methodist Churches in Great Britain would be of great advantage to the kingdom of Christ, it would be prepared to consider any practicable proposals for promoting that object; and authorized its Annual Committee to receive any communications that might be addressed to it from Methodist conferences or from committees especially directed to deal with the subject, to consider them, and to report to the Conference. The institution of a "Forward Movement" mission was approved of. The establishment of an order of deaconesses, with a training home, if it is found practicable, was sanctioned, and the Home Mission Committee was authorized to frame a workable scheme and suggest means for its support. An agreement with the Wesleyan Book-Room respecting the publication of a new hymnal adapted to the use of both Churches was approved.

X. United Methodist Free Churches.—The whole number of members of this body was reported at the Annual Assembly of 1902 to be 83,803, an increase of 2,555 from the previous year; number of ministers and missionaries, 381; of local preachers, 3,302; of leaders, 3,522; of teachers in Sunday-schools, 24,832; and of pupils, 192,572; showing an increase of 810 teachers and 2,602 pupils. The report of the book-room showed a profit of £310 on £5,678 of sales. The income of the Chapel fund had amounted to £521. The capital of the Loan fund stood at £13,836, and its outstanding loans amounted to £11,227. The subscriptions to the Superannuated and Beneficent fund had amounted to £526 from the churches and £1,124 from ministers. The demands on the fund were rapidly growing. The Fire Insurance Association had made a profit of £532, bringing up the capital to £3,910.

The Annual Assembly met at Leeds, July 8. The Rev. William Redfern was chosen president. Communications were read relating to the Methodist Union effected in Australia, and resolutions giving sanction to the measure, and which were needed to make it valid, were passed. The Charity Commissioners having in some instances claimed a degree of control over connectional property, the persons in charge were authorized to obtain the opinion of counsel if necessary. The education bill of the Government was condemned by a unanimous vote. The report of the Twentieth Century fund showed that the total amount promised was 104,516 guineas, a sum to which

increase by further contributions from foreign stations was anticipated. The committee of this fund and the Connectional Committee had jointly considered a scheme for Church extension which as adopted by the Assembly contemplates the allotment of one-third of the missionary income to this work; the appointment of a subcommittee of the Connectional Committee acting under its supervision for administering the money allotted for home mission work; the determining of grants for ministerial purposes to home mission churches, dependent circuits, and extensions; and the oversight of stations receiving help. The portion of the Twentieth Century fund allotted for Church Extension purposes is to be administered by the Chapel Committee in conjunction with the treasurers and secretary of the Twentieth Century fund, who will be *ex officio* members of the committee. An Advisory Committee was constituted to consult with churches intending to erect new buildings. In view of the expressions of the Ecumenical Methodist Conference of 1901 in favor of Methodist union, the Assembly again expressed unanimously, "as on former occasions, its strong conviction that such union is greatly to be desired. As our denomination is a practical illustration of the advantages of union, this Assembly can not be otherwise than favorable to the increased unification of the Methodist Churches. It, however, realizes that to secure so desirable an end mutual concessions must be made, and that such concessions should be consistent with ecclesiastical freedom and representative government. Should the present state of opinion on church government make it impracticable for all sections of Methodism to unite, those that are nearest to each other in their foundation principles might make, as a first step, approaches, in the hope that in the future 'the people called Methodists' may form one organization. With this view the Assembly is prepared to consider any practicable proposals in favor of union." A scheme for carrying out evangelical education and industrial work in East Africa was adopted.

XI. Bible Christian Church.—The Bible Christian Conference met in Forest Hill, London, July 30. The Rev. John Dale was chosen president. It was remarked on comparing the statistical tables that the numbers in the Church were no larger than fourteen years ago, but rather less. The failure to advance was satisfactorily accounted for by reference to the deductions which necessarily followed the setting off of the colonial conferences that they might enter the union of the Methodist Churches in their respective colonies; thus the Churches of New Zealand had united with the Wesleyan Methodists in 1897; those of South Australia with other Methodists in 1900-'01; and those of Victoria during the past year. The deductions to be made in consequence of the transfer of churches aggregated 77 ministers, 400 local preachers, 370 chapels and preaching places, 7,530 members of society, 1,848 teachers, and 15,576 pupils in Sunday-schools. The steady advance at home, however, would at the present rate carry the total in each department of the tables beyond the figures of 1896, the year before the New Zealand loss. The New Century fund had been brought within £500 or £600 of the amount of £25,000 contemplated at the outset. A resolution was passed denouncing the education bill and warning the Government that "a large number of our people will not consider the bill, if carried into law, as entailing any moral obligation upon them to obey it." Concerning Methodist union, the Conference declared its judgment "that the union of all the Methodist

Churches in this country on a just and honorable basis is a consummation eminently desirable in itself, and an important step toward the closer union of all the evangelical churches in this country, and we therefore resolve to embrace every opportunity afforded us for interdenominational fellowship and mutual cooperation. This Conference is further of opinion that in the meantime it ought to be possible for the Methodist Churches which hold substantially the same views of the pastoral office and the mutual rights and relations of ministers and laymen to at once unite for the sake of economy and greater efficiency in working, and in the event of any proposals to this end being received from any one or more of these Churches, we once more affirm our willingness to seriously consider them, following in due course with corresponding action, provided, as an essential condition, preliminary inquiries show that a satisfactory basis of union is likely to be formulated, and that there is a determination, if negotiations be once commenced, that they shall, if possible, be conducted to a successful issue." Further, the Conference unanimously directed, that in the event of any overtures being received from the Connectional Committee or Conference of any Methodist Church in the country on the subject of union, the Connectional Committee be authorized to consider the same, "taking care not to commit the Connection in any way to organic union until the whole matter has been reported to the annual conference and a decision has been taken to that effect." The Conference also acted favorably upon a proposal of the Joint Committee of the Methodist Churches for concerted action suggesting the designation of a deputation to visit each Methodist conference or assembly.

The annual meetings of the Bible Christian Missionary Society were held in London, May 6. The report showed that 52 ministers were engaged in the home work, with 250 local preachers, 4,512 church-members, 331 junior members, 931 teachers, and 3,046 scholars, and that 72 members had been added during the year. In the foreign field there were in China 11 missionaries, 28 full members, 22 on trial, and 150 scholars. The treasurer's report showed that the society was £835 in debt. Three-quarters of the Century fund had been paid in.

XII. Wesleyan Reform Union.—The fifty-fourth annual Conference of the Wesleyan Reform Union met in High Wycombe, Aug. 2. The Rev. Edmund Bromage was chosen president. The statistical report showed that there were connected with the Union 192 chapels and preaching places with 45,111 sittings, 406 preachers, 73 preachers on trial, 347 class-leaders, 7,374 members, and 475 members on probation. An increase of 5 Sunday-schools was reported. The connectional Endeavor Societies returned 2,440 members. The sum of £3,931 had been spent in chapel improvement. The Jubilee Thanksgiving fund had been brought up to a total of more than £1,750, or within £250 of the amount of £2,000 aimed at. A resolution condemning the education bill was carried unanimously. The Conference by resolution expressing the opinion that the time had now arrived when some definite action should be taken to ascertain the opinion of the various branches of the Church upon the subject of Methodist Union, a commission was appointed "to attend any joint conference for the purpose of a frank and friendly discussion, and, if possible, for the finding of some basis of action." A report was made that the Union had now a sum of £139 subscribed for missions, and that a general in-

terest in the subject was manifest throughout its bounds. The Conference authorized the training and sending out of a suitable person into the foreign mission field, through the medium of the China Inland Mission, and directed the General Committee to take immediate steps to consider the claims and fitness of possible candidates. A secretary was appointed in the interest of the Endeavor Societies.

MEXICO, a federal republic in North America. The legislative power is vested in the Congress, consisting of a Senate and a House of Representatives. There are 56 Senators, 2 for each of the 27 states and the federal district, and 227 members of the House of Representatives, 1 to 40,000 inhabitants, elected for four and two years respectively by the votes of all adult male citizens of respectable character. The President is elected for four years by a college of electors. In case of his disability Congress has authority to elect an acting President who shall discharge his duties until his recovery, or until the close of the presidential term if the disability is permanent. The President of the republic is Gen. D. Porfirio Diaz, reelected for the fifth time on July 9, 1900. The Cabinet was composed at the beginning of 1902 as follows: Secretary of State for Foreign Affairs, I. Mariscal; Secretary of the Interior, Gen. M. Gonzalez Cosio; Secretary of Justice and Public Instruction, J. Fernandez; Secretary of Public Welfare, Colonization, and Industry, L. Fernandez; Secretary of Finance and Public Credit, J. I. Limantour; Secretary of Communications and Public Works, Gen. F. Z. Mena; Secretary of War and Marine, Gen. Bernardo Reyes; Treasurer, E. Loeza.

Area and Population.—The area of the states and territories and their population at the census of Oct. 28, 1900, compared with the population at the census of Oct. 20, 1896, are stated in the following table:

STATES.	Square miles.	POPULATION.	
		1895.	1900.
States:			
Tamaulipas	32,128	206,342	218,948
Vera Cruz.....	29,301	368,892	960,570
Tabasco.....	10,073	138,926	158,107
Campeche.....	18,087	87,264	84,281
Yucatan.....	35,203	297,088	312,264
Chihuahua.....	87,803	260,008	327,004
Coahuila.....	63,599	237,815	280,899
Nuevo Leon.....	23,522	307,856	326,940
Durango.....	28,009	292,549	371,274
Zacatecas.....	24,757	447,265	462,886
San Luis Potosi.....	25,316	562,195	482,486
Aguas Calientes.....	2,950	102,378	101,910
Guajuato.....	11,370	1,047,817	1,065,317
Queretaro.....	3,556	224,848	228,489
Hidalgo.....	8,917	551,817	608,074
Mexico.....	9,247	837,981	924,457
Morelos.....	2,773	156,786	161,697
Tlaxcala.....	1,595	163,244	172,217
Puebla.....	12,304	978,576	1,024,446
Sonora.....	76,900	189,158	220,553
Sinaloa.....	33,671	256,358	296,109
Jalisco.....	31,846	1,094,569	1,187,311
Colima.....	2,272	55,264	65,026
Michoacan.....	22,574	387,008	935,849
Guerrero.....	24,996	417,896	474,594
Oaxaca.....	35,382	872,902	947,910
Chiapas.....	27,222	318,730	363,607
Territories:			
Lower California.....	58,328	41,838	47,082
Tejic.....	11,275	146,805	149,677
Federal district.....	463	468,705	540,478
Islands.....	1,420	.....	.....
Total.....	767,005	12,491,573	13,545,462

The population comprised 6,716,007 males and 6,829,455 females in 1900. The whites constituted 19 per cent. of the whole, persons of mixed blood 43 per cent., and Indians 38 per cent.

There were 1,908,707 Indians in 1895 who could not speak Spanish, and 2,034,712 who habitually spoke the native Indian languages. The number of foreigners in 1895 was 50,888, of whom 13,962 were Guatemalans, 12,859 Spaniards, 11,331 citizens of the United States, 3,599 French, 2,450 British, 2,155 Germans, 1,932 Italians, 1,197 other Europeans, 993 Asiatics, and 408 South and Central Americans. The number of marriages recorded in 1898 was 61,687; of births, 489,933; of deaths, 452,328. Registration has been lax, and in 1898 it was made a condition of the recognition of children as legitimate.

Finances.—The total receipts of the federal treasury for the year ending June 30, 1901, amounted to \$63,283,196 Mexican, and expenditures to \$59,423,006. For 1902 the revenue was estimated at \$62,290,000, and expenditure at \$62,275,102. The budget for the year ending June 30, 1903, makes the total receipts \$64,823,600, of which \$29,228,200 are derived from import and export duties, \$25,739,000 from stamps, etc., \$3,524,000 from posts and telegraphs, \$3,443,000 from direct taxes, and \$2,889,400 from various sources. The expenditures for 1903 were estimated at \$64,738,816, of which \$1,145,985 are for the legislative power, \$308,273 for the executive power, \$426,908 for the judiciary, \$688,935 for foreign affairs, \$5,151,422 for the interior, \$3,218,621 for justice and education, \$996,266 for public welfare, \$9,214,191 for public works, \$29,304,265 for finance, and \$14,283,950 for war and marine. The foreign commercial exchanges have been so disturbed by the depreciation and fluctuations of silver that in 1902 the Government gave permission to the banks to keep accounts with their customers in either gold or silver and convert silver credits into gold or gold credits into silver at current rates. The banks have accumulated gold reserves against their gold liabilities. The Government contemplates adopting the gold basis. The revenue for 1903 is estimated at \$67,959,000, and expenditure at \$67,597,000. The surplus of 1902 was \$3,000,000 and the accumulated surpluses amounted to \$26,000,000 in silver and over \$3,000,000 in gold.

The federal debt in 1901 amounted to \$109,475,000 payable in gold, consisting of a 6-per-cent. loan of \$50,845,000 obtained in 1888, one of \$29,763,000 contracted in 1890, one of \$14,970,800 contracted in 1893, and 5-per-cent. bonds of the Tehuantepec Railroad dating from 1889; consolidated 3-per-cent. bonds payable in silver amounting to \$51,000,000, redeemable internal bonds paying 5 per cent., and railroad bonds payable in silver, making a total silver debt of \$135,509,271, besides a floating debt of \$1,296,965.

Each state elects a Governor, Legislature, and judicial officers to enforce its separate laws and has power to levy taxes, but not to impose duties on the products of other states. The budgets of the 27 states in 1899 amounted to the sum of \$19,952,534 for receipts and \$19,695,936 for disbursements.

The standard of value is the Mexican dollar containing 24.440 grams of fine silver. From 1821 up to June 30, 1900, the Mexican mints coined \$1,396,273,190 in silver, \$59,285,530 in gold, and \$6,585,520 of copper and \$2,744,000 of nickel coins.

The Army and the Navy.—The strength of the army in 1900 was stated to be 32,143 men, including 2,068 officers. The infantry numbered 1,314 officers and 21,291 men; cavalry, 566 officers and 6,683 men; artillery and train, 188 officers and 2,101 men. In the cavalry are included 261 rural guards and 118 gendarmes. The infan-

try are armed with Mauser rifles of 7 millimeters caliber, the cavalry with carbines of the same system, the artillery with Bange field-pieces of 7.9 centimeters caliber and Gruson mountain guns. The war strength is estimated at 60 generals, 3,400 other officers, 120,000 infantry, 20,000 cavalry, and 6,000 artillery. Every Mexican between the ages of twenty and fifty is liable to military service in case of war.

The naval force consisted in 1901 of the despatch steamers *Democrata* and *Mexico*, of 450 tons each, dating from 1875; the gunboat *Independencia* and *Libertad*, each of 425 tons, about as old; and the school-ship *Zaragosa*, of 1,200 tons, built in 1891. An armored river gunboat has been ordered; and 5 first-class torpedo-boats, an armor-clad vessel, 2 cruisers, 4 gunboats, and 2 transports were authorized to be built. The Tampico and Vera Cruz, small gunboats, were launched at Elizabeth, N. J., in 1901, and work was begun on 2 cruisers of 1,800 tons.

Commerce and Production.—The production of corn in 1899 was 32,927,278 hectoliters; of wheat, 252,720 metric tons; of rice, 23,103 tons; of beans, 3,288,847 hectoliters; of sugar, 68,607,652 kilograms; of panocha, 59,189,362 kilograms; of molasses, 62,076,460 kilograms; of spirits, 1,117,877 hectoliters; of cotton, 22,487,517 kilograms; of henequen, 118,878,440 kilograms; of logwood, 45,422,946 kilograms; of cacao, 1,032,437 kilograms; of coffee, 37,609,264 kilograms; of tobacco, 7,868,767 kilograms; of fermented liquors, 6,550,206 hectoliters. In the five years from 1894 to 1898 inclusive titles of 1,818,657 hectares of land were granted to companies which surveyed and mapped public lands, receiving a third of all they surveyed; settlers from 1893 to 1898 inclusive acquired titles to 756,592 hectares, and 476,141 hectares were sold from 1894 to 1898 inclusive; colonists from 1896 to the end of 1899 received 2,360 hectares. There were 13 agricultural settlements, containing 3,926 colonists, which the Government established, and 12, with 3,926 members, were founded by colonizing companies and private individuals.

There were 1,142 mines worked in 1899, of which 84 produced gold, 278 gold and silver, 117 gold and other metals, 256 silver, 171 silver and lead, 114 silver and other metals, 34 zinc, 34 copper, 7 copper and iron, 20 lead, 6 lead with zinc and iron, 40 antimony and cinnabar, 7 sulfur, tin, and graphite, and 425 were not yet productive. The value of ores produced was \$89,044,000. The number of workers was 106,536, including 1,288 women and 5,852 children. In the year ending June 30, 1899, the quantity of gold presented at the mints and assay offices was 5,986 kilograms, valued at \$4,043,374; of silver, 1,417,216 kilograms, valued at \$57,985,400; total value, \$62,028,774. In addition to this there were exported 5,066 kilograms of gold, value \$3,421,700, and 952,939 kilograms of silver, value \$38,989,491; total value, \$42,611,191. There were 2,211 distilleries in 1899, producing 864,858 gallons of spirits. There were 118 cotton factories, with 468,547 spindles, 13,944 looms, and 27 machines for printing calico, consuming 57,201,573 pounds of cotton and producing 3,795,446 pounds of yarn and 9,875,764 pieces of cloth. The number of tobacco factories was 721, and these worked up 5,546,567 kilograms of tobacco.

The total value of imports in the year ending June 30, 1901, was \$65,083,451 in gold. The value of exports of merchandise in 1900 was \$79,031,336 Mexican; of precious metals, \$71,025,024; total exports, \$150,056,360 Mexican in 1900 and \$148,656,338 in 1901. The exports of mineral products

in 1901 were \$97,924,498 in value, against \$84,988,572 in 1900; of vegetable products, \$36,149,110, against \$50,939,474; of animals, \$11,495,129, against \$10,633,713; of manufactured products, \$2,395,044, against \$2,813,687; of miscellaneous products, \$692,557, against \$680,914. The bulk of the trade in the year ending June 30, 1901, was distributed among different countries as follows:

COUNTRIES.	Imports.	Exports.
United States.....	\$85,165,253	\$117,236,328
Great Britain.....	9,934,685	12,063,077
Germany.....	7,084,742	5,018,464
France.....	6,564,108	2,894,308
Spain.....	2,876,743	1,187,714

The imports at the port of Vera Cruz in 1901 were \$22,328,154 in gold, and exports \$21,892,184 Mexican; imports at the port of Tampico were \$9,712,956 gold and exports \$43,880,140 Mexican.

Navigation.—The number of vessels engaged in foreign commerce entered at Mexican ports during 1900 was 1,541, of 2,245,166 tons; in the coasting-trade, 7,364 vessels, of 4,425,263 tons. The merchant marine, including small coasters, consisted of 17 steamers, of 3,961 tons, and 50 sailing vessels, of 8,445 tons.

Railroads, Posts, and Telegraphs.—The length of railroads in operation in 1901 was 9,600 miles. The Tehuantepec Railroad from Coatzacoalcas on the Gulf of Mexico to Salina Cruz, on the Pacific, 190 miles, completed as a Government undertaking in 1893 at a cost of \$27,000,000 Mexican, has been operated at an annual loss of \$2,500,000. In 1897 the line was leased to an English firm, which with the aid of a subsidy of \$5,000,000 has improved both harbors, established a line of steamers to England, and equipped the railroad for a large interoceanic traffic.

The post-office in 1901 handled 148,086,513 letters and postal cards; receipts, \$2,135,570; expenses, \$5,638,512.

The telegraphs in 1900 had 42,843 miles of line, of which the Federal Government owned 28,560 miles; number of despatches, 2,604,711. The length of telephone-lines was 18,955 miles.

The Yaqui War.—The Mexican Government in a guerrilla warfare which has lasted twenty-four years, with only two intermissions of two years, has not yet subdued the Yaqui tribe in northern Mexico. In 1902 the war was waged more relentlessly than at any previous time. The Yaquis rebelled immediately after Mexican independence in 1821, and whenever the Mexican authorities attempted to impose their jurisdiction a war resulted. The last long war was broken by the peace signed at Ortiz in 1897, but the Indians again renewed hostilities as soon as they had repaired their strongholds, and since then 3,000 Mexican soldiers have been kept busy in a final effort to reduce the tribe to submission. The Yaquis are such brave and able fighters that a band of 40 or 50 will hold off several times as many Mexican soldiers. In 1901 they lost several hundred braves, and in the first half of 1902 their losses were still heavier. In a skirmish that occurred in July in Sonora near Turin 35 of them were killed, while the Mexicans lost only 5 men. When beaten they hide themselves in the mountains where the troops of Gen. Torres can not penetrate. Their hatred of whites dates from the time of the Spanish conquest, when they were subjected to frightful cruelties, and yet were not conquered. From 180,000, the estimate of their number at that time, they were reduced to 35,000 in 1821, five of their pueblos having been destroyed by the Spaniards during three centuries

of warfare. They fought bravely in the army of Gen. Iturbide for Mexican independence, and when left to themselves they prospered and increased, raising grain and working silver- and copper-mines. The copper-mines, the best in Mexico, in the course of the last war were seized by the Mexican Government and now belong to American companies. The cession of a part of their lands to the United States in 1848 by the peace of Guadalupe Hidalgo was the first of their grievances against the Mexican Government, and many others have arisen since. In the resulting war the property of the tribe and thousands of warriors have been sacrificed and over 20,000 Mexican soldiers have fallen in battles and skirmishes in eastern Sonora and northern Chihuahua. The women worked to earn money to provide arms and ammunition, made powder and bullets, defended the mountain passes, and sometimes fought in the regular battles. In the beginning the Yaquis were oftener successful than the Mexicans. The Yaquis formally rebelled against the Government and asserted their independence in 1878, and Gen. Cajemi, their Governor, took command of the rebel army, which for seven years held the mountain strongholds and passes against 5,000 Mexicans under Gen. Pesqueira. Two years after Cajemi was shot the defensive war was continued. When the Mexicans at last penetrated their country and cap-

and Chihuahua. Before the end of 1898 the Yaquis again declared war, on the ground that the Government took away their boys and girls from the reservations to be educated in Government schools. An attempt was made in July, 1902, to surround and capture about 150 braves in the San Mateo foothills by the stealthy advance of several columns. The Indians learned of the movement, slipped into the valley before the advance, and after strangling the sentries massacred one column in the darkness, and bound the officers to trees before an alarm could be raised. Their boys become sharpshooters at sixteen and all are provided with Winchesters. In order to cut off supplies from the strongholds and prevent boys from joining the fighters the Government in August, 1902, decreed that every Yaqui of either sex, whether living in the pueblos or working on ranches, must be treated as a prisoner of war. Then men are put in chain-gangs at Hermosillo, the women and children sent to a reservation in southern Mexico, the boys placed in a military school at Vera Cruz to be trained for the Mexican army.

MICHIGAN. (See under UNITED STATES.)

MINNESOTA. (See under UNITED STATES.)

MISSISSIPPI. (See under UNITED STATES.)

MISSOURI. (See under UNITED STATES.)

MONACO. The principality of Monaco is an *enclave* in the department of the Alpes Maritimes,

MONACO.

tured their mines their bands began to raid the surrounding country, and women and non-combatant men and boys went out to earn in mines, ranches, and fisheries the means of keeping up hostilities. The peace of Ortiz was brought about by the mediation of American miners in Sonora

with a front on the sea. The reigning prince is Albert, born Nov. 13, 1848, who succeeded his father, Charles III, on Sept. 10, 1889. The area of the principality is 8 square miles and the population is 15,180, of whom 3,292 are in the town of Monaco and 3,794 in the town of Monte

Carlo. A Governor-General, G. M. Olivier Ritt, is at the head of the administration. The Prince has a guard of honor and there is besides a military force of 5 officers and 70 men and 50 gendarmes. Olive-oil, oranges, lemons, perfumery, liqueurs, and artistic pottery are exported. The revenue is derived mainly from the gambling-house at Monte Carlo. A syndicate obtained the concession for fifty years in 1863, paying 1,250,000 francs a year. In 1898 an extension till 1947 was obtained, the company agreeing to pay 10,000,000 francs in 1899 and 15,000,000 francs in 1907, and to increase the annual payment to 1,750,000 francs in 1907, to 2,000,000 francs in 1917, to 2,250,000 francs in 1927, and in 1937 to 2,500,000 francs. The estimated receipts of the company for the year ending March 31, 1900, were 23,750,000 francs, of which 23,000,000 francs came from the gaming-tables and 750,000 francs from hotel and *café* rents. Besides the annuity of 1,250,000 francs paid to the Prince of Monaco, the company paid 2,500,000 francs for renewal of the concession, 500,000 francs for government and police, 250,000 francs for lighting, 250,000 francs for the bishop and clergy, and 900,000 francs for other expenses for the principality; total, 5,650,000 francs. The expenditure on the Casino was 6,100,000 francs, including 2,500,000 francs for cost of management, 250,000 francs for repairs, 750,000 francs for newspaper subventions, 2,000,000 francs for the theater and orchestra, and 600,000 francs for other expenses. The balance to be divided among the stockholders was 12,000,000 francs, 40 per cent. on the capital stock, which is 30,000,000 francs.

MONTANA. (See under UNITED STATES.)

MONTENEGRO, a principality of the Balkan peninsula. The reigning Prince is Nicholas I, born Oct. 7, 1841, nephew of Danilo I, whom he succeeded on Aug. 14, 1860. The heir apparent is Danilo Alexander, born June 29, 1871. The legislative power is vested in a State Council of 8 members, of whom 4 are nominated by the Prince and 4 are elected by the male inhabitants who bear arms or have borne arms. The President of the Council of Ministers is Voivode Bojo Petrovic.

The area of Montenegro is estimated at 3,630 square miles, the population at 228,000. The budget for 1902 shows a revenue of 250,000 florins from the land tax, 360,000 florins from customs, 150,000 florins from monopolies, and 440,000 florins from other sources; total, 1,200,000 florins. Expenditures were estimated at the same, including 137,000 florins for the civil list, 90,000 florins for administration and justice, 50,000 florins for education and worship, and 58,000 florins for the army and police. The debt amounts to 960,000 florins. All young men capable of bearing arms are trained for the army, except Mohammedans, who pay a military tax. The strength of the army is 35,870 infantry and 856 artillery. The chief products are corn, tobacco, oats, potatoes, barley, buckwheat, wine, olives, hides and skins, wool, cheese, insect powder, smoked sardines, honey, and beeswax. The value of imports in 1898 was 1,405,580 florins, and of exports 1,179,960 florins. The merchant navy consisted in 1900 of 17 sailing vessels, of 3,772 tons. A concession has been granted for iron-mining, and a railroad from Antivari to Niksic, 100 miles, will transport the ore. There are 400 miles of telegraph-lines.

MORAVIANS. The statistics of the Moravian Church, published officially in July, 1902, give the following numbers for the "home provinces." In the European or German Province 23

congregations, 7,772 members, and a net increase of 38 members reported for 1901. Connected with this province are Bethel, Australia, 258 members; Russia, 30 members; and the Diaspora missionaries and their children, 90; making a total for the province and its affiliated members of 8,150.

The British Province, divided into 5 districts, with 42 congregations, returns 3,458 communicants, a total membership of 6,058, and 5,461 members and teachers in Sunday-schools.

The American Province, North, divided into 5 districts (including that in Alberta, Canada), consists of 88 congregations, and returns 12,526 communicants and a total membership of 18,529. The American Province, South, consists of 3,247 communicants and a total of 5,367; making the whole number of communicants in the two American provinces 15,773, and the entire number of persons connected with the churches 23,896.

The missionaries in foreign fields, with their children, number 450. The total number of members in the "home province" is 39,280. Further, at the close of 1900, the number of communicants in the various missions was 32,028, and the total of people under the care of the missionaries was 96,877.

The statistical tables of the Moravian Church in the United States for 1901 give it—in the Northern district, 12,526 communicants, 1,238 non-communicant members, and 4,765 children, making a total membership of 18,529; 10,021 pupils and 1,182 officers and teachers in Sunday-schools; in the Southern district, 3,247 communicants, 285 non-communicants, 1,835 children, a total membership of 5,367; 3,704 pupils and 347 officers and teachers in Sunday-schools; total for the Church in America, 15,773 communicants, 1,523 non-communicants, 6,600 children, making a total membership of 23,896; 13,725 pupils and 1,529 officers and teachers in Sunday-schools. The numbers show an increase during the year of 548 communicants, 429 in the total membership, and 19 officers and teachers in Sunday-schools, and a decrease of 107 non-communicants, 12 children, and 18 pupils in Sunday-schools. The total contributions and expenditures in the Northern district were \$130,536, and the total contributions for Church enterprises were \$30,557; showing an increase over the previous year of \$2,738 in contributions for Church support, and \$1,382 in those for Church enterprises. The contributions for Church enterprises included \$1,955 for retired ministers, \$1,519 for the Bohemian Mission, \$8,245 for foreign missions, \$3,302 for the Alaska mission, \$8,093 for home missions, \$5,468 for the theological seminary, \$988 for all other Moravian causes, and \$986 for general Christian objects.

The summary of gifts of the Moravian Church, North, for all foreign mission and other benevolent causes passing through the hands of the provincial treasurer for 1901 gives a total footing of \$33,444, and shows an increase over the total for 1900 of \$4,897. The average contribution per communicant was \$2.70; in 1900 the average was \$2.42. The gifts for foreign mission causes were \$14,376; for home missions, \$4,313; for the theological seminary, \$2,668; for retired ministers, \$2,735.

The forty-fifth anniversary of the Moravian Historical Society was celebrated at Nazareth, Pa., Sept. 9, Bishop Levering presiding. The report gave the number of members of all kinds as 335, and showed how interest in the early history of the Church in America had been awakened and research among archives stimulated by the influence of the society. The collections of documents and relics were increasing and becoming

valuable, and much interest was taken in marking sites associated with the history of the Church. Papers were read on the circumstances under which the society was called into existence, accounting, among other things, for the simple vesper supper which is one of the features of the anniversary meetings; Early Mission Work among the Cherokees of Georgia; and "The Graveyards of Nazareth," in one of which some of the first refugees from Bohemia and Moravia are buried.

The synod of the British Province met in London, Aug. 5. Among the subjects considered were the relation of the British Province to the foreign mission work of the Church; home missions and evangelistic efforts; and the salaries of the ministers of the province. With the view of securing an increase in the number of missionaries sent out by the province, steps were determined upon for the proper preparation of candidates for missionary service, and for the publication of tracts and pamphlets intended to stimulate interest in and furnish information concerning missionary work.

MOROCCO, an empire in northern Africa. The Emperor is an absolute monarch, ruler in temporal and spiritual affairs, deferring occasionally in religious matters to the Sharif of Tafilet and often in civil affairs to his Grand Vizier or Chamberlain. The reigning Emperor is Mulai Abdul Azizi, Sultan of Fez, Tafilet, Marakesh, and Sus, born Feb. 24, 1878. The grand vizierate was vacant in the beginning of 1902. The Minister of Foreign Affairs was Abdelkrim ben Sliman; Minister of War, Kaid el Mehedi el Menebbhi; Minister of Finance, Mohammed Tasi; Grand Chamberlain, Driss ben Aich; Representative of the Sultan for Foreign Affairs at Tangier, Hadji Mohammed ben el Arbi el Tores.

The boundary of Morocco in the Sahara is not settled. The area of the empire is supposed to be about 219,000 square miles, with 5,000,000 inhabitants or more. The population has been estimated at 9,250,000, comprising 3,000,000 Berbers and Tuaregs, 2,200,000 Shellah Berbers, 3,000,000 Mued Arabs, 700,000 wandering Bedouins, 150,000 Jews, and 200,000 negroes. There are about 6,000 Christians, of whom 5,000 reside in Tangier. Fez, the northern capital, has about 140,000 inhabitants; the city of Morocco, the southern capital, 40,000; Tangier, the seaport on the Mediterranean, 30,000. The Sultan's army consists of 3,000 Askari infantry trained by a British soldier; a negro guard of 3,000 cavalry; 8,000 Mekhazni, a species of mounted police; 800 artillery under French officers; and the tribal levies which in case of war would give 40,000 or 50,000 irregular cavalry and infantry. The Sultan's revenue, derived from tithes, taxes, monopolies, and presents, is believed to be about \$2,500,000. The value of the imports in 1900 was estimated at £1,634,676 sterling, including coin and bullion; exports, £1,767,075. The value of cotton goods imported was £698,130; sugar, £342,629; tea, £102,508. Exports of almonds were £332,849 in value; wool, £184,600; eggs, £171,119; beans, £154,595; goatskins, £126,368; wax, £88,153; hides, £41,710; olive-oil, £27,851; bird-seed, £25,870; sheepskins, £23,545; gum, £22,157. The tonnage entered at the ports of Morocco in 1900 was 1,007,374 tons. The crops were so good in 1902 that the Sultan suspended the law prohibiting wheat exports for one more year and reduced the export duty by a third.

Political Affairs.—In January, 1902, a special mission accompanied the British minister, Sir Arthur Nicholson, to the court of the Sultan at Marakesh, the southern capital. French influ-

ence was strengthened by the removal of difficulties relative to the Algerian frontier and the assurance that France had no designs on the oasis of Figig, where the Sultan proceeded to levy taxes on sheep and palm-trees for the first time. The French military mission at the Moorish capital was increased by artillery officers detailed to instruct native soldiers in the handling of field-guns that the French Government presented to the Sultan. France concluded a protocol delimiting the territories in the southern part of the empire beyond the line laid down in the treaty of 1848 and determining the zones in which the tribes assigned respectively to France and to Morocco were to live. Raiders from the Moorish oases killed two French officers, and whenever Frenchmen visited Figig they were liable to attack. A Franco-Moorish commission carried out the delimitation in the spring. Work on the French Sahara Railroad was stopped at Wad el Hassi in the expectation that instead of the original route the French could obtain the Sultan's consent to an oblique line approaching nearer to Figig. He consented to its extension beyond Figig to Djennan Edelar, causing anxiety to the rivals of France who fear the extension of French commerce and French political influence through this railroad confining Morocco on the southeast. An arrangement for keeping order in Figig was made between Morocco and France in July, 1901. In February, 1902, the Moorish Governor, military commander, and frontier commissioner, Si Mohammed Guebbas, arrived with a force of regular soldiers, accompanied by Gen. Cauchenez, the French commissioner appointed under the agreement for two years, who had a strong force at the neighboring French military post. Moorish and French companies of soldiers marched side by side after the commissioners to impress upon the natives the reality of the arrangement by which the troops will cooperate in repressing lawlessness and the commissioners of the two governments will decide frontier disputes in consultation. So long as the Sultan's representative had to depend on a local force Frenchmen were frequently assassinated and bands raided the country on the French side of the border as well as on the other, finding in Figig a safe asylum whither the French could not pursue them. A French consul has been installed in Figig and in the regions beyond a system of common policing has been adopted for the prevention of frontier incidents. A Moorish embassy was sent to Paris and St. Petersburg. The Sultan arrived at Fez on March 15, in time to celebrate the Id el Kebir festival on March 20 and to receive on March 27 the tribute of cattle, produce, and manufactures levied three times a year. The Sultan had set out from Morocco city at the beginning of the month and tarried at Rabat and Mekinez. Mulai Abdul Aziz, who came to the throne at the age of fourteen, had nothing to do with affairs of state while the despotic Vizier Sid Ahmed was alive and ruled the country with an iron hand. The young Sultan assumed control at the age of twenty. He soon displayed progressive tendencies and a reforming spirit. He sought advice from Europeans and fell in with the schemes of reform which the foreign representatives in rivalry urged upon his consideration, showing keen sensitiveness to European public opinion. The corrupt system by which the higher officials sell offices and extort contributions from those lower in rank down to the local sheikhs who prey upon the people he determined to reform. He interested himself in the workings of constitutional

government and in educational systems abroad and desired to keep on good terms with the powers. He took pleasure also in automobiling and surrounded himself with modern inventions and the conveniences of civilized life. His father had exhibited liberal tendencies in the early part of his reign, but although an autocrat of energetic character, he gave up the idea of revolutionary reforms repugnant to the official class and the fanatical element. The son was more

their Arab neighbors. For seven years the court had been absent from Fez and they had gone untaxed and ungoverned. The rising began in the usual way with robbing of caravans and pillaging of Arab villages. When the harvest is garnered it is no uncommon occurrence for them to indulge their pugnacious instinct by engaging in intertribal fights, and only at long periods will their unrest manifest itself in open and united defiance of the Government. There

TANGIER—VIEW FROM THE EAST.

helpless because he had not the means to keep up a strong military force, and was even obliged to dispose of some of his jewels to maintain his state. After his arrival at Fez the Sultan showed civilities to the foreign consuls and European officers and engineers in his service such as had never before been extended to Christians. He carried out his promise to reform the prisons in Fez. Overcrowding, bad sanitation, fetters, and cruel punishments were done away with, and, as the result of inquiries into the causes of incarceration, many prisoners were set free. An expedition of 2,200 Moorish soldiers, accompanied by a Spanish officer, marched from Tangier in January to punish the Beni Mesara Kabyles and recover Spanish children abducted by them. By arrangement French and Spanish squadrons anchored in Tangier harbor. The expedition was reinforced by 4,000 infantry and cavalry and many guns. The Beni Mesaras were brought to submission, and the troops proceeded to chastise the Beni Aros, to whom the robbers fled with the kidnaped girls, who were not rescued, although the campaign lasted three months, but the lawless tribes were subjugated.

Rebellious Uprisings.—In the summer the Berber tribes in the country surrounding Mekinez broke out in one of their periodical insurrections against the rule of the Arabs. They are of the pure Hamitic stock, speaking the distinct Shilha language, and are habitually hostile to

is always a disorderly element addicted to robbery when an opportunity is offered. The first attacks on caravans by Beni Metir and Geruan tribesmen were allowed by the Government to go unpunished, and when the attacks became frequent the Mekinez traders and Arab villagers retaliated by burning the stacks and seizing the cattle of the Berbers. The Government hesitated to employ troops against the Berbers because the soldiers when sent to restore order proved as lawless as they. The disorders thus grew with impunity until toward the end of August, when the Berbers had repeatedly raided up to the walls of Mekinez, despite the reinforcement of the garrison by 1,000 men, and a band of several hundred mounted men entered and plundered the cattle market. Sid Mohammed el Amarani, the Sultan's uncle, then brought reinforcements and Maxim guns from Fez, and attacked the Berbers in front while Arab tribes on the north fell upon the villages of Geruan from the opposite quarter. The troops, infantry for the most part, who could not come within fighting distance of the Berber horsemen, were disorderly and unmanageable, and committed the blunder of looting and burning the Beni Metir villages. This, the most powerful tribe, although members of it had robbed caravans, still remained loyal to the Government and sent levies to fight for the restoration of order. Now the Beni Metir Berbers joined those of Geruan and Zimmur in the rebellion. Their con-

tingent of soldiers deserted on Sept. 25 and burned Arab villages near the town that were still left standing. The country was already devastated, the Arab farmers having fled northward. In the town the riotous soldiery, between 3,000 and 4,000 in number, were as dangerous as the rebels, robbing by wholesale and murdering those who defended their property. The commanders were so jealous that no two of them would take part in the same action. In this perilous situation, while the Berbers held all the roads and had burned the Government granaries within the outer wall, the Zimmur and Geruan chiefs unexpectedly on Sept. 26 came under a flag of truce to seek peace. They were ready to make absolute submission and to make good all damage they had done and pay any fine or suffer any punishment that the Sultan ordered. While negotiations were proceeding they were interrupted on Oct. 15 by an attempt of 500 Zimmur tribesmen to capture the camp of the Government troops by surprise. Failing in this, they sought shelter with the other tribes, and when this was refused, they surrendered. While the Sultan's troops occupied their country all the rebel chiefs went to Fez to make their submission to the Sultan.

On Oct. 17 a fanatic who had come to Fez from the neighboring Udaya tribe with the set purpose of killing a Christian, murdered Dr. David J. Cooper, a British medical missionary. Although he was a Sharif, or descendant of the Prophet, and although he took sanctuary, the

be stabled in the university building. There is another, a wide-spread legend, that in the time of imminent peril a prophet would come out of the east, the forerunner of the Mahdi, the deliverer of Islam, and gather about him a body of devoted followers who would march into Fez, protected by his miraculous powers from all weapons; and there, in the great mosque, he would summon the master of the hour, the Mahdi himself, and arm him with a sword plucked from the center of a marble column with which to go forth to conquer the world.

A man appeared who was hailed as the forerunner of the Mahdi. He was of low birth, but had received an education, and having disgraced himself in some way, went abroad and in Algeria and Tunis gained knowledge of the world and skill in legerdemain. Returning to Morocco, he went among the Berber tribes, convincing them of his sanctity by his humility in riding a donkey while his servant was mounted on a horse, and by his power to work miracles, as his conjuring tricks were deemed to be. He collected alms to a large amount, and finally, in Ghiata he was either spontaneously acclaimed or designedly assumed the rôle of the forerunner of the Mahdi. The fame of Bu Hamara, the donkey father, as he was called in recognition of his humility, spread, and devoted followers gathered about him from Fez and all parts of the land who made him take the part of prophet of the Mahdi and destined deliverer of the country from the Christian peril. He need but thrust

GENERAL VIEW OF FEZ.

Sultan had him arrested and summarily executed. It was the love of the Sultan for European things, his friendliness to Europeans and adoption of reforms and innovations suggested by them, that prompted the murderer, that was one of the causes of the Berber insurrection, that gave rise to doubts and fears among all classes and angry dissent in the official world. There is a legend at Fez that Christian horses would yet

his hand into his donkey's pannier to withdraw it full of money; he need but wave his cloak, and tribes rose in arms against each other; he need but gaze into the face of intending assassins, when their bullets would fall harmless into his lap; he need but curse a village to have it devoured by flames; the army led by him was invincible because the lead in the enemy's rifles turned to water—such were the tales about his

supernatural powers. Coming out of the wild mountain region, he reached the town of Tessa on Oct. 25, where he was received as a prophet and deliverer. He preached the massacre of Christians and the overthrow of the fatherless Sultan, and said that when his army, miraculously protected from harm, marched into Fez, the Jews' quarter would be consumed by a fire from heaven, leaving none but true believers to greet the Messiah of Islam when he appeared; but he himself should rule over Morocco, his Sharifian descent being equal to that of Mulai Abdul Aziz, for he claimed to be the Sultan's elder brother, Mulai Mohammed, freed from prison by divine power to become the Moorish prince of true believers. Prince Mohammed, whom the fanatical Moslems had desired for their Sultan when Sid Ahmed ben Musa had placed Abdul Aziz on the throne without giving the people a free choice, his acclamation as successor of Mulai Hassan by the people in Fez having been a sham manifestation arranged by the Vizier, was immured in the palace at Mekinez, where he was still kept under guard because the tribes wanted him still. When the rebellious Berbers attacked Mekinez they intended to deliver Mohammed and make him Sultan. The pretender was in fact Omar Zarahuni, born of a common family in Ulad Yusef, but he convinced the people that he was the Sharifian prince because Mohammed was known to have a birthmark over one of his eyes and he had a similar mark. From Tessa he sent messages to the tribes announcing his holy mission and calling upon them to obey him as the rightful Sultan. When he raised his standard and prepared to march on Fez the Government was stirred to action. Mulai el Kebir, brother of the Sultan, led out a force of 2,000 infantry and 600 cavalry, reinforced later by more horsemen. The armies came face to face at Ulad Taher, and there both pitched camp, and each waited for the other to strike a blow. Bu Hamara's force was swelled daily by new recruits who continued to flock in; yet the imperial army, in spite of imperative orders from Fez, still remained inactive until on the dawn of Nov. 3 the pretender's horsemen dashed into the unguarded camp, massacred the sleeping soldiers, seized the stacked arms, and would have slain the whole helpless, panic-stricken army had not the irregular horse of the Beni Hassan tribe opened fire, upon which Bu Hamara's warriors, undeceived as to their immunity from death and

wounds, in turn smitten with terror, fled quaking, and were pursued by the surviving remnant of the Sultan's troops, who captured many prisoners and returned to Fez with the heads of a score of the pretender's slain adherents, to be nailed at the city gates as a warning to traitors. Bu Hamara himself slipped away during the fight with his lieutenants and his treasure and escaped to the mountains, where he easily persuaded his routed followers who found him there and others who arrived in increasing numbers that the rash attack was the act of others who depended on human initiative, and that the slight mishap was needed to try the faith of his army and teach men to trust only in his inspired leadership.

The Benadir Kabyles, contaminated with the antforeign and restless spirit with which the whole country was rife, demanded of the Governor of Tetuan the release of the murderer of an Englishman and of other prisoners confined in the city, and when he refused they threatened to raid Tetuan. The Government sent a steamer with ammunition and stores, and Spanish, British, French, German, and Russian war-vessels assembled. The Kabyles plundered caravans and took captives, but released them, surrendered the booty, and prayed for pardon before the imperial forces moved. The pretender, with a larger and more enthusiastic army, advanced again from Ghiata toward Fez. The Sultan's army, affected by the wave of religious zeal, depressed by doubt and fear, fought half-heartedly when the forces met east of Fez on Dec. 28, was defeated with a loss of 300, and could not be rallied, but fell back upon Fez and allowed the rebels to invest the capital and cut the aqueduct that supplied the city with water. The Sultan attempted to break out with his most reliable troops, but was foiled by the rebels. The fortress of Raselma, close to Fez, was evacuated by the Sultan's troops. The pretender invited the Berber tribes late in rebellion to embrace his cause, while the Sultan's hopes lay in the Kabyle tribes in the south. When Fez was seriously threatened and the soldiers and populace showed a hostile spirit against the Sultan, so that he dared not appear unless surrounded by his faithful body-guard from the south, he sent for his brother Mohammed, exhibited him to the people to prove that the rumor that he and Bu Hamara were the same was false, and went through the form of a reconciliation, though he kept him still under guard.

N

NATIONAL ACADEMY OF SCIENCES. The officers in 1902 were: President, Alexander Agassiz; Vice-President, Asaph Hall; Foreign Secretary, Ira Remsen; Home Secretary, Arnold Hague; Treasurer, Charles D. Walcott till April 20, when he was succeeded by Samuel F. Emmons. Two meetings were held in 1902. The first or stated meeting was held in Washington, D. C., April 15 to 18. On that occasion the following papers were presented: On the Coral Reefs of the Maldives and On the Theory of the Formation of Coral Reefs, by Alexander Agassiz; The Physiological Station on Monte Rosa, by Henry P. Bowditch; Psychophysical Fatigue, by J. McKeen Cattell; The Present Aspect of our Knowledge as to the Constant of Aberration, by Seth C. Chandler; On Catalysis, by James M. Crafts; The Disintegration of Comets, by Asaph Hall; Determination of the Weight of the Vapor

of Mercury at Temperatures below 100°, by Edward W. Morley; On Some Optical Properties of Asphalt, by Edward L. Nichols; Evolution of the Titanotheres: III. Models and Restorations, Homoplasy and Latent Homology: A Correction, and Evidence that North America and Eurasia constituted a Single Zoological Realm during the Mesozoic and Cenozoic, and that Correlations can be established as a Basis for Uniformity of Geological Nomenclature, by Henry F. Osborn; Monograph of the Bombycine Moths of America, including their Transformation, with a Revision of the Known Genera: Part III. Sphingicampidæ, by Alpheus S. Packard; The Classification of the Sciences, The Postulates of Geometry, and The Color System, by Charles S. Peirce; The Distribution of the Stars and The Variability in Light of Eros, by E. C. Pickering; The Atomic Weight of Cesium and The Significance of Chan-

ging Atomic Volume, by Theodore W. Richards; The Compulsory Introduction of the French Metrical System into the United States, by William Sellers; and A New Computation of the Coefficients of Precession and Nutation, by Ira Ibsen Sterner, a non-member. Also the following biographical memoirs: John Gross Barnard, by Henry L. Abbot; Francis Amasa Walker, by John S. Billings; John Strong Newberry, by Charles A. White; and William Augustus Rogers, by Arthur Searle, a non-member.

The public business included the election of Samuel F. Emmons to the office of treasurer, made vacant by the resignation of Charles D. Walcott, and the election of the following members to the council: John S. Billings, Henry P. Bowditch, George J. Brush, Simon Newcomb, Charles D. Walcott, and William H. Welch. The following new members were elected: William Wallace Campbell, director of Lick Observatory, Mount Hamilton, Cal.; George Ellery Hale, Professor of Astrophysics and director of Yerkes Observatory of the University of Chicago, Williams Bay, Wis.; Clinton Hart Merriam, director of the United States Biological Survey, Department of Agriculture, Washington, D. C.; William Trelease, Professor of Botany in Washington University and director of the Missouri (Shaw) Botanical Garden, St. Louis, Mo.; and Charles Richard Van Hise, Professor of Geology in the University of Wisconsin and geologist on the United States Geological Survey, Madison, Wis.

The scientific session was held in Johns Hopkins University, Baltimore, Md., Nov. 11 and 12, 1902, when the following papers were read: On Elevated Oceanic Islands in the Pacific, by Alexander Agassiz; A New System of Positions for Standard Stars, with Notes relative to its bearing upon Sidereal Astronomy, by Lewis Boss; The Embryology of *Salpa Cordiformis*, by William K. Brooks; The Spectra of Stars of Secchi's Fourth Type, by George E. Hale; Complete Skeleton and Restoration of the Cretaceous Fish *Porteus Molossus* Cope, A New Small Dinosaur from the Jurassic or Como Beds of Wyoming, apparently a Bird-Catcher, and New or Little-Known Elephants and Mastodons of North America, by Henry F. Osborn; A Possible Explanation of the Difficult Solubility of Certain Compounds containing Fluorin and Hydroxyl, by Samuel L. Penfield; and a Biographical Memoir of Henry A. Rowland, by Thomas C. Mendenhall. Also the following papers by non-members: The Occurrence of Reef Corals near Beaufort, N. C., by Caswell Grave; The Trematode Parasites of the Oyster, by D. H. Tennent; The Preparation of Cells for the Measurement of Osmotic Pressure, by Harmon N. Morse; A Substance with Remarkable Optical Properties and Screens transparent only to Ultra-Violet Light, by Robert W. Wood; On Displacement Currents, by J. B. Whitehead; and On the Spectrum of Hydrogen, by L. A. Parsons.

No business of public importance was transacted at this session. In the year the academy lost by death Alpheus Hyatt, Henry Morton, Ogden Nicholas Rood, and John Wesley Powell, of whom brief sketches are given under OBITUARIES, AMERICAN.

NEBRASKA. (See under UNITED STATES.)

NETHERLANDS, a monarchy in western Europe. The legislative power is vested in the States General, consisting of the First Chamber, which has 50 members, elected by the provincial councils for nine years, and the Second Chamber, elected for four years by all citizens who pay direct taxes or are legally qualified for a profes-

sion, or who have money in the savings-bank or a salary of 275 guilders a year, or who are owners of boats or occupants of dwellings. The reigning sovereign is Queen Wilhelmina, born Aug. 31, 1880, daughter of Willem III and Queen Emma, born a Princess of Waldeck, who from the death of the late king, on Nov. 23, 1890, till Sept. 6, 1898, acted as Regent. Queen Wilhelmina married, on Feb. 7, 1901, Prince Henry of Mecklenburg-Schwerin.

The Council of Ministers constituted on July 31, 1901, was composed as follows: President of the Council and Minister of the Interior, Dr. A. Kuyper; Minister of Foreign Affairs, Dr. R. Melvil, Baron van Lynden; Minister of Finance, Dr. J. J. T. Harte van Tecklenburg; Minister of Marine, Vice-Admiral G. Kruys; Minister of War, Lieut.-Gen. J. W. Bergansius; Minister of Public Works and Commerce, Dr. J. C. de Marez Oyens; Minister of Justice, Dr. J. J. Loeff; Minister of the Colonies, Dr. T. A. J. van Asch van Wyk.

Area and Population.—The area of the Netherlands, or Holland, is 12,648 square miles. The population on Dec. 31, 1900, was estimated at 5,179,100, comprising 2,560,293 males and 2,618,807 females. Of the total 36.6 per cent. lived in towns of over 20,000 inhabitants. The census of Dec. 31, 1899, made the total population 5,104,137. The number of foreigners was 52,625, of whom 31,865 were Germans, 14,903 Belgians, 1,307 English, and 4,550 from other countries. The number of marriages in 1900 was 39,419; of births, 162,611; of deaths, 92,043; excess of births, 70,568. The number of emigrants was 1,899, of whom 1,893 went to the United States and 6 to South Africa. Of the emigrants 907 were men, 477 women, and 515 children. The number of emigrants, native and foreign, who embarked in Dutch ports was 34,794. Amsterdam had 520,602 inhabitants at the beginning of 1901; Rotterdam, 332,185; The Hague, 212,211; Utrecht, 104,104.

Finances.—The revenue in 1900 amounted to 155,062,000 guilders, including 600,000 guilders from extraordinary sources. Of the ordinary revenue 34,849,358 guilders came from direct taxes, 49,248,119 guilders from excise, 26,342,694 guilders from indirect taxes, and 9,701,878 guilders from customs. The total expenditure was 154,528,512 guilders, of which 40,847,400 guilders were for the army and navy, 34,882,758 guilders for debt service, 15,282,031 guilders for public works, and 63,516,323 guilders for general expenses. For 1901 the estimate of revenue was 149,472,180 guilders, and of expenditure 154,755,492 guilders. The revenue for the year ending in October, 1902, was estimated in the budget at 154,002,245 guilders, of which the land tax yields 13,016,000 guilders, the personal tax 9,022,000 guilders, the tax on capital 7,464,000 guilders, the tax on incomes from trades, professions, etc., 6,300,000 guilders, excise 50,020,000 guilders, indirect taxes 22,161,000 guilders, import duties 9,618,000 guilders, the tax on gold and silver 320,900 guilders, domains 1,670,000 guilders, the post-office 11,122,000 guilders, telegraphs 2,487,000 guilders, the state lottery 651,000 guilders, shooting and fishing licenses 135,000 guilders, pilot dues 2,350,000 guilders, mining dues 26,220 guilders, state railroads 4,188,150 guilders, share of Netherlands India in the interest and sinking-fund of the debt 3,865,000 guilders, and miscellaneous receipts 19,585,975 guilders. The budget estimate of the total expenditures for 1902 was 167,233,180 guilders, of which the civil list takes 800,000 guilders, the States General and the Royal Cabinet 681,500 guilders, the Ministry of Foreign Affairs 853,218 guilders, the Ministry of Justice 6,349,916 guilder-

ders, the Ministry of the Interior 15,966,758 guilders, the Ministry of Marine 16,657,694 guilders, the Ministry of Finance 25,108,117 guilders, the Ministry of War 22,716,429 guilders, the Ministry of Public Works 29,380,074 guilders, the Ministry of the Colonies 1,317,218 guilders, the public debt 34,731,380 guilders, contingent expenses 50,000 guilders. The revenue and expenditure of the provinces in 1901 amounted to 6,177,700 guilders; expenses of communes, 103,287,000 guilders, including 17,725,000 guilders of debt charges; revenues of communes, 111,739,000 guilders.

The budget for 1903 places the revenue at 156,540,000 florins and the expenditure at 164,574,000 florins, leaving a deficit to be recouped in great part from the extraordinary budget. In order to increase the ordinary revenue the excise duty on spirits was raised from 63 to 70 guilders per hectoliter.

The national debt of the Netherlands in 1902 amounted to 1,155,390,450 guilders, including 15,000,000 guilders of paper money, but not floating debt and annuities. Of the funded debt 624,995,400 guilders bear 2½ per cent. interest and 515,395,000 guilders, consisting of loans contracted in 1895, 1898, and 1899, pay 3 per cent. The interest on the funded debt was 31,088,736 guilders in the budget of 1902; on floating debt, 300,000 guilders; annuities 95,644 guilders; sinking-fund, 3,247,000 guilders.

The Army and Navy.—The peace strength of the army on June 1, 1900, was 1,911 officers and 25,762 men, forming 9 infantry and 3 cavalry regiments, 3 regiments of field-artillery, 4 regiments of fortress-artillery, 1 corps of light horse-artillery, 1 battalion of sappers and miners, 1 corps of pontonniers, and 1 corps of torpedoists. For war the regular army can muster about 68,000 strong, and the first ban of the militia, consisting of men without families, numbers over 42,000. Under a law passed in 1901 men who have served eight years in the regular army will be enrolled for seven years in the *landwehr*, which will take the place of the militia. The yearly contingent of recruits drawn for the army is about 17,500, of whom 12,300 are trained eight and a half or twelve months, mounted troops eighteen and a half months; and 5,200 are trained four months and have to practise eight or twelve weeks in subsequent years. Paid volunteers still form the nucleus of the army.

The navy contains 5 armored cruisers, 7 deck-protected cruisers, and a small turret ship. The *Koningin Regentes* and *De Ruyter*, launched in 1899 and 1901, of 5,000 tons, have 10 inches of armor over their vital parts, an armament of 2 9.4-inch guns, 4 6-inch quick-firers, and 8 3-inch and many small quick-firers. Two other cruisers of this class are building and 6 monitors, 3 of which, of 1,500 tons, will carry 2 8-inch guns and 4 3-inch quick-firers and the 3 others, of 1,400 tons, 1 8-inch gun, 1 4.7-inch quick-firer, and the same number of small quick-firers. Twelve monitors of early date are still efficient. There are 13 first-class, 15 second-class, and 28 third-class torpedo-boats.

Commerce and Production.—There were 865,676 hectares under farm crops in 1899; in gardens and orchards, 62,061 hectares; pasture, 1,185,366 hectares; forest, 250,383 hectares; uncultivated, 891,558 hectares. There were 80,777 properties of less than 5 hectares, 63,584 hectares between 5 and 20 hectares, 25,444 between 20 and 50 hectares, and 3,587 above 50 hectares. Of the total, 56.4 per cent. were cultivated by the owners. The number of cattle in 1899 was 1,646,500; horses, 284,900; sheep, 755,400; pigs 1,348,500.

There were 213,864 hectares under rye, 155,535 under potatoes, 128,223 under oats, 71,836 under wheat, 46,465 under beets, 33,821 under beans, 29,028 under buckwheat, 26,501 under winter barley, 25,621 under peas, 9,030 under summer barley, 8,000 under flax, 4,764 under rape, 744 under tobacco, and 68 under madder in 1899. The imports of wheat in 1900 were valued at 129,641,000 guilders, and exports at 98,215,000 guilders; imports of wheat and rye flour at 58,679,000 guilders, and exports at 13,051,000 guilders; imports of rye at 87,066,000 guilders, and exports at 39,299,000 guilders; imports of barley at 23,062,000 guilders, and exports at 15,960,000 guilders; imports of oats at 29,738,000 guilders, and exports at 25,432,000 guilders; imports of potato starch at 5,102,000 guilders, and exports at 17,420,000 guilders; imports of buckwheat at 1,391,000 guilders, and exports at 600,000 guilders; imports of beets at 83,000 guilders, and exports at 2,413,000 guilders; imports of flax at 1,443,000 guilders, and exports at 16,439,000 guilders; imports of bulbs, shrubs, and trees at 601,000 guilders, and exports at 8,210,000 guilders; imports of vegetables at 2,171,000 guilders, and exports at 47,416,000 guilders.

The yield of the herring fisheries in the North Sea in 1900 was valued at 7,339,375 guilders. The number of Dutch fishing craft was 5,719, with 19,498 men in their crews. The coal produced in 1900 was 124,538 metric tons, valued at 682,060 guilders.

The total value of imports for consumption in 1900 was estimated at 1,968,000,000 guilders; exports of domestic products at 1,695,000,000 guilders; transit trade, 5,808,000,000 guilders. Imports of iron and steel and manufactures thereof were valued at 188,694,000 guilders, and exports at 142,526,000 guilders; imports of textile materials and manufactures at 122,814,000 guilders, and exports at 88,059,000 guilders; imports of cereals and flour at 328,186,000 guilders, and exports at 191,957,000 guilders; imports of rice at 48,106,000 guilders, and exports at 25,901,000 guilders; imports of coal at 59,632,000 guilders, and exports at 9,624,000 guilders; imports of mineral oil at 12,103,000 guilders, and exports at 52,000 guilders; imports of coffee at 50,375,000 guilders, and exports at 33,214,000 guilders; imports of butter at 741,000 guilders, and exports at 22,572,000 guilders; imports of margarine at 22,268,000 guilders, and exports at 44,705,000 guilders; imports of sugar at 18,164,000 guilders, and exports at 53,786,000 guilders; imports of cheese at 85,000 guilders, and exports at 16,068,000 guilders; imports of vegetables at 2,171,000 guilders, and exports at 47,416,000 guilders; imports of lumber and wood at 59,272,000 guilders, and exports at 39,575,000 guilders; imports of hides and skins at 27,129,000 guilders, and exports at 29,060,000 guilders; imports of indigo at 4,319,000 guilders, and exports at 3,052,000 guilders; imports of copper at 85,486,000 guilders, and exports at 88,292,000 guilders; imports of paper at 6,253,000 guilders, and exports at 43,632,000 guilders; imports of tallow, grease, and suet at 23,790,000 guilders, and exports at 12,775,000 guilders; imports of saltpeter at 31,457,000 guilders, and exports at 25,336,000 guilders; imports of tin at 23,785,000 guilders, and exports at 19,191,000 guilders; imports of zinc at 11,071,000 guilders, and exports at 10,879,000 guilders; imports of paints and colors at 18,033,000 guilders, and exports at 15,280,000 guilders; imports of oil-seeds at 30,661,000 guilders, and exports at 15,951,000 guilders; imports of flax at 1,443,000 guilders, and exports at 16,439,000 guilders; imports of

tobacco at 10,657,000 guilders, and exports at 7,453,000 guilders; imports of gold and silver at 17,234,000 guilders, and exports at 3,490,000 guilders. The value of all articles of food and drink imported was 509,960,000 guilders, and the value exported 490,872,000 guilders; the value of raw materials imported was 462,821,000 guilders, and the value exported 348,266,000 guilders; the value of manufactured products imported was 243,897,000 guilders, and the value exported was 240,024,000 guilders; the value of miscellaneous products imported was 356,019,000 guilders, and the value exported was 301,308,000 guilders. The values in guilders of the imports from and exports to the principal countries in 1900 are given in the following table:

COUNTRIES.	Imports.	Exports.
Prussia.....	356,100,000	876,800,000
Great Britain.....	288,300,000	392,600,000
Belgium.....	207,900,000	175,700,000
United States.....	258,500,000	64,600,000
Dutch East Indies.....	272,500,000	68,800,000
Russia.....	144,500,000	10,800,000
Hamburg.....	28,700,000	33,800,000
France.....	22,600,000	20,900,000

Navigation.—The number of vessels entered at Dutch ports during 1900 was 12,307, of 9,475,164 tons, of which 3,335 were Dutch, of 2,381,358 tons, and 8,972, of 7,093,806 tons, were foreign; the total number cleared was 12,367, of 9,449,676 tons, of which 3,449, of 2,406,846 tons, were Dutch and 8,918, of 7,042,830 tons, were foreign. Of the total number entered 11,589, of 9,218,868 tons, were with cargoes and 718, of 256,296 tons, were in ballast; of those cleared 7,472, of 4,655,454 tons, were with cargoes and 4,895, of 4,794,222 tons, were in ballast. Of the ships entered with cargoes, 63.1 per cent. and of those cleared 47.1 per cent. of the tonnage was entered and cleared at Rotterdam; at Amsterdam, 15.8 per cent. of the tonnage entered and 19.6 per cent. of that cleared; at Flushing, 7.4 per cent. of the tonnage entered and 14.2 per cent. of that cleared.

The Dutch commercial marine in the beginning of 1901 consisted of 425 sailing vessels, of 78,588 tons, and 213 steamers, of 269,586 tons.

Railroads, Posts, and Telegraphs.—The length of the railroads in operation in 1900 was 1,730 miles. The Government railroads, having a length of 969 miles, constructed at a cost of 270,509,000 guilders, carried 12,257,000 passengers and 7,274,000 metric tons of freight in 1900, earning 23,789,000 guilders, with 20,809,000 guilders of expenses. Private railroads carried 17,761,000 passengers and 4,386,000 tons of freight, earning 18,863,000 guilders and expending 14,829,000 guilders.

The post-office during 1900 forwarded 74,800,000 domestic and 28,112,000 foreign letters, 46,613,860 domestic and 9,193,398 foreign postal cards, 140,208,000 domestic and 15,855,000 foreign newspapers and other printed enclosures, 4,180,240 domestic and 1,003,645 foreign parcels, and 336,262 domestic and 112,473 foreign money-orders. The receipts from the post-office were 10,149,535 guilders; expenses, 7,742,436 guilders.

The Government telegraph-lines on Jan. 1, 1901, had a total length of 3,831 miles, with 14,210 miles of wire. The number of messages sent in 1900 was 5,393,872, excluding official messages; receipts were 2,151,346 guilders, and expenses 2,726,961 guilders.

Politics and Legislation.—The elections for the renewal of one-third of the members of the First Chamber took place early in July. The Liberals lost 1 seat, leaving them still 27 in the upper house, while the Anti-Revolutionists and

Catholics with this seat won had 23 members. The lower house was strongly Anti-Liberal, but the Cabinet of Dr. Kuyper, composed of Orthodox Protestants and Catholics, had no urgent mandate other than to keep educational and other controversial matters as they were and initiate no legislation that was not manifestly useful and imperative. In the session which closed just before the elections the most critical measures discussed were a military penal code drawn up by Prof. van der Hoeven, and a bill on military discipline. The Socialists thought that soldiers under sentence, like civilians, were entitled to a stay of execution pending an appeal. Gen. Bergansius rejected this proposal as prejudicial, but he raised no objection to a compromise offered by a member of the Ministerial party providing for the temporary suspension of a military sentence until after the house had adopted this amendment, when he declared that the Government could not accept the vote. The matter was reconsidered in order to extricate the Cabinet from an awkward dilemma, and the clause was recast by the Minister of War himself, who had to make a concession, since Ministerialists as well as the Opposition were committed to an opinion contrary to his own. The Protectionists wished to increase the import duties on foreign sugar and, until the Brussels convention goes into effect, the sugar bounty, amounting to 2,500,000 guilders a year, in order to strengthen the crippled domestic beet-sugar industry against the still stronger competition it will have to meet when bounties are abolished. Minister Harte van Tecklenburg condemned temporary measures and was non-committal as to his future policy. The Queen, who instead of giving birth to an heir, nearly lost her own life in April, opened the First and Second Chambers in person on Sept. 16. The Minister of the Colonies, Dr. van Asch van Wyk having died, Lieut.-Gen. Bergansius took the portfolio temporarily in addition to his own on Sept. 10. Baron Melvil van Lynden, Minister of Foreign Affairs, exploded the rumors that Holland was seeking powerful allies to protect her East Indian possessions from England, a subject that had been discussed in the press, in which the opinion prevailed that to join the triple alliance would be tantamount to surrendering the colonies to Germany and compromising the national independence, and to join the dual alliance, though less hazardous, would lead to complications and dangers perhaps as fatal in the end; that it would be better to give up the colonies than to sacrifice Holland's position as an independent nation; and that the colonies were not in any way menaced by the Anglo-Japanese alliance, for England could not provoke a quarrel with Holland without risk of an armed conflict with other European powers.

International Arbitration and Laws.—Ideas of international law have been indigenous in Holland since the time of Grotius, and for this reason and on account of her neutral position The Hague was chosen by the Czar to be the meeting-place of the conference of 1899 and the seat of the International Tribunal of Arbitration evolved from his proposals. According to the convention concluded on July 29, 1899, the president of the permanent administrative council of The Hague Tribunal is the Minister of Foreign Affairs and the members are the diplomatic representatives of the signatory powers. The members of the Court of Arbitration appointed by the respective powers were as follows: Germany, Dr. Bingner, Herr von Frantzius, Prof. von Martitz, and Prof. von Bar; Austria-Hungary, Count Friedrich Schoenborn, Count Albert Apponyi, and Dr. Heinrich Lam-

masch; Belgium, A. Beernaert, Baron de Lambert, Chevalier Descamps, and M. Rolin-Jacquemyns; Denmark, Prof. H. Matzen; Spain, the Duke of Tetuan, R. F. Villaverde, B. Oliver, and Prof. M. Torres Campos; United States of America, Benjamin Harrison, Chief-Justice Melville W. Fuller, John W. Griggs, and Judge George Gray; United States of Mexico, Dr. M. de Aspiroz, Dr. José M. Gamboa, Dr. G. Raigosa, and Dr. A. Chavero; France, Léon Bourgeois, M. de Laboulaye, Baron D'Estournelles de Constant, and Prof. Louis Renault; Great Britain, Lord Pauncefote of Preston, Edward B. Malet, Sir Edward Frye, and Prof. John Westlake; Italy, Count Nigra, Judge J. B. Pagano Guarnaschelli, Count Tornielli-Brusati di Vergano, and J. Zanardelli; Japan, I. Motono and H. Willard Denison; Netherlands, Dr. T. M. C. Asser, Judge F. B. Coninck-Liefsting, Dr. A. F. Savornin Lohman, and Dr. G. L. M. H. Ruys van Beerenbrouck; Portugal, Count de Macedo, Judge A. E. Correia de Sa Brandão, and Judge L. F. de Bivar-Gomes da Costa; Roumania, T. Rosetti, J. Kalindero, E. Statesco, and J. N. Lahovari; Russia, N. V. Muravieff, C. P. Pobedonosteff, E. V. Frisch, and Prof. Martens; Serbia, Prof. George Pavlovich, Prof. G. Gerchich, Dr. M. Milanovich, and Dr. M. Vesnich; Siam, G. Rolin-Jacquemyns, and Dr. F. W. Holls; Sweden and Norway, Dr. S. R. D. K. von Olivecrona, and G. Grim; Switzerland, Dr. C. Lardy, Prof. C. Hilty, and Dr. E. Rott; Bulgaria, Dr. S. Daneff and Dr. D. Stancioff. The general secretary is Dr. L. H. Ruysenaers; the chief secretary of the international bureau, Dr. J. J. Rochussen. The International Court for the first time since it was constituted was consulted in the summer of 1902 by some of the signatory states on several questions of international law and the interpretation of treaties. Denmark and the United States submitted a question connected with the proposed transfer of St. Thomas. Germany and the Netherlands wanted to have a question of international law settled that arose from their cable convention. The Russo-American dispute arising from the capture of American sealers in Bering Sea was referred to the decision of Prof. Asser before the Hague Tribunal was organized. H. H. D. Peirce, third assistant secretary of the Department of State at Washington, presented the American, and M. Komaroff the Russian case. The arbitrator came to a decision in August, awarding damages to the American sailors and owners for proved losses because the boats were seized without due warning, but not for the prospective catch. The first case to come before the International Court of Arbitration was presented by the United States and Mexico. The dispute, dating from the annexation of California, was over the pious fund for missions held by the Mexican Government, which the Catholic missions in California claimed. The United States nominated Sir Edward Frye and Prof. Martens as arbitrators, Mexico selected Judge Guarnaschelli and Judge Lohman, and the four chose Prof. Matzen to preside. Senator Stewart and Garret McEnery pleaded for the United States, the latter representing Archbishop Riordan, of California, the private plaintiff. The case was opened on Sept. 9 and decided on Oct. 14 (see UNITED STATES).

A series of conferences were held at The Hague at the invitation of the Dutch Government with a view of removing the needless differences in the legislation and practise of different nations in the domain of private international law, especially in the laws relating to marriage and divorce,

guardianship, and wills and succession. In 1874 the Government of the Netherlands first broached the subject and offered to act as an intermediary in bringing about an international juristic union to harmonize as far as possible unity of private international law. The first of the conferences, which met on Sept. 12, 1893, ended in resolutions as to many points of divergence and discord. The adjustment of the multitude of differences was a work of study and negotiation extending over years. As the result conventions were concluded in 1902 in which the laws of marriage, divorce, and judicial separation and of the guardianship of minors were to a great extent harmonized in respect to the status of parties concerned and other international aspects. All the important states of Europe were represented at the conference with the exceptions of Great Britain, Greece, Serbia, and Turkey. The United States and Great Britain held aloof because their systems of law differ so widely from those of Continental nations that it was considered hopeless to seek to adjust them to an international code. The conventions were signed by Germany, Austria-Hungary, Belgium, Spain, France, Italy, Luxemburg, Netherlands, Roumania, Sweden, and Switzerland. Denmark, Norway, and Russia did not immediately adhere. The conferences revealed many matters in which unity can not be attained by reason of causes that are too deep to be effaced. It was found that in some laws diversity is increasing. A conference to bring about a unity of bankruptcy laws had no immediate result. Half of the 16 states represented have bankruptcy laws for persons only who are engaged in commerce, while in the others the laws apply to all who are unable to meet their debts. Guardians in most Continental states assume responsibilities that render the relation vastly more important than in England or America. One of the subjects discussed at the conferences was in regard to the conditions on which foreigners can sue. In 1896 Belgium, Spain, France, Italy, Luxemburg, Portugal, and Switzerland, as the result of conferences at The Hague, signed treaties adopting common rules of procedure, some involving important changes and others merely recording the existing practise. In some states the bonds required from foreigners to give security for costs are made less onerous and facilities are given for suing *in forma pauperis*. In determining questions of status, while Great Britain, as well as the United States, adheres to the test of domicile, the Continental countries incline to make it depend on nationality, and the conferences have tended to hasten an international agreement to that effect.

The Dutch East Indies.—The Governor-General has authority to make laws with the advice of his Council for the Dutch East Indies, subject to general laws passed by the States General. W. Rooseboom has been Governor-General since June 1, 1899. The territory is divided into the lands under direct Government administration, vassal lands, and confederated lands. For administrative purposes it is divided into residencies, divisions, regencies, districts, and *dessas* or villages. Java and Madura, administered by 22 residents, are distinguished from the outposts, which are Sumatra, Borneo, the Riau-Lingga Archipelago, Banca, Billiton, Celebes, the Molucca Archipelago, the Sunda Islands, and western New Guinea. The total area of the Dutch East Indies is officially estimated at 736,400 square miles, and the population at 34,090,000. Java and Madura have an area of 50,554 square miles, with 26,125,053 inhabitants, of whom 35,489 males and 27,826 fe-

males in 1896 were Europeans or persons assimilated to them, about 460,000 were Chinese, 24,000 Arabs, 27,000 other Orientals, and the rest native Malays. Batavia, the capital, had 115,567 inhabitants; Soerabaya, 142,980. The number of native Christians in Java and Madura was 19,193; in the outposts, 290,065. The revenue of Netherlands India in 1901 was 149,935,934 guilders, of which 39.3 per cent. was derived from taxes on houses and estates and trade licenses, 21 per cent. from monopolies of salt and opium, 24.9 per cent. from sales of coffee and other Government products, and 14.8 per cent. from other sources. The expenditure of the Government in 1901 was 149,885,383 guilders. The budget for 1902 showed a revenue of 27,066,344 guilders in the mother country and 124,905,070 guilders in the colonies and an expenditure in the colonies of 125,238,100 guilders and in the mother country of 32,911,312 guilders, making a total revenue of 151,971,414 guilders and a total expenditure of 158,149,412 guilders, leaving a deficit of 6,177,998 guilders. There have been deficits and surpluses according to the activity of operations against the Achinese of Sumatra. The Government products are coffee and cinchona, raised by the natives on the culture system of compulsory labor in lieu of rent or taxes, and tin and coal from the Government mines. The receipts in the Netherlands of the budget of 1902 are 3,340,797 guilders from sales of Government coffee, 277,200 guilders from sales of cinchona, 19,666,697 guilders from sales of tin, 2,150,000 guilders as the share of the Government in the profits of the Billiton Mining Company, 1,015,000 guilders from railroads, and 616,650 guilders from various sources. The receipts in India were 19,199,000 guilders from sales of opium, 18,486,000 guilders from import, export, and excise duties, 22,449,100 guilders of land revenues, 5,681,700 guilders from sales of coffee, 10,052,000 guilders from sales of salt, 13,809,000 guilders from railroads, 3,238,000 guilders from the tax on trades, 3,269,000 guilders from coal, and 28,721,270 guilders from other sources. About a third of the expenditure is for general administration in Java and in the Netherlands and another third for the army and navy. The strength of the army on Jan. 1, 1900, was 1,345 officers and 39,388 men. Of the non-commissioned officers and privates 14,960 were Europeans, 4,251 Amboinese, 45 Africans, and 20,132 natives of the Dutch East Indies. The backbone of the army is formed by officers and soldiers of the army of the Netherlands who, with the consent of their superior officers, are permitted to enlist in the Dutch East Indian army. Other Europeans are attracted to this dangerous service by high pay. Each infantry battalion is composed of 2 European and 2 native or 1 European and 3 native companies; the cavalry is mixed; the gunners in the artillery are Europeans; and in all the officers and half the non-commissioned officers of the army are Europeans or half-castes. The naval forces are only partly colonial and the expenses are shared by the mother country. The personnel consisted in 1899 of 1,268 Europeans and 727 natives in the Indian marine, comprising 18 vessels, and 1,067 Europeans and 206 natives in the auxiliary squadron of 4 vessels.

The soil of Java, excepting private estates in the west belonging chiefly to Europeans and Chinese and a few elsewhere, is Government property. The Government and private landowners also can claim one day's work in the week from the people living on their land. On the sugar plantations and on many other lands the Government in 1882 commuted this into a tax of 1 guilder

per capita per annum. Europeans possess 2,241,170 acres, Chinese 470,809 acres, and other Orientals 32,576 acres. There were 6,935,300 acres tilled by natives in Java and Madura in 1899. The extent of rice cultivation in 1899 was 5,198,622 acres, while sugar-cane occupied 265,382 acres, tobacco 265,809 acres, indigo 60,998 acres, and corn, arachis, cotton, and various other crops 4,331,327 acres, making a total of 10,122,550 acres. In 1899 there were taken on seventy-five-year leases 967,155 acres by European companies and individuals, 33,292 acres by Chinese, and 2,318 acres by natives, making a total of 1,002,765 acres for that year. The yield of sugar in 1899 was 1,608,718,400 pounds. The production of coffee was 32,988,583 pounds on Government lands, 7,884,800 pounds by the free cultivation of natives, 69,575,600 pounds on leased lands, and 7,595,466 pounds on private lands; total, 118,044,399 pounds. The yield of cinchona was 399,496 kilograms on Government plantations, 4,089,654 kilograms on leased lands, and 573,413 kilograms on private lands. The yield of tea was 5,452,773 kilograms; of indigo, 783,132 kilograms; of tobacco, 24,346,626 kilograms in Java and 23,958,369 kilograms in Sumatra. The production of tin in the Government mines of Banca and the mines operated by companies in Billiton and Riau was 16,460 tons. The quantity of coal produced by the principal mines of Java, Sumatra, and Borneo was 182,712 tons. The production of mineral oil was 1,638,569 cases in 1899 and 1,261,201 cases in 1900.

The total value of imports in 1899 was 191,322,270 guilders, of which 4,530,029 guilders were Government merchandise, 164,013,315 private merchandise imports, and 22,778,926 guilders imports of specie on private account. The total value of exports was 250,923,258 guilders, of which 14,944,387 were Government merchandise, 235,383,570 guilders private exports of merchandise, and 595,301 guilders private exports of specie. About half the rice exports go to Borneo and China; of all the rest four-fifths go to the Netherlands. There were entered at the ports of the Dutch East Indies 3,661 steamers, of 1,638,666 tons, and 389 sailing vessels, of 84,606 tons, in 1899. The States General in 1902 voted a subsidy for a line of steamers to ply between Java, China, and Japan. The railroads had a total length on Jan. 1, 1900, of 1,333 miles; net receipts in 1899 were 17,278,000 guilders. There were 6,910 miles of telegraph-lines; the number of despatches in 1899 was 672,892. A cable convention concluded with Germany in July, 1901, provides for a submarine telegraph-line connecting Dutch and German possessions in the East Indies with the American Pacific cable at Guam, and the Siberian line by a cable to Shanghai from Celebes, rendering both powers independent of the British lines for telegraphic communications not only with their colonies, but with China and Japan. The subsidized company, to which Germany pays \$250,000 a year and the Netherlands \$70,000, to be reduced to the extent of any profits in excess of 10 per cent., will lay a cable from Menado, in northern Celebes, to Guam, and from there to Shanghai, while the Dutch Government will lay one from Menado to Borneo, which is already connected with Java. To the treaty is added a secret protocol, probably defining mutual obligations and common action in the use and protection of the cable in the event of war, since the principle of the neutrality of cables was not incorporated in the international convention for the protection of submarine cables signed at Paris in 1882, because England declared that she would not sign the convention unless it left the action of belligerents free, a right which

the United States in the war with Spain freely exercised at Manila. Any disputes as to the construction of the German-Dutch cable convention will be decided by the International Court of Arbitration at The Hague. A joint commission in 1902 delimited the frontiers between the Dutch and the Portuguese parts of the island of Timor, which has hitherto been held jointly by both states.

The fundamental principle of the Dutch colonial policy in the East Indies is to leave the natives under the direct administration of native officials, chosen wherever possible from the families that once ruled over them, but now salaried functionaries of the state under the direction of superior white officials. The Governor-General is enabled to keep up a princely state to impress the natives and wield despotic powers. Weighty affairs he lays before the Council of India, consisting of 5 members, but he is not bound to follow its conclusions. He has authority to banish or intern either Europeans or natives who are considered dangerous to the peace of the land. The residents, who have under them 3 or 4 under-residents and 7 to 9 controllers, are appointed by the Governor-General, as are the army officers under the rank of general. Each residency of Java, with the exception of Batavia and the semi-independent sultanates of Solo and Djokja, contains numerous regencies. The regents are the high native officials who have been educated in the Government schools for native chiefs, and it is they who govern the people through the district *vedanas*, under whose orders are the village headmen, though under the constant supervision and direction of the controllers. The natives have an inborn respect for rank and authority, and as they are accustomed to seeing their own lordly chiefs humbly submissive to the lowest officers in the white hierarchy, with whom no native below a regent comes in contact, their reverence for the whites is unbounded. The educated Javans who do not obtain official posts and who have not the means to maintain the manner of life for which they were prepared are a dangerous element. Another is the Moslem priests, who stirred up trouble in western Java in 1888, although the Javans are no fanatics. The profits of the various cultures and systems of tenure go to Europeans and Chinese, while the native can get only a plot of ground on which to grow rice. The local trade is in the hands of Chinamen, who buy the crops of the native farmers, often in advance with money loaned at usurious rates, although they are forbidden by law. The 20,000,000 guilders of land rent that the Javanese farmers must raise besides other taxes make them an easy prey for these usurers. The fatalistic and submissive Javans have remained peaceful for three-quarters of a century, and now have less cause than ever to rebel, meager as is the fruit of their toil, for the Government endeavors to improve their lot and protect them from every form of oppression. The Dayaks of Sumatra and Celebes are men of a different stripe, ungovernable and warlike, whom the Dutch have never subdued. The flourishing tobacco plantations of Sumatra are tilled by Chinese coolies, whose indefatigable industry and painstaking care renders them indispensable. In Java the Chinese are and for centuries have been business men, and in business the Chinese merchant, contractor, planter, or manufacturer excels both the Malay and the European, not only by his assiduity, intelligence, and skill, but by his unscrupulous, corrupt, and ruthless methods. Formerly the Chinese were nowhere allowed to acquire land. The prohibition was removed in

certain districts, and since then nine-tenths of the real estate in Batavia has passed into their possession. The native peasantry have repeatedly been provoked into anti-Chinese riots and have massacred thousands of Chinamen.

There was a lull in the conflict with the Achinese in 1902. The head rebel having been rendered helpless, the Dutch maintained their posts on the coast and in the interior without molestation and made considerable progress in suppressing piracy on the sea and teaching the guerrillas on land to respect the Dutch flag. The chief, who is recognized by the rebels as Sultan of Achin, after his defeats in 1901, when his bands were decimated and cowed and his arms and treasure used up or captured, was not able to equip a new force, and consequently his influence as a leader waned. The war, which has cost the East Indian and Dutch treasuries immense sums of money, and in which great numbers of lives of European and native soldiers have been sacrificed, began in 1873, when the Achinese, encouraged by foreigners who carried on a contraband trade from Singapore, declared their independence. The first expedition against them was repulsed with heavy losses, the commander being among the killed, and returned to Batavia. A strong expedition was sent forthwith, and since then the Dutch have held their footing on the coast, but have occasionally occupied positions in the interior and vigorously pressed their brave and persistent enemies, then reduced their area of occupation and tried a policy of conciliation, but till now they have not been able to establish their rule over this unconquerable race inhabiting a wild and unhealthy country.

Dutch Guiana.—The Governor of Dutch Guiana, or Surinam, in 1902 was W. Tonckens. He is assisted by a Council of 4 members and in legislation by the Colonial States, composed of 13 members, 2 of whom are appointed and the rest elected for six years in the proportion of 1 member to 200 electors. The area of the colony is estimated at 46,060 square miles. The population on Dec. 31, 1899, was estimated at 67,128, exclusive of bush negroes. Paramaribo, the capital, had 31,427 inhabitants. There are about 14,000 East Indians in the colony. The revenue in 1901 was 2,705,000 guilders; expenditure, 2,324,000 guilders. The Netherlands Government made a grant of 381,000 guilders. The quantity of sugar produced in 1899 was 9,566,752 kilograms; of cacao, 3,969,945 kilograms; of bananas, 357,013 bunches; of rum, 8,447 hectoliters; of molasses, 12,309 hectoliters. Up to Dec. 31, 1899, the number of gold claims was 382, and the export of gold for the year was 872,373 grams, valued at 1,195,151 guilders; the production was 893,197 grams. The total value of imports in 1899 was 6,122,112 guilders; of exports, 5,517,384 guilders. The number of vessels entered was 231, of 135,602 tons; cleared, 232, of 137,650 tons. (For the colony of Curaçao see WEST INDIES.)

NEVADA. (See under UNITED STATES.)

NEW BRUNSWICK, an eastern province of the Dominion of Canada; area, 28,200 square miles; population in 1901, 331,120. Capital, Fredericton.

Government and Politics.—There were no changes in the Government of the province in 1902. Hon. L. J. Tweedie was Premier and Provincial Secretary; Hon. William Pugsley, Attorney-General; Hon. A. T. Dunn, Surveyor-General; Hon. C. H. Labillois, Chief Commissioner of Public Works; Hon. L. P. Farris, Commissioner for Agriculture and the Hon. Messrs. G. F. Hill and H. A. McKeown were members without of-

fice. The Speaker of the House of Assembly was Hon. C. W. Robinson. The Legislature was opened on March 6 by the newly appointed Lieutenant-Governor and former Senator, the Hon. Jabez B. Snowball, with a speech from the throne, of which the following are the significant portions:

"The death, at the hands of an assassin, of the President of the neighboring republic, with which this province has such intimate business and social relations, evoked a deep feeling of sympathy, and the Government, desiring to voice the sentiments of the people, extended to the United States Government, through his Excellency the Governor-General, an expression of the profound sorrow which we felt in common with all civilized nations, at the lamentable and tragic event.

"I am happy to be able to congratulate you upon the prosperous condition of business and the success which is attending the efforts of our people in the various pursuits in which they are engaged. The continued and rapid development of the dairying industries of the province, as shown by the increase in the production and exports of cheese and butter by the large numbers of cheese factories and creameries which have been established under the liberal encouragement afforded by the Government, is most gratifying. Being satisfied that there is reason to hope for indefinite expansion in this direction, my Government will, with your approval, continue the same vigorous policy as hitherto.

"The building of improved roller flour-mills has given considerable impetus to the growth of wheat and has resulted in saving to our people large sums of money which would otherwise be sent out of the province for flour. I am sure that you will be gratified to know that the financial assistance which you authorized for the erection of these mills has already been productive of such good results, and that you will approve of this policy being continued, so that all parts of the country may receive the benefit of Government assistance in this direction.

"Consequent upon legislation passed at the last session to provide for the development of the coal areas of Queens and Sunbury, the railway to the coal-fields is now under construction, and it will not be long before the line from Chipman to Fredericton will be completed.

"The rapid development of the Canadian winter business through the port of St. John is most gratifying. The aid granted some years ago by the province toward the building of wharves and an elevator at that port, and the extremely liberal expenditure on the part of the city, have produced results which can not but prove of permanent benefit, not alone to the city of St. John, but to the whole province and to the Dominion as well, which is interested in having Canadian business carried on through Canadian ports.

"It affords me pleasure to inform you that since you last convened the Dominion Government has paid to the province the amount of the eastern extension award, with the exception of a small portion which has been withheld pending an arrangement being made between the two governments in respect to a claim regarding certain land taken as part of the right of way for the railway out of which the claim arose.

"By the recent judgment of the Judicial Committee of the Privy Council, it has been decided that the fisheries within the territorial limits of the provinces belong to the provinces, and in the opinion of my Government it follows that the amount of the Halifax award should have been paid to the province and not to the Dominion. My Government will press for payment to this

province of the portion of the award to which it is properly entitled.

"The unsatisfactory condition of the branch railways in the province, connecting with the Intercolonial, is such as to call for serious consideration. These railways have been constructed largely by means of Dominion and provincial subsidies, and are not giving that accommodation to the public which was anticipated when their construction was provided for. If some arrangement could be made by which these roads could be worked as a part of the Intercolonial system, it would be greatly to the public advantage, and there is reason to believe that they would become valuable feeders of the trunk line. You will be invited to consider whether the Dominion authorities might not properly be urged to make arrangements for their operation upon a fair and equitable basis.

"Bills to amend the public health act, providing, among other things, for the compulsory vaccination of children attending school; to amend the law regarding investments by trustees; a workman's compensation for injuries act; a bill to provide a forest reservation; a bill to provide for the importation of horses; and other measures of importance will be submitted to you."

The House adjourned on April 10 after considering 88 bills and passing several measures of purely local importance and effect. The address in reply was moved on March 7 by Ora P. King, who had recently been elected from Kings County to support the Government, and was seconded by Dr. Ruddick, who had won an election in St. John County also as a Government supporter. The Opposition leader, J. Douglas Hazen, spoke at length and was followed by the Premier.

Kings County Election.—The chief political event of the year was the contest in this county between Mr. King, the Government candidate, and Mr. Sproul, the Opposition candidate. Attorney-General Pugsley, under date of Feb. 10, issued a manifesto to the electors of the county, defending himself from the charges made in the previous year as to his non-prosecution of the men who were believed, or proved, to have manipulated and forged the electoral lists at Rothesay in that county. He pointed to his instant action in countermanding the writ for the election as soon as it was found something was wrong, and in presenting legislation to the House voiding the bogus lists and providing against any repetition of the offense by heavy penalties. He referred to the recent discovery of oil-fields in the province; to the general prosperity of the people; to the Government's policy of building small connecting railways so as to develop the vast deposits of coal existing in Queens and Sunbury Counties; to their investigation of the province's coal resources and arrangements with the Intercolonial and Canadian Pacific Railway companies for the purchase of a certain yearly quantity. Mr. Pugsley said he was urging upon the provincial and Dominion governments the great desirability of building a railway from St. John, up through the fertile St. John river valley, to Edmundston. He pointed out how the Government had won the Eastern Extension Railway award of \$275,000 from the Dominion, and were now expending it upon construction of bridges and repairs of public works; and how their policy of protest concerning the control of provincial fisheries by the Dominion authorities had been practically recognized.

Douglas Hazen, in behalf of the Opposition, replied to this document in a speech of great length delivered at Kingston on Feb. 15. He first handled

the Rothesay list charges, declared the Attorney-General responsible for the non-prosecution of the criminals who had created the fraudulent list, and accused him of having disfranchised the people of Kings County for nearly fifteen months. He spoke of the Opposition efforts to have the "one man, one vote" principle recognized, and declared that in 1895 Messrs. A. G. Blair, H. R. Emmerson, James Mitchell, and other members of the Government had opposed Dr. Stockton's resolution along that line. Mr. Hazen charged the Government with awarding various contracts for the superstructures of its steel bridges at prices two or three times higher than the current market rates, and without tender or competition. In financial matters he estimated the increased revenue of the Government at an average of \$158,024 per annum since they took office. He also charged them with an imposition in 1900 of \$94,221 in extra taxes. Yet despite these facts the public debt had increased from \$757,697 on Dec. 31, 1884, to \$2,815,086 on Oct. 31, 1900. He concluded by attacking the Attorney-General for receiving, indirectly, a large income from the province, though nominally only entitled to a small salary.

On March 2 Mr. King was elected by more than 200 majority, against a majority in 1900 of 829.

Opposition Policy.—In the Legislature, on April 2, Mr. Hazen, leader of the Opposition, moved a series of resolutions embodying the views of his small body of followers in the House and presenting the party policy for the general elections which were supposed to be imminent, but which did not come off in 1902.

Finances.—In presenting his budget speech on March 19, Mr. Tweedie defended the general policy of the Government in connection with lumber, mining, and railway interests, and declared that if its average revenues had increased so had expenditures upon public purposes, and he instanced the increase between 1882 and 1901 of the average yearly expenditures upon agriculture of \$9,532, upon education of \$36,362, upon roads and bridges and other public works of \$10,539, upon the care of the insane of \$14,928 more than upon those of the preceding fifteen years. He also pointed out that for ten years of the period since 1882 the Dominion subsidy had been increased by \$63,000 per annum. He then made the following statement as to the public debt:

"The largest item in the debt is, of course, the bonded debt, which at the end of the last fiscal year amounted to \$3,291,846. The responsibility for this debt may be divided as follow: Incurred by the Government of New Brunswick from confederation to the year 1883, \$2,224,566; incurred by the Government from 1883 to 1901, \$1,067,380; grain elevator and wharf, St. John, \$17,000; Lunatic Asylum, \$10,000; Dufferin Eaton wharf, \$8,000; railway subsidies, \$208,000; total, \$1,067,280."

The net debt was \$2,776,264, compared with \$2,851,086 in 1900. This was caused mainly by the receipt of the Eastern Extension award of \$281,821, which offset an addition to the debt, composed of \$30,999 deficit between ordinary receipts and expenditures, \$14,500 on subsidy accounts, \$14,419 over expenditure on Lunatic Asylum, and \$15,487 for the royal reception, \$88,895 over expenditure by Board of Works; and \$34,192 on steel bridges.

The estimated receipts for the year ending June 30, 1902, included \$495,320 from Dominion subsidies, \$195,000 from territorial revenue, \$10,000 from fees to Provincial Secretary's office, \$25,000 from taxes on incorporated companies, \$25,000

from succession duties, \$21,500 from liquor licenses, \$40,000 from proceeds of loan for smallpox expenses and smaller amounts, making a total of \$855,876. The total estimated expenditure was \$805,267.

Prohibition and Temperance.—In response to a memorial presented to the Government by a large number of residents in the province (9,369) asking for the enactment of a prohibitory liquor law, a reply was made public on May 12. Reference was made to the uncertainty of public opinion upon this subject, as illustrated by the passage of the legislation of 1855 and its subsequent repeal and the recent change in Manitoba. The conclusion was that the Government did not feel warranted at the present time "in engaging to take any action upon the memorial."

Public Works.—Mr. Tweedie pointed out in his budget speech that the province had to maintain under the charge of the Department of Public Works 4,000 bridges, of which 1,165 were in the main roads, with a united length of 166,000 feet, or nearly 32 miles. Altogether there were about 80 miles of bridge work to look after and keep in repair, together with 2,340 miles of main roads and lesser ones; a total of 9,000 miles. Mr. Labilloy, for all these purposes, had \$25,000 a year.

Agriculture.—There were 35 creameries in New Brunswick in 1901, producing 542,626 pounds of butter, worth \$111,043, against 33 in 1900 producing 462,606 pounds, worth \$94,618.

To encourage the milling of the grain at home, the Government offered a bonus equal to 20 per cent. of the cost of the roller-process machinery for every mill constructed in the province, and the outcome of such a policy has been so successful that to-day there are 24 well-equipped flour-mills in the province, turning out from 25 to 100 barrels a day of high-grade flour. Ten years ago New Brunswick imported cheese to the value of \$500,000, while it exported last year cheese and butter to the value of \$1,000,000, the change being secured by the lively interest the local authorities of New Brunswick had taken in establishing cheese factories and creameries throughout the country. There are now 56 in successful operation. The Government gave \$150 to the cheese factories and \$250 to the creameries, each, while the dairy school at Essex was also liberally supported.

NEWFOUNDLAND, colony of, an island near the Atlantic coast of Canada, owing allegiance to the British Crown, but possessed of full self-government. Population, 216,615; area, 42,734 square miles. Capital, St. Johns.

Government and Politics.—At the beginning of 1902 the Government or Executive Council was composed of Sir Robert Bond, Premier and Colonial Secretary; W. H. Horwood, Minister of Justice; E. M. Jackson, Minister of Finance and Customs; and Messrs. E. P. Morris, G. Knowling, A. W. Harvey, H. J. B. Woods, J. S. Pitts, and J. D. Ryan, members without office. Mr. E. Dawe was Minister of Agriculture and Mines; T. J. Murphy, Minister of Marine and Fisheries; and G. W. Gushue, Minister of Public Works, without seats in the Council.

E. D. Shea was President of the Legislative Council, and L. O'B. Furlong, Speaker of the House of Assembly. Some changes took place in the Government and in political circles. On July 15 Sir Joseph Little, Chief Justice of the island, died, and on July 26 Mr. Horwood, Minister of Justice, was sworn in as his successor. At the same time Mr. G. M. Johnson, K. C., retired from the Assembly and became a judge of the Supreme Court, in place of Mr. Jus-

tice Morrison, who retired to advocate confederation with Canada. H. J. B. Woods had already accepted the new office of Postmaster-General. On Dec. 17 Mr. Edward P. Morris, K. C., became Minister of Justice. The by-elections following these changes were not very favorable to the Bond Government, although they could not affect their large majority seriously. On Dec. 2 Trinity District returned 2 Opposition candidates by more than 300 majority to support Mr. A. B. Morine in constituencies that had previously given a Government majority of 700. The reciprocity policy of Sir R. Bond was one of the chief issues. Meanwhile, on Feb. 21, the Legislature had been opened by Gov. Sir Cavendish Boyle, in a speech foreshadowing measures to preserve the whale fisheries, establish cold storage for fishing products, reform the municipal system in St. Johns, protect railway employees, and encourage iron-mining. After some stormy scenes and the passage of a series of enactments covering many important interests, the Legislature was prorogued on April 22. The following bills were approved by the Governor:

Newfoundland French treaties act.
 Patents (amendment) act.
 Registration of deeds (amendment) act.
 Warehouse receipts (amendment) act.
 Bank fishermen insurance (amendment) act.
 Whaling industry act.
 Shipbuilding (amendment) act.
 Duties on foreign-built vessels act.
 Grand Bank harbor act.
 Deer preservation act.
 Game preservation act.
 Customs (amendment) act.
 Revenue (amendment) act.
 Duties (reduction of) act.

In July Sir Robert Bond went to the coronation in England, took part in the Colonial Conference, and was made a member of the imperial Privy Council.

Finances.—The budget speech of the Minister of Finance was delivered in the House of Assembly on March 25. For the year ending June 30, 1901, he placed the revenue at \$2,060,581, which included \$1,807,951 from customs, \$55,052 from postal service, \$11,795 from Crown lands, \$4,640 from liquor licenses, \$6,673 from inland stamps, \$6,454 from foreign fishing licenses, \$4,885 from penitentiary labor, \$25,000 interest on municipal debt, and \$47,231 from miscellaneous sources. The expenditures were \$2,024,952.

He said the public debt was \$17,378,419, and pointed out that the customs revenue had risen from \$1,502,588 in 1896-'97 to \$1,897,951 in 1900-'01, and the total revenue from \$1,610,788 to \$2,060,581. The estimated receipts for the year ending June 30, 1903, were given at \$2,096,000, including \$1,875,000 from customs, \$60,000 from postal services, and \$40,000 from municipal debt interest. The estimated expenditures to be voted by the House were \$1,123,511, and those already authorized by statute were \$952,539. The authorized sums included \$150,268 for education and \$743,755 for interest on the public debt and its management. The revenue for the year ending June 30, 1902, was \$2,200,000.

Trade and Commerce.—The year 1901 was a most exceptionally prosperous period in the colony, and 1902 was not behind it. The imports increased from \$5,929,768 in 1896-'97 to \$7,359,442 in the year ending June 30, 1901. The exports increased from \$4,917,785 to \$8,320,809. The imports in the latter year included beef (salted) to the value of \$183,495, butter \$99,360, coal \$330,097, flour \$1,167,434, cottons, woolens, silks, and

linens \$1,126,396, leather and leather ware \$259,245, iron railway material, etc. \$681,263, molasses \$326,256, pork \$360,918, salt \$126,317, sugar \$125,021, tea \$162,445, tobacco, wines, and spirits \$94,369. The exports were as follow: Dry codfish \$5,171,910, herring \$231,413, salmon \$139,101, lobsters \$448,501, cod-oil \$398,039, seal-oil \$424,632, sealskins \$282,895, copper \$390,779, iron ore \$455,554, lumber \$63,299.

Banking and Insurance.—In his budget speech the Finance Minister said the Government savings-bank deposits had increased from \$1,103,788 on Dec. 31, 1899, to \$1,296,040 on Dec. 31, 1901. He said also that the public was insured to the amount of \$5,686,366 in insurance companies, and paid premiums to the extent of \$245,834.

Temperance.—In 1866, when the population was about 140,000, there were 6,477 gallons of brandy, 4,201 of whisky, 120,722 of rum, 11,955 of gin, and 11,077 of wine and champagne consumed in the island. In 1900, with a population of more than 200,000, the figures ran as follow: Brandy, 3,780 gallons; whisky, 16,126; rum, 41,453; gin, 2,096; and wine and champagne, 6,559. Ale, beer, and porter rose in the same period from 37,496 to 62,245 gallons.

Population.—The census returns for 1901 were presented to the Legislature by Sir R. Bond on March 3, 1902. They showed a total population of 220,249, including 3,634 for the dependency of Labrador, on the coast of Canada. In 1891 Newfoundland had 197,930 inhabitants, and Labrador 4,106. The chief denominations were as follow in the two periods: Catholics, 72,696 in 1891 and 76,209 in 1901; Anglicans, 69,834 in 1891 and 72,650 in 1901; Methodists, 54,276 in 1891 and 60,812 in 1901. The Salvation Army rose from nothing in 1891 to 6,500 in number. According to official figures published in June, 1902, the births in the island in the previous year were 6,810, an increase of 211; the marriages were 1,781, a decrease of 83; the deaths were 3,865, an increase of 840. The birth-rate was 30.91 per 1,000, the marriage-rate 7.85 per 1,000, the death-rate 17.54 per 1,000.

Mines and Minerals.—The total value of the output in 1901 of the crude materials at the mines and quarries amounted to \$1,211,163, an increase over the previous year's output of \$319,154. The main factor in bringing about this result was the large production of iron ore at the Bell island mines, 738,206 tons. Estimated at \$1 a ton, this shows a total value only \$53,893 short of the entire value of all the minerals raised in the colony in 1900. The statement of the products for 1901 is as follows: Brick, 1,305,000 pieces, valued at \$13,500; building-stone, 5,500 tons, \$5,500; copper ore, 73,348 tons, \$360,000; granite, 3,240 tons, \$19,710; iron ore, 738,206 tons, \$738,206; limestone, 1,300 tons, \$975; paving-stone, 140,000 pieces, \$14,128; pyrites, 7,522 tons, \$37,128; slate, 2,000 tons, \$22,800; total value, \$1,211,163. The brick, building-stone, granite, limestone, and paving-stone were used in the colony, and the copper, iron and pyrite ores, and the slate were exported to Europe and America. Of the copper ore, 36,641 tons went to Britain, 35,767 tons to New York, and 540 tons to Pictou, Nova Scotia. Of the iron ore, 35,830 tons went to Britain, 213,385 to Germany, 408,617 to Canada, and 76,860 to the United States. New York took all the pyrites, and the entire export of slate went to England. The copper-ore output increased by 5,000 tons.

Fishing.—The Banks fishery for 1901 employed 118 vessels of 5,282 tons, with 1,531 men,

and produced a catch of 113,841 quintals of cod-fish. The seal fisheries for the same season had 19 steam-vessels engaged, with a tonnage of 5,998 and crews numbering 3,836. The seals taken numbered 291,217, valued at \$425,355. The increased value of the catch in 1902 was due to the better price that the men secured as a result of their strike before the fishery began. They had been receiving \$3.25 a quintal (112 pounds) for their share of the catch, with a deduction of \$3 a man for equipping the ship, locally known as "berth money." They demanded and were conceded \$3.50 a quintal, and the abrogation of the "berth-money" charge. The sealing voyage occupied 20 steamers and 4,000 men less than eight weeks.

Lobster fishing is a decaying interest here. There were 1,440 factories on the coast in 1901, and for their protection against the illegal selling of bait to French fishermen the colony maintained 50 wardens, 2 steamers, and several smaller vessels. The staple product of Newfoundland is cod, and it concerns three-quarters of the population and constitutes five-eighths of the exports. With certain products of the cod, the total value of the industry was \$5,570,756. Other fish exports included haddock to the value of \$252,508; herring, \$171,501; lobsters, \$448,501; salmon, \$146,066; whale-oil, etc., \$67,785.

Education.—The system of education in Newfoundland includes a Council of Education made up of various denominational head masters of schools and clergymen as superintendents, with the Rev. Canon Pilot as president. There is a Church of England college, and Roman Catholic, Methodist, and Presbyterian colleges, and various denominational boards of education in each district. Each denomination has its own schools and scholastic machinery, and receives a per capita grant from the state for their maintenance. After every census there is a readjustment, and the moneys are appropriated in accordance with the population statistics then shown. The state interferes in no way except to provide for an inspection of the schools, and even the practical management of this matter is left to the heads of the religious bodies. The annual vote for education is \$160,000, or 75 cents a head of the total population. It costs \$3.80 a year for every pupil enrolled, and in the smaller settlements there are no schools. The subdivision of the grants among the denominations is largely responsible for this.

Each of the three principal denominations is allowed a superintendent and an assistant, and the salary of the chiefs is \$1,600, and of the aides \$600. In that of the Catholics, however, they have been permitted to have one superintendent for the diocese of St. Grace and a second for the dioceses of St. John's and St. George's. The former gets \$1,000 and the latter \$1,500. The Anglican and Methodist chiefs inspect the schools of the minor Protestant denominations each year, alternately, for which they receive a special allowance, or else the work is done by the ministers of those churches, who receive that sum instead. The school boards of each creed have jurisdiction over the harbor or settlement for which they are appointed, and they determine all matters relating to education therein, the clergyman usually enjoying practically autocratic powers. The total expenditure for education in 1899-1900 was \$155,021, and in 1900-'01 it was \$158,238. A measure was presented to the Legislature during the session changing certain details of the system. In the Council, on April 9, the Hon. Mr. Knowling gave the following explanation of its terms:

"This bill is intended to place the education grant in proportionate ratio to the increase of population. It amends the former act so as to include the Salvation Army in its provisions, and in order to make a pro ratio division of the grant. Having regard to the allocation of \$25,297.87, an alteration of the act was necessary in order to apportion the amount equitably among the teachers of certain services."

Union with Canada.—This question was widely discussed in Newfoundland, with mixed feelings; in Canada with almost unmixed approval. Speaking at Halifax on March 25, the Hon. A. M. McKay, one of the four Opposition members of the Assembly, made the following statement as to the feeling on the island: "I think it is not nearly as hostile as in times past. In 1896, when federation was a live question, the people of Newfoundland felt that if they entered the confederation they would be a subordinate colony, and the loss of their autonomy and self-government would lessen their importance as a colony. That probably is the opinion to-day in a lesser degree. It is of course the sentimental aspect, but that is the view that weighs with the mass of the people. It is not a party question."

At the end of April Mr. Justice Morrison resigned from the bench and contested the elections as leader of a party in favor of confederation. He and Judge Seymour, of St. John's, visited Ottawa and other Canadian cities, and were very clear in their advocacy of union. On his return Mr. Morrison told the St. John News (June 16) that the question would have to be settled at the polls. "As you know, I have always been in favor of closer political and commercial relations with Canada, if satisfactory terms could be arranged. Both countries have something to gain from a fair bargain, and, so far as I can see, nothing to lose. Every year the arguments for union grow stronger, and it seems to me only a question of time when the two countries must come together." Sir R. Bond, the Premier, meanwhile took ground against confederation, and proceeded to negotiate his reciprocity treaty at Washington.

The Reciprocity Treaty.—In the summer and autumn, with Mr. Chamberlain's consent and the support of the British ambassador at Washington, Sir R. Bond negotiated with Secretary Hay a treaty of reciprocity somewhat according to his old arrangement. The chief difference was the absence of the preferential clause, so obnoxious to Canada and imperial ideas, in the one that was disallowed in 1895. The following were the terms of the new treaty: Article I provided that American fishing-vessels entering Newfoundland waters could buy bait on the same terms as Newfoundland vessels. They could also touch and trade, buy and sell fish and oil, and procure supplies without other charge than the payment of the light, harbor, and customs dues levied on Newfoundland fishing-vessels. Under Article II salted codfish, cod, seal, and whale oil, unmanufactured whalebones, sealskins, herrings, salmon, trout, salmon-trout, lobsters, cod roes, tongues and sounds, the produce of fisheries carried on by fishermen of Newfoundland, metallic ores, the product of Newfoundland mines, and untrimmed slates were to be admitted into the United States free of duty. Unsalted or fresh codfish were not included. On the other hand, Newfoundland was to admit free of duty from the United States a long list of articles. Newfoundland was to give to the United States as low duties on any article as she gave to any other country. The treaty, if ratified, was to remain in force five years. The arrangement was opposed by the Maine Senators

and Representatives on the ground that its terms injured the interests of the 31,000 men engaged in the New England fishing industry. The Newfoundland fish in American markets would, it was asserted, unduly cheapen salted fish to the American consumer. The treaty went to the United States Senate, and at the end of the year had not been ratified.

NEW HAMPSHIRE. (See under UNITED STATES.)

NEW JERSEY. (See under UNITED STATES.)

NEW MEXICO. (See under UNITED STATES.)

NEW YORK. (See under UNITED STATES.)

NEW YORK CITY. Government.—The city officers during the year were: Mayor, Seth Low; President of the Board of Aldermen, Charles V. Fornes; Borough Presidents—Manhattan, Jacob A. Cantor; Brooklyn, J. Edward Swanstrom; Queens, Joseph Cassidy; Bronx, Louis F. Haffen; and Richmond, George Cromwell—all of whom were elected on the Fusion ticket, having been nominated by the Republican party and accepted by the Citizens' Union and the Greater New York Democracy, except Joseph Cassidy and Louis F. Haffen, who were Tammany candidates, and took office on Jan. 1, 1902. Also there are the following county officers: County Clerk, Thomas L. Hamilton; District Attorney, William T. Jerome; Sheriff, William J. O'Brien; and Register, John H. J. Ronner—all of whom were Fusion candidates and took office on Jan. 1, 1902.

Finances.—The gross funded debt of the city of New York, Jan. 1, 1902, was \$416,262,223.61, an increase of \$26,356,324.22 over that of 1901. Deducting from this amount \$4,322,997.69 of special revenue bonds and \$126,340,920.47, the amount of all sinking-funds, including both investments and cash, the net permanent funded debt is shown to be \$285,598,305.45, an increase of \$20,332,329.54 for the year 1901. In addition to revenue bonds issued in anticipation of the collection of taxes, bonds were issued to a little more than \$42,500,000, and there were redeemed bonds amounting to \$16,500,000. The net growth of the sinking-funds during the year, \$7,000,000, has offset more than 25 per cent. of the gross increase of the permanent funded debt. When it is considered that almost all the bonds issued in 1901 run forty or fifty years, and that in this sum are included \$11,000,000 issued for the rapid-transit railroad, which will be redeemed out of the earnings of the road itself, it is clear that the growth of the sinking-fund, as a whole, is out of all proportion to the actual requirements of the debt. It is estimated that in fifty years, the time for which the longest city bonds are made to run, even at the present annual rate of increase, the increase of the sinking-funds would redeem \$750,000,000 of debt, without regard to the capital of the sinking-funds; whereas at the present time the gross funded debt is only \$416,000,000 and the net permanent funded debt is less than \$286,000,000. The tax rate adopted by the Board of Aldermen on Aug. 21, for 1902 was: Manhattan and Bronx, \$2.27 for each \$100 of assessment. The rate for 1901 was \$2.31. For Brooklyn the rate was \$2.35; Queens, \$2.31; and Richmond, \$2.33. The amounts to be raised by tax were: City budget, exclusive of State taxes, \$89,695,395.79; State taxes, \$4,515,509.29. County budgets: New York, \$2,295,708.75; Kings, \$1,182,790.50; Queens, \$144,474; Richmond, \$63,755; total, \$97,897,633.33. From this should be deducted general fund balances, miscellaneous receipts, and other items estimated at \$11,396,711.67; balance, \$86,500,921.66. To this must be

added the estimated 2-per-cent. deficiency for non-collected taxes of \$1,730,018.42, making the net amount to be raised by tax in the 5 boroughs, \$88,230,940.08.

Taxes and Assessment.—These are in charge of the department of which James L. Wells is president. The other members were Edward C. Sheehy, Arthur C. Salmon, Thomas J. Patterson, who died in 1902, and Ferdinand Levy (salaries \$7,000 each except the president, who receives \$8,000). They report the total valuation of real estate and personal property assessed in 1902 to be \$6,594,907,471, against \$6,357,767,043 for 1901, an increase of \$237,150,428. This amount was distributed as follows: Assessed value of real estate: Manhattan, \$2,196,571,028; Bronx, \$145,050,173; Brooklyn, \$633,780,958; Queens, \$104,131,496; Richmond, \$37,588,014; total, \$3,122,121,669. Assessed value of personal estate: Manhattan, \$2,995,684,916; Bronx, \$43,593,045; Brooklyn, \$365,823,341; Queens, \$32,697,900; Richmond, \$34,986,600; total, \$3,472,785,802; grand total, \$6,594,907,471. Real estate of the appraised value of \$500,000,000 in New York County is exempt from taxation. Thus Mulberry Bend Park is estimated to be worth \$1,000,000, and Paradise Park near by is valued at only \$90,000. The valuation of the land of the Cathedral of St. John the Divine is \$2,200,000, of St. Patrick's Cathedral and its site \$3,600,000, of Trinity Church and its cemetery \$6,000,000. The most valuable exempt site in the Bronx outside of its parks is Woodlawn Cemetery, valued at \$2,250,000. The Jerome Park reservoir is valued at \$2,000,000, New York University at \$400,000, the Washington Bridge at \$250,000, and the Third Avenue Bridge at the same figure. The present Custom-House is valued at \$2,800,000, Fulton Market at \$500,000, the Criminal Courts Building at \$1,500,000, the Henry Street school at \$350,000, St. Mark's Church and cemetery on Second Avenue at \$192,000, the Astor Library at \$250,000, Cooper Union at \$600,000, the Blind Asylum at 34th Street and Ninth Avenue at \$825,000, the Ninth Regiment Armory at \$500,000, the State arsenal, 35th Street and Seventh Avenue, at \$600,000, the Masonic Temple at \$1,000,000, Bellevue Hospital at \$1,600,000, Roosevelt Hospital at \$825,000, Normal College at \$900,000, Presbyterian Hospital at \$1,200,000, St. Luke's Hospital at \$1,500,000, and General Theological Seminary at \$1,250,000.

Board of Estimate and Apportionment.—This body consists of the Mayor, the Comptroller, President of the Board of Aldermen, and presidents of the boroughs. This board allowed the following-named amounts for 1903: The mayoralty, \$59,300; Board of Aldermen and city clerk, \$153,152; Department of Finance, \$983,280.60; interest on the city debt, \$13,276,709.68; redemption of the city debt, \$10,417,359.17; State taxes, \$550,157.28; rents, \$352,095.07; Law Department, \$460,560; President of Borough of Manhattan, \$1,705,430.50; President of Borough of the Bronx, \$1,026,000; President of Borough of Brooklyn, \$1,164,260.25; President of Borough of Queens, \$769,308.63; President of Borough of Richmond, \$372,980; Department of Bridges, \$423,038.38; Department of Water-Supply, Gas, and Electricity, \$4,582,852.23; Department of Parks, \$1,982,333.95; Department of Public Charities, \$1,802,490.16; Bellevue and allied hospitals, \$595,580.78; Department of Correction, \$791,072.50; Department of Health, \$1,034,391.48; Tenement-House Department, \$466,433.08; Police Department, \$11,566,680.42; Board of Elections, \$838,275; Department of Street Cleaning, \$5,362,112.20; Fire Department, \$5,218,300.28; Department of Taxes

and Assessments, \$349,900; Board of Assessors, \$30,300; Armory Board, \$107,807.50; Department of Education, \$20,063,017.77; College of the City of New York, \$298,362; Normal College of City of New York, \$220,000; coroners, \$151,300; Commissioners of Accounts, \$151,000; Civil-Service Commission, \$100,000; Board of Civil Record, \$518,800; Examining Board of Plumbers, \$5,154; for library purposes, \$431,543.80; City Court of New York, \$136,050; municipal courts, city of New York, \$392,250; Court of Special Sessions, First Division, \$96,150; Court of Special Sessions, Second Division, \$54,400; City Magistrates' courts, First Division, \$166,450; City Magistrates' courts, Second Division, \$172,800; for charitable institutions, \$2,728,264.04; miscellaneous, \$1,268,264.21; total, \$93,395,966.96. Also the budget shows an allowance for the County of New York, \$2,327,781.21; the County of Kings, \$1,174,305.89; the County of Queens, \$157,366.68; the County of Richmond, \$63,610.36; making a grand total of \$97,119,031.10, which is a net decrease of \$1,500,569.78 over that of last year.

Parks.—The public parks are under the care of commissioners appointed for the various boroughs, with a salary of \$5,000 each. The incumbents during the year were: Manhattan and Richmond, William R. Willcox; Brooklyn and Queens, George V. Brower; Bronx, A. Moebus.

On July 1, Coney Island Park, which is at the terminus of the Ocean Parkway on Coney Island and comprises 70 acres, was formally opened to the public. Calvin Tompkins, chairman of the Municipal Art Society, chairman of the ceremonies, began the exercises by the following account of the work: "On April 18 the Board of Estimate and Apportionment granted the Park Department \$50,000, with the request that it be devoted to improving this part of the city. On May 17 the serious work began, and in forty-three days this park has been made; the barren waste has become a beautiful garden; the sand hills have become a park, in which are found the plants of the tropics, flowers, trees, and shrubs. An irrigation plant has been put in, and nearly 15,000 cubic yards of soil, and about 1,200 trees, shrubs, and plants are growing here to-day."

On July 11, Thomas Jefferson Park, between 111th and 114th Streets and First and Pleasant Avenues, was opened by Park Commissioner Willcox. The park now contains 9 acres, but it is to be extended to the Harlem river front, giving it about 15 acres and including in its boundaries the recreation pier at 112th Street. The park is in a barren condition at present. It is enclosed by a fence, and is divided into two sections, one section, 260 by 603 feet, being devoted to a playground for children, with tents and settees. The other section is for a ball-ground. It is in a section of Harlem that is known as "Little Italy."

On July 17 the following resolution was adopted by the Sinking-Fund Commissioners and the Committee of Public Buildings, Markets, and Supplies of the Board of Aldermen: "The interests of the city require the removal from the City Hall Park of the Hall of Records, the engine-house and hook-and-ladder company, and the brownstone building occupied by the City Court as soon as suitable arrangements can be made for the accommodation of the occupants of these buildings elsewhere, and that the space occupied by these buildings be added to the City Hall Park."

In December plans for the extension of Riverside Drive were published. These have for their

chief purpose the carrying of the driveway to Boulevard Lafayette. The extended driveway is to begin at 135th Street, with an elevation of 80 feet above the river. Traversing the old Otten-dorfer property, it will cross 138th Street at a grade that will permit the street to pass below. The bridge over the street will be of masonry of artistic design. Its abutments will contain public-comfort houses. From the bridge the route swings gradually to the west, approaching closely to the tracks of the railway, but at such a height that the prospect of the river and the cliffs beyond is not shut out. Leaving the estate of Robert Hoguet on the right, the roadway at 143d Street broadens until its width is nearly 300 feet. Between 145th and 155th Streets are to be 3 bridges of ornate design, to carry the driveway across intersecting streets that fall below the grade of the new thoroughfare. The most elaborate of these bridges will be at 155th Street. It will form a series of masonry arches and will be at an elevation of 60 feet. An inclined approach on the north side will connect the drive and the street. Passing through Audubon Park, the extension crosses over 158th Street to the Boulevard Lafayette. The approach widens, forming a plaza corresponding, to some extent, with the entrance to the viaduct north of Claremont. The general plan of the extension provides for a carriage road 60 feet wide, a bridle-path 20 feet wide, two walks of 15 feet each, and grass-plots 5 feet wide between roads and walks. The carrying out of the plans will provide a pleasure drive-way from Central Park West, through Riverside and the Boulevard Lafayette to Dyckman Valley, and back by the Speedway and St. Nicholas Avenue, in all a distance of 15 miles.

Museum of Art.—A new wing of the Metropolitan Museum of Art, on Fifth Avenue and 81st Street, was formally opened on Dec. 22. The new building, owing to its position on Fifth Avenue, forms a natural entrance to the museum, and the stately and impressive portal is regarded as worthy of the largest collection of works of art in the country. In the great entrance hall have been arranged a series of modern bronzes and marbles, as well as many of the sarcophagi from Cyprus. In the long narrow galleries are steles, reliefs, pottery, seals, and tomb inscriptions from Palmyra, Etruscan pottery, and bronzes, Greco-Roman masks, and Egyptian antiquities. The Elizabeth Cole tapestries and an Italian eighteenth-century tapestry are shown in one wing of the new building. In the upper galleries are Chinese bells, the Phenix collection of Chinese and Japanese lacquers, the Marquand porcelains, and the jades from the Bishop collection, as well as the porcelains from China, loaned by J. Pierpont Morgan.

Aquarium.—On Oct. 1 this institution, which has been in the custody of the Park Department since its inception, was formally transferred to the custody of the New York Zoological Society, although the municipality will continue to provide the funds for its maintenance. Park Commissioner Willcox, in making the transfer, told how the building had been erected originally upon the rocks and connected with the shore by a bridge, and how the structure had been used successively as a battery, a place of amusement, and a landing-place for immigrants, until in 1896 it was opened to the public as an aquarium by the Department of Parks. Charles H. Townsend, the new director of the Aquarium, formerly a member of the United States Fish Commission, said in part: "The possibilities of an aquarium as an institution for the instruction of the people

THE NEW WING OF THE METROPOLITAN MUSEUM OF ART.

have never been properly understood. What we want to do is to make it a part of the city's educational system. It should be a place for study and investigation. Fish-culture is fast becoming a profession. We could establish a fish-hatchery in the building. This would be interesting, and it could be arranged with glass sides, so that the fish could be seen."

Health.—The collecting of vital statistics is under the care of three commissioners, including the health-officer of the port and the police commissioner. The officials for 1902 were Ernest J. Lederle, president (salary \$7,500), Health-Officer Dr. Alvah H. Doty, and Police Commissioner John N. Partridge. The secretary of the board was Emmons Clark, who was retired on Dec. 24, 1901, and was succeeded by Caspar Golderman, and the office is on the corner of Sixth Avenue and 55th Street. President Lederle's report shows that the number of deaths was 68,082, compared with 70,808 in 1901, and the death-rate for 1902 was 18.74 a thousand—the lowest ever reported in this city. The annual death-rate for the entire city since consolidation has been: 1898, 20.26; 1899, 19.47; 1900, 20.57; 1901, 20.02; and 1902, 18.74. In 1892 the rate for the old city was 25.95. The death-rate for 1902 for the old city of New York was 19.49. In 1902 there were 4,907 more births than in 1901; and 36,200 marriages, an increase of 2,653. Regarding consumption, the report shows that there were 582 fewer deaths than in 1901. The decrease in the death-rate from this disease is due to scientific measures and "the control of the white plague and its ultimate eradication" is being brought about by the enforcement of sanitary measures. There was a slight increase in the deaths from typhoid fever, but a decrease of 100 deaths from smallpox is noted. In scarlet fever there was a slight increase in the number of deaths, but in diphtheria there was a decrease of 35 per cent. For the first time in twelve years there was a decrease in the death-rate from cancer. There were 800,000 persons vaccinated in the year. The coroners' report shows that their office considered 6,346 deaths, distributed as follows: Sudden deaths from natural causes, 3,526; deaths by accidental violence, 1,965; deaths by suicide, 470; deaths by direct murder, 92; other homicide cases, 139; ante-mortem statements, 154. Of these, there were 482 cases remaining for inquiry from the previous year. In all there were in 1902 2,820 deaths that, under the law, require the personal investigation of the coroners. As a result of such investigations, 543 persons were held to await the action of the Grand Jury. In connection with this, 1,236 inquests were held and 644 autopsies were performed.

Hospitals.—In accordance with the provisions of the revised charter for the city, on Feb. 1 the charge of the receiving and emergency hospitals passed from the control of the Charities Department to a board of trustees consisting of Dr. John W. Brannon, president; James K. Paulding, secretary; Myles Tierney, Samuel Sachs, Marcus Stine, Theodore E. Tack, Howard Townsend, and Commissioner of Charities Homer Folka, *ex officio*. The board will hold meetings in the Medical Board Room at Bellevue, and its annual meetings and election of officers will be held every February. It is required by law to make an annual report to the mayor in December. The emergency and receiving hospitals included under the new management with Bellevue are Fordham, Gouverneur, Harlem, the Emergency Hospital in 26th Street, and the new hospital in Harlem, ground for which has been secured.

Police.—This department is under the control of a commissioner (salary, \$7,500) and two deputy commissioners (salary, \$4,000). In 1902 the commissioner was John N. Partridge, who resigned on Dec. 12, and was succeeded by Francis V. Greene. The first deputy was N. B. Thurston, who resigned on Oct. 4, and was succeeded by Second-Deputy F. H. E. Ebstein, who in turn was succeeded by A. R. Piper. The headquarters are at 300 Mulberry Street. Col. Partridge's report to Dec. 1 shows: Total force on Nov. 30, 7,721; retirements, 115; dismissals, 76; complaints for violations of rules, 2,993; tried and reprimands given, 764; fines imposed, 1,463; tried and fines remitted, 4; tried and judgment suspended (debts), 34; tried and judgment reserved, 78; pending, 155; total arrests—all offenses, 134,283; arrests for gambling—all kinds, 1,434; arrests for keeping gambling houses, 155; arrests for blackmail, 13; arrests for bribery, 14; arrests for keeping disorderly houses, 506; arrests for murder, 20; arrests for violating liquor-tax law, 1,895; arrests for violating policy law, 140; and arrests for violating pool law, 273.

The charges of oppression brought against Chief Devery by former Officer O'Neill were dismissed in the Court of Special Sessions, and in consequence the district attorney did not pursue the matter further. The McAuliffe mystery was one of the police events of the year. James McAuliffe was the principal witness on whose testimony Wardman Glennon was convicted. On Feb. 16 he stumbled and fell forward on his face in the street before several witnesses, and died shortly afterward in the hospital. Two days later it was learned that he had been in the hands of the West 47th Street police during the night previous to his fall, and the hospital authorities declared that the fracture of the skull from which he died could not have been obtained from his fall on the face, in consequence of which a belief grew up that he had been badly used in the station-house. As he was a strong witness against 5 other indicted police officers, the local newspapers took up the matter, and \$4,000 was offered as a reward for the apprehension of his murderers. Public opinion compelled the Police Department to make an investigation and the district attorney to make an inquiry, and it was officially conceded that when McAuliffe was arrested Saturday night he was not suffering from the injury that caused his death, and that the injury received by him after his liberation Sunday morning was not sufficient to cause his death. But no evidence was obtainable to prove beyond reasonable doubt who inflicted the injury.

Fire.—This department is under the care of a commissioner, who receives a salary of \$7,500. The present incumbent is Thomas Sturgis, and the headquarters are at 157 East 67th Street. The most important action taken in the Fire Department during the year was the order issued on Aug. 19 relieving Chief Croker from command, and assigning his duties to Deputy-Chief Purroy. Charges were then preferred against Croker, and he was tried on 7 counts, embracing 15 specifications, most of which pertained to his neglect to safeguard the Park Avenue Hotel by enforcing legal requirements, and to his discriminating in promotions in favor of men of certain political organizations. These charges were sustained, and he was found guilty, in consequence of which he was dismissed from the service on Nov. 28.

Education.—At the beginning of the year the Board of Education consisted of 20 commissioners, who were appointed by the Mayor and received no salary; and of that body Miles M. O'Brien was president. By virtue of the laws

of 1901 this organization was abolished on Feb. 3, 1902, and a new board was appointed, of which Charles C. Burlingham was chosen president. The borough superintendent is William H. Maxwell; and John Jasper, formerly superintendent, but more recently an associate superintendent, was retired with a pension, to take effect Sept. 1, 1902. The headquarters are at the corner of Park Avenue and 59th Street. According to a report issued on Sept. 10, the school attendance on Sept. 8, in Manhattan was 203,500; Bronx, 36,110; Brooklyn, 123,181; Queens, 24,901; Richmond, 8,703; total, 396,425. Increase over first day, 1901; Manhattan, 17,616; Bronx, 4,379; Brooklyn, 12,748; Queens, 1,327; Richmond, 429; total, 36,499. Number over six years refused admission: Manhattan, 890; Bronx, 14; Brooklyn, 1,003; Queens, 4; Richmond, 20; total, 1,931. President Burlingham said: "While thousands of children are deprived of a full day's schooling, there are thousands of unoccupied seats in the schoolhouses of this city. This is due in part to a shifting of population. It is impossible to move little children, but the older pupils of the schools can be transported and put in less crowded schools. In the outlying districts of the Bronx we make contracts for carrying the children in stages. I see no reason why we should not enter into contracts with the city railway companies to carry children from the congested to the less crowded parts of the city."

Carnegie Libraries.—The trustees of the New York Public Library and of the committees in Brooklyn and Queens of the Carnegie Library fund recommended in March to the Board of Estimate the following sites for Carnegie libraries:

Manhattan and Bronx.—Nos. 29, 31, and 33 East Broadway; price asked \$102,000. A plot on the southerly side of 82d Street, 100 feet east of West End Avenue; price asked \$47,000. On the southerly side of 138th Street, 175 feet east of Lincoln Avenue; price asked \$20,000. Tremont, near the Harlem Railroad station and the borough building. Nos. 224, 226, and 228 East 125th Street, to be acquired by condemnation at an estimated cost of \$17,000 or \$18,000.

Brooklyn.—Entire block bounded by Marcy Avenue, Rodney Street, and Division Avenue; estimated cost, \$50,000. Vacant plot in Franklin Avenue, opposite Hancock Street, between Fulton Street and Jefferson Avenue; price asked \$25,000. Vacant plot on northwest corner of Clinton and Union Streets; price asked \$26,000. Plot on southeast corner of Fourth Avenue and Pacific Street; price asked \$30,000. Plot on south corner of Bushwick and De Kalb Avenues; price asked \$30,000. Northwest corner Norman Avenue and Leonard Street; price asked \$36,000. Southwest corner of Fourth Avenue and 51st Street; price asked \$12,500.

Queens.—Southeast corner of Broadway and Cook Avenue, in the old village of Elmhurst, now part of the Second Ward of Queens. Northwest corner of First Avenue and 13th Street, in the old village of College Point, now part of the Third Ward of Queens. Northeast corner of Broadway and McCormack Avenue, in the old village of Ozone Park, now part of the Fourth Ward of Queens.

A site on East 79th Street, between Second and Third Avenues, having been acquired by the Board of Estimate in 1901, and a building of Indiana limestone having been erected, the first of the series of Carnegie libraries was dedicated on Dec. 13. The building is constructed in conformity with the general type adopted by the

Advisory Board of Architects appointed by the Board of Trustees, under the provisions of the Carnegie gift. It is a three-story and basement structure, 40 by 90 feet, having on its roof a fourth story for the janitor's use. It cost, with equipment, \$70,000.

Rapid Transit.—The charge of the rapid-transit movement is in the hands of a commission, consisting of Alexander E. Orr, president; Woodbury Langdon, Morris K. Jesup, George L. Rives, who was succeeded on Jan. 1 by John Claffin, J. H. Starin, Charles S. Smith; the Mayor and the Comptroller, *ex officio*. In July the Rapid-Transit Commission submitted to the Mayor an extensive report, describing the work accomplished by the commission up to Dec. 31, 1901, and about the same time an unofficial report was made, showing that the subway had been more than half completed. The statement was made that more than two-thirds of all the rock and earth excavation had been completed, and of the earth alone 80 per cent. had been removed. The total amount of earth excavation called for was 1,700,000 cubic yards; earth already excavated, 1,327,000 cubic yards; total amount of rock excavation called for, 1,300,000 cubic yards; rock already excavated, 862,000 cubic yards. Of the 65,000 tons of structural steel necessary for the whole work, 36,076 tons have been delivered, and 16,000 tons have been erected. If this progress is continued, it is estimated that the entire work will be completed in August, 1903, and therefore the statement that passenger service will be in existence on Jan. 1, 1904, was warranted. In May Chief-Engineer Parsons was requested to make a report, involving the building of a complete system of roads connecting all the boroughs, and an offer has been made to the commission to provide money for any tunnels the city may desire to build for itself in the future. The building of a subway to connect with Brooklyn was decided upon. Also the extension of rapid transit to Staten Island has been presented before the commission, and plans submitted, connecting Long Island with Staten Island by means of a tunnel at Fort Hamilton. An announcement was made on Nov. 26 that the Interborough Rapid-Transit Company, which controls the railways that will be operated in the subways, had leased the elevated railways, covering all the franchises and property of the Manhattan Railway Company, for nine hundred and ninety-nine years, the lease to take effect on April 1, 1903.

Tunnels.—The commissioners appointed in September, 1901, to report on the feasibility and desirability of the proposed Brooklyn-Manhattan rapid-transit road, recommended the plans prepared by the Rapid-Transit Commission, which show that it is to run under Broadway from the City Hall, south, and through a tunnel beneath the East River. This report says there was no opposition, even from abutting owners, to the route proposed, and the testimony showed that the general public was satisfied that this was the best route that could have been selected, and the commission finds that the cost of the road as planned is safely within the statutory limits. Bids for this work were called for by the Rapid-Transit Commission, and were opened on July 21. On July 24 the commission, after an extended public hearing, awarded the contract for the tunnel, by means of which the subway rapid-transit system is to be extended to Brooklyn, to the Belmont-McDonald syndicate. The tunnel is to be built for \$2,000,000, and the terminals for \$1,000,000 additional. The commis-

sion also adopted resolutions ordering plans for a second tunnel, and for extensions and terminals that will reach the main centers in Manhattan and Brooklyn and establish the best possible interborough communication.

The New York Central Railroad announced plans for the improvement of the tunnel under Park Avenue, which contemplate a change in the location of Park Avenue, below 56th Street, or south of the present southern end of the tunnel, and it is the intention of the railroad to ask the city to exchange what is now Park Avenue for a similar amount of land which the company has purchased west of the present avenue. This strip of land is to be made into a new Park Avenue, and the present street surface is to be used to extend the tracks of the road in an approach to the loop that is to be built underneath the Grand Central Station. Part of the street so obtained is to be an open cut on a level with the rest of the tracks below the tunnel end. But as the side tracks to be used for the suburban electric system will have to reach a level of 40 feet below the street surface, the down grade leading into the subterranean loop will have to begin near 56th Street, in order to provide a safe grade. It is largely for this that the New York Central acquired the 75-foot strip of land west of Park Avenue, and between 49th and 56th Streets. These improvements contemplate the use of electricity as the motive power, and it is estimated that three years will be required to complete the undertaking.

In April the New York and Jersey City Terminal Underground Railroad Company was incorporated, with a capital of \$100,000, to operate an underground tunnel railroad from a point on the bank of Hudson river at the boundary-line between New York and New Jersey to the intersection of Park Avenue and 57th Street, New York city. The length of the road is to be 6 miles. The road is to be constructed under Hudson river, and under and between the following streets of New York city: From the intersection of West Street and Battery Place, to Greenwich Street, to Trinity Place, to Church Street, to Dey Street, to Broadway and Vesey Street, to Park Row, to Center Street, to New Elm Street, to Great Jones Street, to Lafayette Place, to Astor Place, to Eighth Street, to Ninth Street, to Fourth Avenue, to 42d Street, to Grand Central Station, to Park Avenue, to 57th Street, connecting there with the Harlem Railroad. It was specified that a branch shall be constructed forming a connection with the main line at 34th Street and Fourth Avenue and running under 34th Street to the East river. Subsequently it was announced that this company had bought the rights and property of the Hudson River Tunnel Railway Company, which began the construction of a tunnel under the river, known as the Morton Street Tunnel, and of which more than 4,000 feet have been excavated. The new corporation sought permission from the Rapid-Transit Commission to tunnel from the New York end of the old tunnel up West Street, to Morton, thence to Greenwich, and up to a terminal in the block bounded by West 10th, Christopher, Greenwich, and Hudson Streets.

In September the Hudson and Manhattan Railroad Company, with an authorized capital of \$100,000, was chartered. This corporation contemplates a railroad to begin at or near Pavonia Ferry in Jersey City, running thence southerly to the intersection of Exchange Place and Hudson Street, and thence under the bed of Hudson river to a convenient point on the

boundary-line between New Jersey and New York. The tunnel will run from the intersection of Exchange Place and Hudson Street, southerly and under Hudson Street, to the southerly terminus of the railroad, and thence southerly by the most direct and feasible route to the station of the Central Railroad of New Jersey.

The most important tunnel project brought to public attention during the year was begun with the incorporation, on April 21, of the Pennsylvania, New York and Long Island Railroad Company, with a capital of \$20,000,000, to construct and operate an underground railroad in New York and Queens Counties, to be operated by electricity or other suitable power. This undertaking has for its purpose the carrying of the line of the Pennsylvania Railroad Company across Manhattan Island and establishing a station on the island, at an estimated cost of \$40,000,000, of which about \$25,000,000 will be paid for labor. The new line will begin at Harrison, opposite Newark, and run along the south side of the Pennsylvania main line to a point at which it has such an elevation that it can cross to the north side overhead. Then it trends northward across the meadows to the west side of the ridge just back of Hoboken. On the meadows the line crosses 7 railroads, besides the main line of the Pennsylvania, and an important highway on which is a double-track trolley road, and it also crosses Hackensack river. All the crossings are over grade. That necessitates a continuous embankment, or viaduct, from Harrison to the tunnel portal at the west side of the ridge, about 6 miles. At the Bergen ridge the line enters a rock tunnel, and it emerges in Long Island City, the length of tunnel being a little less than 6 miles. The total improvement from Harrison to the junction with the Long Island Railroad is 12½ miles. Not a foot is on the natural surface; all is in tunnel or cutting, or on embankment or viaduct. Across the North river will be 2 tunnels, and across the East river 4, and the tunnels are to meet at a central station to be established on Manhattan Island, between Seventh and Ninth Avenues and 31st and 33d Streets. On Manhattan Island the rails will never be nearer the surface than 40 feet, and everywhere they will be below mean tide-level. At the highest point of the tunnel the rails will be about 10 feet below mean low water. The station platform will also be below tide-level. Under the Bergen ridge the grade of the tunnel will be 225 feet below the highest point of the hill. Under the North river it will be 35 feet below the natural bottom of the river and 80 feet below mean low water. Under the East river the depths are about the same. The representatives of the Pennsylvania Company came to a speedy agreement with the Rapid-Transit Commissioners, but that contract was rejected by the Board of Aldermen, on the ground that the city's rights were not properly safeguarded. Subsequently a conference was held by Mayor Low and others, at which the proposed franchise was discussed at length. The Pennsylvania Railroad Company agreed to accept some of the modifications that were suggested, and it was proposed that the Mayor send a message to the Board of Aldermen and a similar message to the Rapid-Transit Commission, asking each body to appoint a conference committee for the purpose of developing a possible franchise that would be satisfactory. Conferences and public hearings followed, and after several months' discussion the franchise, amended and revised, became acceptable to the representatives of the railroad, the

Board of Aldermen, and the Rapid-Transit Commission, and finally, on Dec. 16, after recommendation by the Railroad Committee of the Board of Aldermen, the franchise was passed by the larger body and approved by the Mayor. The two points on which the railroad refused to yield were concerning questions of regulating working hours and maintaining a prevailing-rate-of-wages scale. Labor delegates attended every hearing to oppose the granting of the franchise without these stipulations; but the company declared not only its unwillingness, but its inability, to give up on the two disputed points.

Bridges.—On March 18 the Board of Aldermen decided to name the present New York and Brooklyn Bridge the Brooklyn Bridge, the new East River Bridge the Williamsburg Bridge, Bridge No. 3 the Manhattan Bridge, and Bridge No. 4 the Blackwell's Island Bridge. In March the Board of Estimate and Apportionment approved plans for purchase of property 200 feet wide from the terminus of the Williamsburg Bridge on Delancey Street, through the city and across the Bowery to Elm Street, near which point is to be a station of the Rapid-Transit road. Also resolutions appropriating \$1,627,000 for Blackwell's Island Bridge and \$2,290,000 for Manhattan Bridge were adopted. On Nov. 9 a spectacular and unusual fire destroyed the subsidiary woodwork of the tower on the New York side of the Williamsburg Bridge over East river.

Street-Railways.—According to the report issued in December by the State Railroad Commissioners, the surface and elevated railroads of the city of New York carried 924,754,211 passengers paying fares in the year ending June 30, 1902. Counting the transfers, the total number of passengers was 1,160,030,344. The original passengers riding on the cars in Manhattan were distributed as follows: On the street-surface roads, 410,287,089; on the elevated, 215,259,345. As there are no transfers on the elevated, the total transfers on the street-surface roads were 176,726,464. These figures, compared with those of the preceding year, show that the passengers carried decreased 7,895,446 on the street-surface, and increased 25,213,604 on the elevated. The decrease on the street-surface roads of Manhattan and the Bronx was not in original passengers, but in transfers. There are 15 railroad companies operating in the territory of Manhattan and the Bronx, which is an increase of 2. The length of tracks operated is 216,491 miles, against 206,613 miles last year. The surface and elevated roads of Brooklyn carried in the year 357,875,435 passengers, including transfers. The original passengers numbered 299,206,777. The increase was 10,719,524. Eight companies operate the railroads of Brooklyn, which is unchanged from last year. The track mileage this year is 330,317; last year, 328,394.

Municipal Beautifications.—A conference was held on Dec. 6 by representatives of the Merchants' Association, the Manufacturers' Association of New York, the American Society of Civil Engineers, the Architectural League, Columbia University, the National Sculpture Society, and the Municipal Art Society, to consider the question of replanning and beautification of New York city. Among the more important suggestions discussed were: The freight terminal in Communipaw; the tunnel connecting the Pennsylvania and Long Island Railroads; the rearrangement and depression of the tracks of the New York Central and Hudson River Railroad at 42d Street; the union station in the Bronx; the belt-line around the city for freight and pas-

senger traffic; the question of bridges and the planning of suitable bridge approaches; the rearrangement of the elevated system at Battery Park; the rearrangement of City Hall Park; the rearrangement of the northern end of Union Square so as to secure a combined public station and a forum; the possible rearrangement of 34th Street; the rearrangement of the Circle at 59th Street and Eighth Avenue; the treatment of the southern end of Riverside Drive; the treatment of the railroad-tracks and water-front west of Riverside Drive; the placing of suitable isles of safety throughout the city; the proper treatment and placing of monuments; the question of small parks and the rearrangement of the park system; and for the borough of Brooklyn the creation of two grand avenues, one the extension of Flatbush Avenue, to the bridge terminal, the other a new avenue from the Plaza, Prospect Park, through to the north, connecting with Broadway at Flushing Avenue. A recommendation was made for the housing of the various city departments in monumental and important municipal structures, to be situated where they can be seen, at the intersection of the avenues or facing small parks, and a recommendation for the rational decoration and embellishment of such buildings by sculpture, mural painting, etc., the question of such decoration to be considered at the inception of the building by experts, such work to be considered as an integral part of the building, the decoration to be national in character, and so far as possible to represent the art and history of our country.

Monuments.—A heroic statue of Gen. Edward B. Fowler, who was colonel of the Fourteenth New York Regiment during the civil war, was unveiled in Fort Greene Park, Brooklyn. His old comrades and various military associations were present at the ceremonies, which included an oration by Gen. Theodore B. Gates, the acceptance of the statue for the borough of Brooklyn by President Swanstrom, and its acceptance for the city by Mayor Low.

On April 30 the Mary Washington Colonial Chapter of the Daughters of the American Revolution unveiled a memorial tablet to the memory of Margaret Cobin, heroine of the battle of Fort Washington, in Hollywood Church, 181st Street and Broadway, which stands within the line of the old fortifications.

On May 11 the Huguenot Society dedicated a tablet commemorative of the establishment of the first Huguenot church in America. It was placed on the west side of the Produce Exchange court-yard, and is of bronze, with the inscription "Emplacement de la Première Église Française de New York. Original site of the Huguenot Church of New York. Erected by the Huguenot Society of America in 1902." It was presented to the Produce Exchange by President De Peyster, of the Huguenot Society, and accepted by President Barnes of the Produce Exchange.

On May 30, Memorial Day, the Soldiers' and Sailors' Memorial Monument was dedicated. This beautiful memorial, which cost \$300,000, is at Riverside Drive and 89th Street. The exercises included the reviewing of a procession of veterans and the National Guard, of which Robert S. Heilferty was Grand Marshal, by Gen. Nelson A. Miles, with Mayor Low, Gen. Horace Porter, and Gen. O. O. Howard, followed by an address by Joseph A. Goulden, chairman of the Memorial Committee of the Grand Army of the Republic, who concluded by introducing Samuel F. Nixon, Acting Governor of New York, who then spoke. The keys of the monument were then handed to

Mayor Low, who after a brief address transferred them to President Willcox, of the Park Department, who accepted the trust in an appropriate address. The monument was then unveiled, and the exercises closed with an address by Gen. Howard. The memorial bears the inscription: "To the Memory of the Brave Soldiers and Sailors Who Saved the Union," and on the tablet is inscribed: "Soldiers' and Sailors' Memorial Monument of the City of New York. Commissioners: Robert A. Van Wyck, Mayor; George C. Clausen, President Park Board; John W. Goff, Recorder; Bird S. Coler, Comptroller; Joseph A. Goulden, Chairman Memorial Committee, Grand Army of the Republic. Architects, Charles W. Stoughton, Arthur A. Stoughton, Paul E. Dubry. Builders, Cullen & Dwyer."

On July 23 a bronze fountain that was presented to the Society for the Prevention of Cruelty to Animals by John M. Gitterman was unveiled at the intersection of Liberty Street and Maiden Lane.

On Nov. 16 a statue of Gen. Josiah Porter, designed by Clark G. Noble, was unveiled on the parade ground in Van Cortlandt Park. The veil was drawn by Mrs. Mary Porter Robinson, daughter of Gen. Porter.

In the autumn a committee from the New York Historical Society and the American Historic and Scenic Society, to cooperate with the Municipal Art Commission, was appointed to examine the memorial tablets in the borough. It is said that there are many errors on these tablets, and it will be the work of the committee to correct these, as well as to pass upon the design, inscription, and location of such other memorial tablets as the patriotic societies may seek to place.

Historical.—Under the auspices of the Scenic and Historic Preservation Society plans have been made for the preservation of Fraunce's Tavern. The building is to be restored, so far as the records make possible, to its condition at the time when Washington took leave of his generals in the old Long Room, and a park is to be established on the surrounding half-block of property, the purchase of which, with the building itself, was authorized by the Board of Estimate and Apportionment, for \$340,000. The Long Room will be a portrait-gallery of Washington's generals who met within its walls. Patriotic societies are expected to contribute simple collections of Revolutionary relics, which will be displayed in the other apartments. Revolutionary cannon, set up as if for action, will be planted amid the trees that will be set out, and custodians, to be uniformed as Continental soldiers, are to be placed in charge.

Surrogate's Court.—This branch of the judiciary is under the supervision of two surrogates, each of whom is elected for fourteen years and receives a salary of \$15,000. The incumbents during the year were Abner C. Thomas and F. T. Fitzgerald; and their office is in the County Court-House. In 1902, they report, 5,170 motions were heard and disposed of; 379 will contests were tried; 2,142 wills were offered for probate, of which 123 were foreign wills; 1,968 were admitted and 5 rejected; 1,910 letters testamentary were granted; 1,878 decrees admitting wills were drawn by the Probate Department; 3,401 accounts were filed; 2,024 decrees were made on final accountings; 23,799 orders and decrees were signed and entered; 3,528 letters of administration were granted and issued; 3,816 petitions in administration were examined and signed, and 55,800 bundles of papers handled for the exami-

nation of accounting, administration, probate, and real-estate proceedings.

Immigration.—The reception of immigrants in New York is under national supervision. The commissioner, who is appointed by the President, was Thomas Fitchie, who in April was succeeded by William Williams. Ellis Island, in New York Bay, is the landing-place for immigrants. In the year ending Dec. 31 551,645 aliens were landed at this port. The nearest approach to this was in 1882, when 476,086 foreigners were landed at Castle Garden, and 1892 comes next with 445,989, which would indicate that the tide of immigration reaches its height every ten years. In 1901 408,040 aliens passed through the Ellis Island Bureau, and 341,712 in the previous year. The percentage of deportations for mental or physical infirmity or for poverty was greater than for any previous year. The records showed that out of 36,600 arrivals in December, 900 were excluded, while for the same month in 1901 there were only 255 exclusions out of 29,685 arrivals. Of the total number landed in 1902, 5,533 were ordered deported, liability to become a public charge being the chief cause of exclusion. The increase in the number and percentage of deportations is due to the more rigid examination of immigrants. The work in connection with the strict inspection has been so severe that in one month 4 inspectors resigned. The holders of the money, baggage, and catering privileges who have been doing business on Ellis Island ten years were ousted for alleged irregularities, and were replaced by new men. The various steamship companies were forced to exercise a stricter supervision over the class of steerage passengers who come over in their vessels, and to be more careful in making out their manifests, as fines ranging from \$10 to \$1,000 were inflicted upon the companies guilty of careless or improper manifestation.

Harbor Improvement.—The care of the harbor improvement is under the control of the chief of engineers of the War Department. The report of the work done in the year shows that the improved channels by way of Sandy Hook have a full depth of 30 feet and are 1,000 feet wide, except in one or two places where the channel has shrunk to 800 feet in width. The work on the Ambrose channel continues with good success. Improvements have been made at Governor's Island, headquarters of the Department of the East, by building wharves and dredging, so that larger vessels may approach the island. The State of New York has conveyed to the United States some ground under water, and it is proposed to enlarge the island by constructing bulkheads upon this ground. It is estimated that the entire project will cost \$685,000, and that \$400,000 will be required immediately. The following estimates for 1903 were made: New York harbor, for general improvement, \$100,000; for Ambrose channel, \$340,000; to complete the project, \$2,720,000; Bay Ridge and Red Hook channels, \$348,000; to complete the project, \$1,898,000.

Events.—On Jan. 6 Prof. Nicholas Murray Butler was chosen President of Columbia University.

On Jan. 8 a serious collision occurred in the tunnel of the New York Central Railway in New York city, killing 17 persons and injuring a large number.

On Jan. 27 an explosion, caused by dynamite, occurred in the Rapid-Transit tunnel, at Park Avenue and 41st Street, killing and injuring many persons and destroying considerable property.

On Feb. 22 the Park Avenue Hotel was partly destroyed by fire, and 17 persons were killed by the disaster.

On July 1 John M. Burke transferred the sum of \$4,000,000 to a board of trustees, to be used for the betterment of men and women who are unable to support themselves by reason of sickness or misfortune.

On July 30 a procession of 50,000 orthodox Jews followed the remains of Rabbi Jacob Joseph from the synagogue to the grave, chanting the Promise of David, and while in the vicinity of Grand and Sheriff Streets were attacked by the employees of a factory, and in consequence a riot occurred that culminated in bloodshed.

On Aug. 3 a remarkable storm passed over the city, producing at noon a darkness of such intensity that artificial illumination became necessary for the ordinary transaction of business.

On Oct. 6 the corner-stone of a new custom-house, to occupy the space bounded by Whitehall, State, and Bridge Streets and Bowling Green, was laid by Secretary of the Treasury Shaw.

On Nov. 4 an explosion of fireworks occurred in Madison Square, resulting in the death of 15 persons and the injury of 100 others.

On Nov. 11 the New York Chamber of Commerce formally dedicated its new building at 65 Liberty Street.

On Dec. 29 the doors of the old Hall of Records were closed, and as soon as the new building can be completed this historic edifice, erected in the early days of George III as a prison, will be demolished.

On Dec. 30 the freedom of the city was conferred on Dr. Adolf Lorenz, the great Austrian surgeon, who in many instances remedied congenital dislocation of the hip.

NEW ZEALAND, an island colony of Great Britain in the Pacific Ocean. Under the Constitution of 1875 the Governor has power to convene, prorogue, and dissolve Parliament only by the advice of responsible ministers, but he can veto bills or withhold them for the consideration of the Imperial Government and can submit drafts of bills for the consideration of either house, and all proposals for the appropriation of money must come from him before Parliament can legally provide for public expenditure. The Parliament, or General Assembly, consists of a Legislative Council of 45 members, appointed since 1891 for seven years, instead of for life as formerly, and a House of Representatives containing formerly 74 members, increased to 80 in 1902, elected by all adult citizens of both sexes, qualified by a residence of one year in the colony and three months in the district. The Governor at the beginning of 1902 was the Earl of Ranfurly, appointed in 1897 and continued in office till August, 1904, a year's extension of his term. The ministry at the beginning of 1902 was composed as follows: Prime Minister, Colonial Treasurer, Minister of Labor, and Minister of Defense, R. J. Seddon; Colonial Secretary, Postmaster-General and Electric Telegraph Commissioner, Minister of Railroads, Minister of Industries and Commerce, and Minister of Public Health, Sir. Joseph G. Ward; Minister of Lands and Minister of Agriculture, T. Y. Duncan; Commissioner of Stamp-Duties and Native Minister, J. Carroll; Minister of Immigration and Minister of Education, W. C. Walker; Minister of Public Works and Minister of Marine, W. Hall-Jones; Minister of Justice and Minister of Mines, J. McGowan; Commissioner of Trade and Customs, C. H. Mills.

Area and Population.—The area of the North island is estimated at 44,468 square miles; of the Middle island, 58,525 square miles; of Stewart's island, 665 square miles; total, 104,471 square miles, including adjacent small islands. Cook and other islands of the Pacific were annexed to New Zealand by the proclamation of June 10, 1901. The total white population of the three islands constituting the colony by the census of March 31, 1901, was 772,719, consisting of 405,992 males and 366,727 females. The population of the North island was 390,571; of the Middle island, 381,661; of Stewart's island, 272; of Chatham Islands, 207; of Kermadec Islands, 8. Including 43,101 Maoris, the total population was 815,820. There were 2,857 Chinese, of whom 32 were females. Of the Maoris, including 3,123 half-castes, 23,100 were males and 20,001 females. The population of the seaport of Auckland in 1901 was 34,213 within the town limits, 67,226 including suburbs; of Wellington, the capital, 43,638, or 49,344 with suburbs; of Christchurch, 17,538, or 57,041 with suburbs; of Dunedin, 24,879, or 52,390 with suburbs; of Sydenham, 11,404. The number of marriages in 1900 was 5,860; of births, 19,546; of deaths, 7,200; excess of births, 12,346; immigration, 18,074; emigration, 16,243. The increase of population by immigration is 36,000 in ten years.

Finances.—The revenue from customs in the year ending March 31, 1901, was £2,180,862; from stamps, including postal and telegraph receipts, £903,935; from railroads, £1,720,641; from the land tax, £294,584; from the income tax, £173,809; total revenue, £5,582,502, not including £89,369 from sales and £180,834 from rent of lands. The acreage alienated up to March 31, 1900, was 23,382,972 acres; total area of the colony, 66,861,440 acres. The public debt charges for 1901 were £1,745,616; expenditure for railroads, £1,144,832; for education, £481,087; for posts and telegraphs, £416,364; for constabulary and defense, £347,448; total, £5,479,703, exclusive of expenditure from the Public Works fund, which from 1870 to 1901 amounted to £31,287,647. The regular land tax, from which improvements are exempt, was 1*d.* in the pound in 1901, yielding £220,000 from land and mortgages, and the graduated supplementary tax, rising from 3*d.* in the pound on estates valued at from £5,000 to £10,000 to 2*d.* on estates exceeding £210,000, yielded £72,000. The income tax is 2½ per cent. on incomes up to £1,000, and 1*s.* on all above that amount, with exemption of £300. Old-age pensions cost the Government £207,000 in 1902. The public debt on March 31, 1901, amounted to £48,557,751, with an annual charge of £1,671,552 for interest and £46,364 for sinking-fund. The local revenues in 1900 amounted to £714,151 from rates and £1,220,060 from other sources; local expenditure, £1,960,073; debts, £7,057,350.

The Government revenue for the year ending March 31, 1902, was £6,152,839; expenditure, £5,914,915. The gross debt, which was £49,591,245, including £1,033,494 in the sinking-fund, on March 31, 1901, was increased during the following twelve months to over £52,900,000. A new loan of £1,750,000 for public works was proposed in the budget for 1903, which estimated revenue at £6,083,500 and expenditure at £5,987,063. The Government was able to borrow at par in the colony and Australia on 4-per-cent. bonds running four years when the London money market would not make favorable terms.

Defense.—There is a permanent force of 213 artillerymen and of 86 torpedoists to man 4 torpedo-boats and 4 launches. The volunteer force num-

bers 17,000; the police, 584; the number liable to militia duty, 112,000, comprising all males from seventeen to forty years of age, and from forty to fifty-five years of age of the unmarried males. During the Boer war New Zealand sent 6,700 men with 6,820 horses to South Africa. The Government formed plans to enlist returned soldiers and others as a volunteer reserve and also 6,000 Maoris, to be trained by British officers.

Production and Commerce.—Of the total area of New Zealand the area tilled in 1900 was 11,081,912 acres of artificial meadow, 1,554,123 acres under farm crops, 49,394 acres of plantations, 25,777 acres of orchard, and 17,411 acres of garden. The area of Crown lands leased for pasture in 1901 was 26,982,486 acres. The live stock of the colony consisted of 266,245 horses, 1,256,680 cattle, 19,355,195 sheep, and 250,975 hogs. The mineral production in 1900 was 326,467 ounces of silver of the value of £38,879,373, 616 ounces of gold of the value of £1,439,602, 10,159 tons of kauri-gum of the value of £622,293, 1,093,990 tons of coal of the value of £546,995, and small quantities of manganese and antimony ores. In 1901 the gold mined was 445,559 ounces, valued at £1,753,738. The value of imports in 1900 was £10,646,096, consisting of £3,727,926 of merchandise free of duty, £6,479,400 paying duties varying from 5 to 40 per cent. ad valorem, and £438,770 of specie. The value of exports was £13,246,161, of which £13,055,249 represent products of the colony, including £1,439,602 of gold, and £190,912 reexports. The imports of textiles and clothing were £2,420,241 in 1900; iron and steel manufactures and machinery, £2,133,219; sugar, £451,522; tea, £199,934; spirits, wine, and beer, £287,676; tobacco and cigars, £198,861; coal, £120,406; sacks and bags, £141,810; fruit, £226,128; oils, £206,770; fancy goods, £128,339; paper and books, £407,410; other merchandise, £3,285,010. The exports of wool were £4,749,196 in value and 140,706,496 pounds in quantity; grain, flour, and pulse, £1,049,399; frozen meat £2,123,881 in value and £1,844,831 in quantity; kauri-gum, £622,293 in value and 10,159 tons in quantity; tallow, £368,473; hides, skins, and leather, £475,986; live animals, £39,675; dairy-produce, £969,731, representing 172,583 hundredweight of butter and 102,849 hundredweight of cheese; hams and bacon, £16,777; preserved meat, £94,524; grass-seed, £93,006; phosphorus, £332,182; other colonial produce, £680,524. Imports from the United States increased from about £200,000 in 1896 to more than £1,000,000 in 1901.

Factories in New Zealand have increased 80 per cent. in five years, the number of workers 28 per cent., and wages paid 62 per cent. The conciliation and arbitration act has been seven years in operation. Although a section of the employers has labored for its repeal and individual trade-unions have complained of some awards of the arbitration courts, the workers in general are content with the act save in minor particulars that they wish amended, and the bulk of the employers do not complain. The act has been copied by New South Wales and South Australia. An amendment made in 1901 enables parties to present their differences at once to the court of arbitration, consisting of a jurist and representatives of laborers and employers; still the conciliation boards settle many troubles, and twice as many agreements are voluntarily reached and recorded as binding contracts by consultation between unions and employers as there are cases settled by award of the arbitration court.

Since the passing of the act the value of improvements has been increased £7,500,000.

Navigation.—During 1900 there were entered at New Zealand ports 616 vessels, of 854,632 tons, of which 545, of 742,551 tons, carried cargoes, and cleared 613, of 825,275 tons, of which 580, of 786,454 tons, carried cargoes. The number of colonial vessels entered was 393, of 392,519 tons, and cleared 397, of 388,436 tons; British vessels entered numbered 156, of 392,394 tons, and cleared 149, of 368,241 tons; foreign vessels entered numbered 67, of 69,719 tons, and cleared 67, of 68,598 tons. The number of vessels registered in the colony was 521, of 98,753 tons, of which 299 were sailing vessels, of 42,128 tons, and 222 were steamers, of 56,625 tons.

Railroads, Posts, and Telegraphs.—There were 2,300 miles of Government railroads in operation on April 1, 1901, of which 1,383 miles were in the Middle island and 829 miles in the North island. The revenue of Government railroads for the year was £1,727,236; expenditure, £1,127,848, being 65.30 per cent. of receipts. There were 6,243,593 passengers and 3,461,331 tons of freight transported. The capital cost was £18,230,057. There is a private railroad, 84 miles long, on the west coast of the North island, which the Government was authorized by Parliament to acquire at a certain price. The English shareholders refused to sell at this figure, and the Government retaliated by cutting off connections. The post-office during 1900 forwarded 38,662,296 letters, 1,236,183 letter cards, 1,908,515 postal cards, 17,948,858 parcels and book packets, and 17,045,715 newspapers. There were 369,834 money-orders issued and 264,018 paid. The receipts for the year ending March 31, 1901, from posts and telegraphs were £503,836 and expenses £418,272.

The Government telegraph-lines on April 1, 1901, had a length of 7,249 miles, with 20,682 miles of wire. The number of telegrams during the year was 3,898,128, of which 3,534,444 were paid despatches. The revenue from telegraphs and telephones was £186,978.

Politics and Legislation.—A system of Maori councils for local self-government, authorized in 1901, has been organized. The Maori nation has been induced to hand over to the Government over 1,000,000 acres of its best lands for settlement by whites or individual Maoris. The Maori king, Mahuta, opposed this arrangement at first. The business presented by the Government in the session of the Assembly that began on July 1 included a referendum bill, which one house had already passed; a bill providing State fire-insurance; and a measure making provision for aged and retired railroad employees. The Government purchased coal-mines. A measure was considered for preventing combinations for raising improperly the prices of food. New estates were acquired under the land acts for division and resale to actual settlers. The general elections, held in November, resulted in the fifth successive victory of the Progressive party of Mr. Seddon. The Government party elected 45 members; the Opposition, 23; Independents, 4; Prohibitionists, 4. In local-option districts the voting was in several instances in favor of no licenses or the reduction of licenses. The Government majority was twice as great as in the general election of 1890 that put the Progressives in control.

NICARAGUA, a republic of Central America. The Congress is a single chamber of 40 members, elected for two years by universal adult male suffrage. The President is elected by direct popular suffrage for four years. Gen. José Santos

Zelaya was elected President of the republic for the term ending Jan. 30, 1902. The Cabinet at the beginning of 1902 was composed of the following members: Minister of the Interior, Justice, Police, and Ecclesiastical Affairs, Gen. Fernando Abaunza; Minister of War and Marine, A. Saenz; Minister of Foreign Affairs and Public Instruction, Dr. Fernando Sanchez; Minister of Finance and Public Credit, Col. Felix Pedro Zelaya; Minister of Public Works, Dr. Leopoldo Ramirez Mairena.

Area and Population.—The area of Nicaragua is estimated at 49,200 square miles; the population at 450,000 to 500,000, mostly Indians with an infusion of negro blood. The white population of Spanish stock is exceedingly small, but Americans and other whites have settled in the country in recent years to the number of about 1,200. Managua, the capital, has 30,000 inhabitants; Leon, 45,000; Granada, 25,000; Masaya, 20,000; Chinandega, 20,000.

Finances.—The revenue for the calendar year 1899 was \$4,475,827 in silver, and expenditure \$4,557,794. For 1900 the revenue was estimated at \$6,408,000, and expenditure at \$6,414,951; revenue for 1901 at \$5,760,920, and expenditure at \$5,758,923. In 1899 customs yielded \$2,187,700; liquor and tobacco duties, \$1,118,120; the tax on slaughtering cattle, \$214,069; railroads, steamboats, posts, and telegraphs, \$690,400. The expenditures were \$1,573,885 for the army and navy, \$941,014 for public works, \$656,237 for finance, \$398,382 for education, \$536,573 for police, \$315,936 for government, and \$119,640 for justice.

The foreign debt, consisting of a railroad loan raised in England at 6 per cent. in 1886, readjusted at 4 per cent. in 1895, amounted on July 1, 1901, to \$273,900. The internal debt on Jan. 1, 1900, amounted to \$8,064,935.

The Army and Navy.—All young men between the ages of eighteen and thirty-five can be called into military service, and for ten years longer they belong to the reserve, and then to the National Guard until they are sixty-five years old. The number in active service must not exceed 3,500; in 1900 it was about 2,000. The war strength approximates 25,000.

The naval force consists of 2 steamers on the Atlantic coast, 2 on the Pacific, and 4 on the Lake of Managua.

Commerce and Production.—Coffee, banana, cacao, and sugar cultivation are being extended by foreign settlers. The people have about 400,000 cattle and export live animals and hides. The export of coffee in 1900 was about 200,000 bags; of sugar, 12,238 hundredweight. Rubber must not be exported except from the state of Zelaya, the old Mosquito Territory. There are 109 gold and silver and copper mines belonging to American and English companies. The shipments in 1900 were 18,500 ounces of gold, besides 14,050 pounds of ore. The total value of imports in 1900 was estimated at \$8,441,880; and that of exports at \$9,406,436 in silver. The value of cotton goods imported was \$3,852,000; of woollens, \$234,000; of provisions, \$183,120; of flour, \$420,000; of wines and spirits, \$384,000; of hardware, \$219,600; of drugs, \$206,400; of sacks, \$123,000. Among the exports the value of coffee was \$4,800,000; of rubber, \$828,000; of mahogany and cedar, \$616,560; of dyewoods, \$215,280; of cattle, \$540,000; of hides, \$378,000; of gold bars, \$432,000; of gold-dust, \$312,000; of gold ore, \$968,280. Of the imports Great Britain supplied about 40 per cent., the United States 25 per cent., Germany 19 per cent., France 10 per cent., and other countries 6 per cent.; of the exports 30 per cent. went

to Great Britain, 29 per cent. to the United States, 28 per cent. to Germany, 5 per cent. to France, and 8 per cent. to other countries.

Navigation.—The number of vessels entered in 1900 at the port of Corinto, which has two-thirds of the commerce of the country, was 200 in the foreign trade, of 328,622 tons.

Railroads and Telegraphs.—There are 140 miles of railroads, which connect with steamers on Lake Managua and Lake Nicaragua. A line from Managua to Leon and Corinto, 38 miles long, was contracted for in October, 1900, to be completed in 1902, which will do away with steamboat transport between those points. Except 7 miles, all the railroads are Government property.

Political Affairs.—The Presidents of Costa Rica, Honduras, Nicaragua, and Salvador met at Corinto in January, 1902, to discuss matters of common interest to Central American states. The outcome of the conference was a treaty laying down a series of agreements in public law and an undertaking to establish a tribunal of arbitration which in the future will decide all differences that arise between any of the four states. The President of Guatemala was invited to take part in the conference. Pleading inability to attend, he sent his Minister of War to represent him, but without full powers. By a vote of the conference President Iglesias, of Costa Rica, was commissioned to seek the adhesion of President Estrada Cabrera, of Guatemala, to the treaty, and he departed on Jan. 25 for this purpose. Gen. Santos J. Zelaya was reelected President of Nicaragua for a third term and on Feb. 2 was inaugurated at Managua. He has continuously held the office since he was first proclaimed President in 1893 as the result of a revolution in which President Roberto Sacaza was overturned. Other politicians were now ambitious for the presidency, the Opposition chafed at exclusion from office for so long a period, and many acts of President Zelaya's long administration had given rise to popular discontent. The aid extended to the Colombian revolutionists from Nicaragua provoked a revolutionary movement against Zelaya's Government from Colombia as a base. Early in March, 1902, Government spies heard of correspondence from exiles in Panama which gave warning of an intended rising. The Government took the precaution to arrest immediately prominent members of the hostile party living in Granada, which is the Conservative stronghold. Those who did not escape arrest were taken to Managua and imprisoned. On July 7 a party of Nicaraguan revolutionists were landed near Bluefields from the Colombian gunboat Pinzon. The Government forces, acting promptly, defeated the revolutionists, and most of these surrendered. Their captors intended to shoot their prisoners, but desisted when the commander of the British gunboat *Psyche* landed and insisted that no one should be executed without a fair trial. The President sought a defensive alliance with Salvador against Colombia, fearing that the latter would retaliate with warlike measures for active assistance rendered by the Nicaraguan Government to the revolutionary Liberals of Colombia. In consequence of the impracticable conditions demanded by the Colombian Government and its dilatory proceedings in regard to the terms of a treaty to grant a right of way to the United States for the construction of the Panama Canal, Secretary Hay began informal negotiations with the Nicaraguan and Costa Rican governments with the object of concluding a tentative treaty for the construction

of a canal by the Nicaragua route in the event of failure to reach an agreement with Colombia. Those governments were anxious to have the Nicaragua Canal completed, and they offered terms more favorable to the United States than the Colombian Government considered itself competent to concede. The Nicaraguan Government was financially embarrassed before the military measures taken against revolution and a further decline in the value of the paper currency added to its difficulties. In November all customs duties were raised 160 per cent. on account of the depreciation of paper money.

NORTH CAROLINA. (See under UNITED STATES.)

NORTH DAKOTA. (See under UNITED STATES.)

NORTHWEST TERRITORIES OF CANADA. The area of the Northern Territories, including Keewatin, Assiniboia, Saskatchewan, Alberta, Athabasca, Mackenzie, and Ungava, is 2,330,840 square miles; population in 1901, 200,000; capital, Regina. The area of the district of Franklin, reaching up to the far north, is not accurately known.

Government and Politics.—The Territorial Government in 1902 was unchanged. It comprised F. W. G. Haultain, K. C., as Premier, Attorney-General, and Commissioner of Education; A. L. Sifton, Treasurer and Commissioner of Public Works; G. H. V. Bulyea, Commissioner of Agriculture and Territorial Secretary. William Eakin was Speaker of the Assembly during its last session before the general elections. D. H. McDonald acted as leader of the Opposition. The session of the Assembly was opened by Lieut.-Gov. A. E. Forget on March 20, with a speech from the throne, of which the following are the significant passages:

"The unprecedented crop of last season brought the transportation question into prominence, and demonstrated the necessity for improved and enlarged accommodation for shipping and carrying grain to eastern points after the close of lake navigation. Owing to the representation made to the Canadian Pacific authorities by my Government, through the Department of Agriculture, the evils of the grain blockade existing a few weeks ago have been considerably mitigated. As a result, the farmers are now in receipt of an increase in prices amounting to at least 10 per cent. over prices formerly obtaining.

"Owing to the great increase of population in the Territories, provision will have to be made for increased representation in the Legislature, and a measure dealing with that subject will be submitted to you."

The Assembly was prorogued on April 19, after discussing at great length the question of obtaining full provincial rights from the Dominion Government and passing measures of local importance. One of the chief measures of the session was that presented by Mr. Bulyea, on April 18, in the form of a request to the Dominion Government asking amendment of the elevator act, so that when there was an undue difference between the street and the track prices of grain, the commissioner may order that all cars placed at such station shall be located at any elevator of which the manager is prepared to pay the proper price. He believed there was a combine in this connection, and that large sums were being made out of the farmers by elevator companies unduly depressing prices.

On April 18, Mr. Bennett moved a vote of censure against the Government for compromising lawsuits entered against them by the Hudson Bay Company regarding certain local-improve-

ment taxes. Mr. Haultain declared that the settlement was much better than litigation extending up to the judicial conference in London, and was supported by 26 to 6 votes. On the same day Mr. R. S. Lake moved the following resolution, which was unanimously passed:

"That in the opinion of this House, as the Canadian Pacific Railroad has signally failed to meet the pressing necessities of the Northwest in the matter of the transportation of grain, and as the Dominion Government has postponed conferring upon the Northwest powers that would enable the Territories to take steps to improve this present condition of affairs, therefore it becomes the imperative duty of the Dominion Government to take immediately steps looking to the procuring of increased transportation facilities for the Territories, whether by additional trunk lines or otherwise."

On April 2, a convention of the Eastern Assiniboia Liberals was held at Indian Head, and a series of resolutions was passed urging action in connection with the elevator companies as to wheat storage; the grant of increased powers of self-government and control to the Territorial Legislature; the reduction of Dominion fees under the land titles act; certain amendments to the homestead regulations in the Dominion lands act; more attention on the part of the Dominion Government to the transportation question, especially in districts where farmers have to haul their produce 15 to 35 miles. A vigorous protest was also lodged against any increase in the Federal tariff, and a demand was made for reduced duties on agricultural implements and other manufactured products. At a gathering of Liberals in Calgary on Sept. 3 resolutions were passed embodying the following platform for the Territories: 1. Demand for better post-office service. 2. No return to a protective tariff, and no increase in customs. 3. Increased expenditure by the Dominion on roads and bridges. 4. Increased railway and transportation facilities. 5. Three members for Alberta. 6. Thanks to the Laurier Government for the ability, integrity, and efficiency of its administration, and particularly that of the Department of the Interior.

Finances.—The Treasurer's budget speech was delivered on April 15. He said there would be a decrease of \$3,000 in the civil-service vote; there was a slight increase in legislation of \$1,000, owing to placing the library on a different footing. In the item for the administration of justice there would be an increase, but it would not add to the public burdens, as it was brought about by paying clerks of courts salaries instead of fees. The vote for education was about the same as last year. There was an increase in the Agricultural Department, where the work was very much greater than in previous years. The grants to hospitals were an automatic increase in consequence of the ordinance of the past year. The last item, miscellaneous, showed a great increase, from \$5,000 to \$45,000. The reason of this was that there would be an election, and \$30,000 would be required for that. Then there was the contemplated trip of the Premier to the coronation ceremony in England. The amount asked for this in the estimates was \$5,000. The speaker then referred to the inadequate moneys supplied them by the Dominion Government. In 1898 the amount was \$282,000, and since then it had been increased by only \$75,000. That was a very small amount, compared with the growth of the country. In the old province the increase of population had been gradual, but in the Northwest a new nation had sprung into existence at once.

Provincial Autonomy.—This question of obtaining greater powers and larger revenues from the Dominion was the central subject of the year's discussion. The Assembly had passed resolutions in 1900; Messrs. Haultain and Ross had visited Ottawa the same year, and again in 1901; an elaborate statement of the whole case had been made by the Territorial Premier to Sir W. Laurier under date of Dec. 7, 1901; and a bill had been submitted to the Ottawa Government embodying the Territorial demands and requirements. The proposal was to form the four districts of Assiniboia, Saskatchewan, Alberta, and Athabasca into a province of the Dominion, under the terms of the British North America act, with 4 members of the Senate and 10 in the Commons; with the same local constitution, powers, and rights as the other provinces; with the control of its Crown lands; and with subsidies of \$50,000 for legislative purposes and \$200,000 at the rate of 80 cents a head of its population; and interest at 5 per cent. on all lands granted for settlement by the Dominion Government within the bounds of the new province. Under date of March 27, 1902, the Hon. Clifford Sifton, Minister of the Interior at Ottawa, wrote Mr. Haultain as follows: "It is the view of the Government that it will not be wise at the present time to pass legislation forming the Northwest Territories into a province or provinces. Some of the reasons leading to this view may be found in the fact that the increase in the population now taking place will, in a short time, alter the conditions to be dealt with very materially; and that there is a considerable divergence of opinion respecting the question whether there should be one province only or more than one province. Holding this view, therefore, it will not be necessary for me to discuss the details of the draft bill which you presented as embodying your views." In his reply, dated April 2, the Territorial Premier concluded a vigorous protest in the following terms: "We can not but regret that the Government has not been able to recognize the urgent necessity for the change that has been asked, and can only trust that, as you have denied us the opportunity of helping ourselves, you will be at least impressed with the necessity and the duty, which is now yours, of meeting the pressing necessities of these rapidly developing Territories. While we may, in your opinion, without inconvenience, mark time constitutionally, we can not do without the transportation facilities, the roads, the bridges, the schools, and the other improvements which our rapidly growing population imperatively requires, and at once. Whether we are made into a province or not, our financial necessities are just as real, and in conclusion I can only trust that when the question of an increase to our subsidy is receiving consideration more weight will be given to our representations in that respect than has been given to our requests for constitutional changes."

General Elections.—The Territorial Assembly was dissolved on April 25, nominations took place on May 10, and the elections on May 21. Messrs. A. E. de Rosenroll, A. B. Gillis, R. S. Lake, G. H. V. Bulyea, and A. D. McIntyre, all Government supporters, were elected without opposition. Fifteen Independents were nominated, and only 10 straight Opposition candidates. In Calgary J. J. Young, editor of the Calgary Herald, simply asked a free hand in the coming Legislature. He was elected by a good majority. The general result was the choice of 23 Government supporters, 4 Opposition candidates, and 5 Independents.

Public Works.—The report of this department in the Territorial Government revealed a heavy

amount of work during the year, and a considerable development in the country. The sum of \$258,000 was voted for public works needed in 1901. At the close of the year \$236,574 was spent, and the outstanding contracts and works provided for, but not yet paid, would eat up the remainder. The amount expended in public works for 1902 was more than \$60,000 in excess of the year before. Mr. A. L. Sifton pointed out that this increased sum did not keep pace with the increased necessities of the department, and of the works required only the most pressing were performed. Had all the works been undertaken that were actually necessary, an expenditure of \$350,000 would have been required.

In the Territories there were 32 coal-mines in operation, and by the returns filed the output was shown to be 331,907 tons of bituminous coal and 14,742 tons of anthracite, or a total output of 346,649 tons. This was an increase of 25,370 tons over the previous year.

During the year \$8,300 was collected as departmental revenue. This was almost the only branch of the department that showed a decrease, which was owing to the fact that in the 1900 revenue was included a refund of \$10,000 made by the Dominion Government for amounts expended in improving the Peace river road, and a \$2,000 refund of expenditure on the bridge over Belly river at Standoff. The expenditure for the administration of the department was \$12,571. In the survey branch there were 9 employees. Instructions for 230 surveys were issued, 187 of which were completed before the season was over. In the year 750 cases for right of way of roads were settled. The usual schedule of road surveys made during the year was appended to the report. The department now owned 1,300 bridges, and \$33,082 was spent last year in repairing them. Wooden structures, as they are worn out, were being replaced by steel ones. In all, 113 were built last year, at a cost of \$69,296.

In irrigation work the report gave the following particulars: Number of canals and ditches constructed, 169; length of constructed canals and ditches, 469 miles; number of water-rights recorded for canals and ditches not yet completed, 14; number of acres susceptible for irrigation from constructed canals and ditches, 614,684; number of water-rights recorded for domestic power and other purposes, 127.

Immigration.—The year 1902 will be remarkable in the Territories as well as in Manitoba for the beginning of a wave of emigration from the United States. Slow settlement had been going on for years in different regions of the country, but now it had become a rush. In the southeastern section nearly all the new arrivals were described as brought from Iowa and Minnesota. The Canadian-American Land Company acquired 125,000 acres of Canadian Pacific Railroad lands, and strenuously endeavored to sell their holdings. Another aid to settlement was a combination of Iowa bankers, who purchased 40,000 acres for the same purpose. Conservative estimates placed the total increase at 50,000 persons in the south, at Edmonton and Calgary, around Lethbridge and Wetaskiwan, and among the Mormons of Cardston. Speaking of his first trip in three years through this country, Sir W. C. Van Horne made the following statement in Montreal on Sept. 30, 1902: "The homestead lands immediately along the railway-tracks have been taken up, but you must remember that the territory is enormous, and that when all the homestead lands are taken up the population will be numbered by millions and the railway mileage will be increased tenfold."

In Manitoba, I suppose, practically all the homestead lands have been taken up, and practically all the railroad lands have been sold. This is also largely true of Eastern Assiniboia, but as you go farther west the unoccupied areas increase."

Agriculture.—The work of the farmer and rancher and dairyman was the central source of Territorial progress in 1901-'02. The product of the creameries in the former year showed an average price of 19.25 cents a pound, with 1,345 patrons, for 672,393 pounds of butter. The secretary of the Western Stock-Growers' Association made figures public in April, 1902, which showed a shipment from Alberta of 45,301 head of live stock in the previous year, compared with 46,231 in 1900 and 27,578 in 1899. The grain production of the Territories in 1901 was as follows: Wheat, 12,676,343 bushels thrashed, 24.92 bushels an acre; oats, 11,113,066 bushels thrashed, 48.43 bushels an acre; barley, 736,749 bushels thrashed, 36.75 bushels an acre.

According to Crop Bulletin No. 2, issued on Sept. 1, 1902, by the Department of Agriculture at Regina, the estimated production for the year was 14,649,500 bushels of wheat, 10,725,500 bushels of oats, and 844,000 bushels of barley. At the annual meeting of the Territorial Horse-Breeders' Association at Calgary on May 16 the secretary estimated the number of horses in the Territories at 90,000 for Alberta, 45,000 for Assiniboia, and 15,000 for Saskatchewan. In 1901, 1,267 horses were imported via Calgary from the United States at an average price of \$32.89, and 2,806 via Lethbridge at \$21.71.

NOVA SCOTIA, an Atlantic province of the Dominion of Canada; area, 20,600 square miles. Population, in 1901, 459,574. Capital, Halifax.

Government and Politics.—There were no changes in the composition of the provincial Government in 1902. G. H. Murray was Premier and Provincial Secretary; J. W. Longley, Attorney-General; Arthur Drysdale, Commissioner of Works and Mines; and the members without office were T. Johnson, A. H. Comeau, A. MacGillivray, T. R. Black, W. T. Pipes, Hon. D. McPherson. On Feb. 13 the first session of the thirty-third Assembly of the province was opened by Lieutenant-Governor A. G. Jones, with a speech from the throne, of which the following are the significant passages:

"For some years past evidences of steady progress have been manifest in the agricultural, mining, fishing, and lumbering enterprises of the province, and the reports of the banking and other commercial institutions of the country offer conclusive evidence of marked and notable advance during the past few years. The output of coal in Nova Scotia for the past year was considerably the largest of any in our history, and the indications are for a substantial increase during the present year. The railway between Windsor and Truro, commonly known as the Midland Railway, has during the past year been completed and open for public traffic, as also the Inverness and Richmond Railway, between the Strait of Canso and Broad Cove Mines. Both of these railways open up important sections of country. Active work has been begun upon the railway between the Strait of Canso and St. Peters, which has been subsidized by my Government. During the last session of the Legislature a measure was adopted authorizing my Government to enter into a contract for the construction of a railway from Halifax to Yarmouth. After the Legislature had been prorogued, my Government immediately had negotiations with various parties for

the carrying out of the provisions of the act, and I may state that my Government ultimately entered into a contract with the Halifax and South Western Railway Company, to whom a charter was granted, under the provisions of the law, by order in Council, for the construction of a line of railway from Halifax to Barrington. The terms of such contract were somewhat in excess of the powers embodied in the act relating thereto, and such contract was made subject to ratification by the Legislature. A copy of this contract will be laid before you, and an act will be submitted for the ratification thereof.

"Since the recess steps have been taken toward the establishment of a public sanatorium for the treatment of tubercular diseases, and upon the report of the Medical Commission appointed for such purpose a site has been selected and secured."

Thomas Roberston was elected Speaker of the Assembly, and Robert Boak was maintained in his office of president of the Legislative Council, which he had held since 1878. When the coronation honors were announced it was found that he had been knighted in recognition of his long retention of an important office. In the session that closed on March 27, 213 acts were passed, of which the following were the more important:

To secure the registration of municipal debentures.

Respecting the maintenance and reform of juvenile offenders.

Respecting the encouragement of building of railways.

To amend chapter lii, Revised Statutes, 1900, the education act.

To amend chapter xviii of the Revised Statutes, 1900, the coal-mines regulation act.

To amend chapter clxxi, Revised Statutes, 1900, the mechanics' lien act.

To amend chapter clii, Revised Statutes, 1900, of investment of trust funds in certain loan companies.

To amend subsection 2 of section 10 of chapter clxx, Revised Statutes, 1900, of the sale of land under execution.

To amend chapter cxlv, Revised Statutes, 1900, the assignments act.

Of the mass of legislation involved, a large portion was private bills. Others were merely amendments to existing laws. A good deal of discussion took place about the proposed Maritime School of Agriculture, but nothing definite was done, and the principal enactment of the Legislature was the ratification of a contract regarding the South Shore Railway. Such by-elections as occurred during the year went in favor of the Government, which had only two members in opposition until December, when two Independents were elected.

Finances.—The financial statement was presented to the House on March 19 by Mr. Longley. The estimates for the year ending Sept. 30, 1902, included an expenditure of \$1,047,920 and a revenue of \$1,052,106, against the estimate for the preceding year of \$1,026,965 for expenses and a revenue of \$1,034,096. The expected revenue included \$460,000 from mines, \$30,000 from Crown lands, \$50,000 from the Nova Scotia Hospital, \$35,000 from succession duties, and \$432,000 from Dominion subsidies. The estimated expenditures included \$33,000 upon agriculture, \$260,000 upon education, \$20,000 upon Crown lands, \$50,000 for legislative expenses, \$43,200 for Public Works (which included \$22,000 upon the welcome to the Prince and Princess of Wales in 1901), \$134,850

upon public printing, \$52,219 upon steamboats, ferries, and packets, \$20,000 for salaries, \$109,690 on roads and bridges, \$21,000 for the provincial engineer's office, \$148,194 upon debenture interest, \$11,500 for election expenses, and \$32,000 for miscellaneous purposes. The actual total receipts from all sources for the year ending Sept. 30, 1901, were \$1,843,995. The expenditures were \$1,781,336.

The assets of the province on Sept. 30, 1901, were stated at \$1,368,654, of which \$1,056,128 was a Dominion of Canada provincial indebtedness from before confederation. The liabilities included \$2,043,500 of provincial debentures payable in Halifax, and \$1,727,666 payable in London.

Education.—According to the report of the Superintendent of Education, Dr. A. H. McKay, there were 1,848 school sections in the province compared with 1,875 in 1900; and 145 sections without schools, against 132. The schools in operation had decreased from 2,417 in 1900 to 2,387 in 1901; the number of teachers from 2,557 to 2,492; the number of male teachers had decreased from 616 to 540, while the number of female teachers had increased from 1,941 to 1,952. The total days' attendance in the year was respectively 11,318,771 and 10,763,651. Of the pupils in 1901 there were 91,114 in the common schools and 7,296 in the high schools. The provincial aid to the schools increased from \$248,309 to \$254,778, while the municipal funds for that purpose decreased from \$119,923 to \$119,876, and section assessments from \$519,020 to \$470,108. The total annual enrolment of pupils decreased in the same period from 100,129 to 98,410, and the daily average attendance from 56,224 to 53,643. On March 25 a Committee on Education reported to the Legislature:

"Your committee are inclined to the opinion that the schools of this province, as at present conducted, are too much absorbed in book work and in verbal studies, which seek to train the memory only, but which fail to give adequate discipline or to fit the pupil for skilled labor or practical life. Your committee do not wish to be understood as reflecting in the least on the men in charge of our educational system. The defects in the system are a legacy that has been handed down to them from the past, and will take time and patience to remove, and we feel certain that the Superintendent of Education and the teachers throughout the province will be glad to embrace any opportunity that may be offered to effect the necessary reform. It will not be denied that our schools should, as far as possible, prepare the pupils for an intelligent apprenticeship in the calling that is to yield them a livelihood. The child's education should cultivate a taste in him for his future work. The apparent inability on the part of the pupils to turn the results of the work done in the schools to practical every-day use is the defect that in many quarters is charged against the existing system."

Mines.—The mineral production for the year ending Sept. 30, 1901, included 419,567 tons of iron ore, compared with 15,507 in the previous year; 3,025,365 tons of coal raised, against 3,238,245 tons; 120,000 tons of coke made, compared with 62,000 tons; 135,637 tons of gypsum, against 122,281 tons. Grindstones decreased in production 50,000 tons to 315 tons. Limestone increased from 50,000 tons to 95,794 tons. And pig-iron rose from nothing to 90,034 tons. The revenue of the Mines Department for the year ending Sept. 30, 1901, was \$437,726, which included royalties on coal of \$367,925, and lesser sums for other royalties, leases, rentals, licenses, and fees. The sum

of \$2,630 was paid to the Dominion Iron and Steel Company as an allowance of 6½ cents on each ton of coal consumed in the local manufacture of iron and steel up to Aug. 16, 1901. The United States took 624,273 tons of Nova Scotia coal in 1900, and 590,086 tons in 1901.

A dispute that arose between the Dominion Coal Company of Sydney and its employees as to the rate of wages was decided, under the terms of the miners' arbitration act, by a Board of Arbitrators. The decision was against any present increase.

On Feb. 26, 1902, the Nova Scotia Mining Society met in Halifax, with President W. L. Libbey in the chair. In his opening address Mr. Libbey reported great increase in the facilities of local coal-mines; substantial progress in obtaining the confidence of capitalists in provincial resources and transportation arrangements; marked progress in systematic and legitimate development work below ground; a fairly plentiful supply of labor in the coal districts and gold areas; an inadequate supply of technically educated mining men. A report was then presented from the committee which had been appointed to urge upon the Government suggestions regarding the following subjects: 1. A Government assay office. 2. Technical education. 3. Encouragement to deep mining. 4. An improved departmental report. 5. To revive the legislation of 1885 requiring a record of plans of the workings of all metalliferous mines. 6. That in future appointments to the office of deputy inspector shall be subject to a technical examination. 7. That the present inaccurate maps of the Mines Office be rectified. 8. That all rentals be made payable on two fixed days in the year.

Transportation.—The new railways opened in 1901 included the Inverness and Richmond, 61 miles, from Port Hastings to a junction with the Intercolonial Railways at Point Tupper, and the Midland Railway, 57½ miles, from Windsor to Truro. The Cape Breton Railway Extension from Point Tupper to St. Peters, and thence to Louisburg, was under construction, and several projected lines were under survey. All were connected with the mineral development of the province. The traffic of the railways under provincial control in the year ending Sept. 30, 1901, included the carriage of 206,018 passengers, with receipts amounting to \$857,747; the carriage of freight and live stock, with returns of \$594,868; and the carriage of mails and sundries, with returns of \$153,180—a total of \$836,187, compared with \$654,828 in 1900.

The most important piece of legislation in 1902 was that relating to the South Shore Railway—the granting of sufficient Government assistance to insure the building of a line between Halifax and Yarmouth. The Opposition declared that in the contract made in this connection the public interests were not sufficiently protected.

The Government side of the agreement with Messrs. Mackenzie and Mann was explained and defended by Mr. Longley in the Assembly on March 13. In the course of his speech he said: "Under the arrangement proposed, the Government were to advance \$13,500 a mile, upon which the company were to pay interest, with a proviso that if the interest were not paid after three years the Government should have the right to take possession of the road. In that case, the Government would have obtained possession of the road at a cost of \$13,500 a mile, whereas if it were constructed as a governmental work no one believed that it could be constructed for less than \$20,000 a mile. Certainly this was \$6,500

a mile better for the construction of the road through this whole section of country than if it were undertaken as a Government work. Of course, he was assuming that the road was going to pay; but if it did not pay, the Government would be in a better position to that extent than if they built it themselves, because they would be getting the road on the most favorable terms for the smaller sum per mile. He might add, that the contract would never have been entered into if the Government had any doubt that the earnings of the road would pay the trifling and moderate sum of \$350 per mile, which was all that the obligations of the Government involved."

On March 26, 1902, a report of a special committee of the House was presented by E. M. Macdonald. It said, among other things: "The establishment of bait-freezers has helped to develop the fishing industry, and in order that the people of central Canada and the central United States may be reached with our fish products we require certain advance steps to be taken. From the facts before us we are of the opinion that the following improvements are required: First, the establishment of refrigerators at the different railway terminals, to which fish could be sent for shipment at all times. Second, the adoption of improved cold-storage cars, and better attention paid to icing cars in transit. Third, Government assistance for experimental car lots of fresh fish to be sent directly to Chicago or other Western points, under the supervision of an expert. Fourth, the establishment of a large freezer at different points to provide bait."

Agriculture.—The agricultural societies in Nova Scotia numbered 151 in 1901, with 8,500 members, having subscriptions of \$10,771 and a

Government grant of \$10,000. Special attention was paid during the year to dairying, and reports of operations published on April 5, 1902, showed a production of 316,180 pounds of cheese worth \$30,087, and 542,626 pounds of butter, valued at \$53,222. In his annual report, the provincial Secretary of Agriculture said that the farmers were giving more attention to the raising of horses, and that the outlook for cattle, sheep, and swine was most satisfactory.

Crown Lands.—The receipts from this source of revenue in the year ending Sept. 30, 1900, were \$45,581—the largest since 1872. The estimated returns for 1901 were \$35,000; the actual receipts were \$91,548. In his annual report, dated Oct. 1, 1901, Mr. Longley made the following statements: "The result of the new policy of issuing leases instead of grants has appeared to increase the demand for land on the one hand, and at the same time it has made it easy to issue leases for large areas. The result of these leases is not to tie up the lands for any private parties permanently, but only for a term of twenty, or possibly forty years, and care is taken that when large areas are leased it shall be in the furtherance of some lumber industry which is calculated to advance the industrial life of the province. The very large leases applied for last year and this year are in connection with the development of the pulp industry in Nova Scotia. Two or three years ago a large lease was issued in the counties of Inverness and Victoria to a company who have undertaken to erect large pulp-mills and create a great industry in that section. The applications for large areas made during the fiscal year just closed are chiefly for lands in western Nova Scotia, with a view to the further development of the same industry."



OBITUARIES, AMERICAN. Adams, Charles Kendall, educator and historian, born in Derby, Vt., Jan. 24, 1835; died in Redlands, Cal., July 26, 1902. He was graduated at the University of Michigan in 1861, and studied in Germany, France, and Italy. He became Assistant Professor of History in the University of Michigan in 1863, and in 1867 was made full Professor, holding the chair until 1885. From 1881 to 1885 he was non-resident Professor of History in Cornell University, and in 1885 he succeeded Andrew D. White as its president. He resigned in May, 1892, and two months later accepted the presidency of the University of Wisconsin, serving till his resignation in October, 1901. He was president of the American Historical Association in 1890. He was the author of *Democracy and Monarchy in France* (1874); *Manual of Historical Literature* (1882); *British Orations* (1884); and *Christopher Columbus*. He was editor-in-chief of *Johnson's Universal Cyclopedia* (1892-'95).

Agnew, Daniel, jurist, born in Trenton, N. J., Jan. 5, 1809; died in Beaver, Pa., March 9, 1902. He was graduated at the Western University of Pennsylvania, and was admitted to the bar in 1829. He practised in Pittsburg, and subsequently in Beaver, where he rapidly achieved a high reputation as a real-estate lawyer. In 1833 he joined the Whig party, and through his gift of oratory soon became a leader. He was a member of the Constitutional Convention in 1837-'38, and aided in framing a series of amendments to the Constitution of 1790, which subsequently became a part of it. In June, 1851, he was appointed

president judge of the 17th Judicial District of Pennsylvania, and in October following he was elected for a term of ten years. He was reelected without opposition in 1861, and in 1863 was elected to the Supreme Court of Pennsylvania, where he served as Associate Justice till 1874, when he became Chief Justice, and continued in that office till the expiration of his term in 1879.

Anderson, John F., military officer, born in Wiscasset, Me., about 1834; died in Portland, Me., April 19, 1902. He removed to Boston in early life. When the civil war broke out he was commissioned major of the 24th Massachusetts Regiment, and later he was promoted brigadier-general of volunteers. After the war he was in business in Boston for many years.

Andrews, Charles Bartlett, jurist, born in Sunderland, Mass., Nov. 4, 1834; died in Litchfield, Conn., Sept. 12, 1902. He was graduated at Amherst College in 1858; studied law and was admitted to the bar in Litchfield, where he afterward practised. He was elected to the State Senate in 1868 and 1869, and to the House of Representatives in 1889; was Governor of the State in 1879-'81; judge of the Superior Court in 1882-'89; and chief justice of the Supreme Court from 1889 till his retirement, Oct. 1, 1901.

Andrews, George Pierce, jurist, born in North Bridgeton, Me., Sept. 29, 1835; died in New York city, May 24, 1902. He was graduated at Yale University in 1858; was admitted to the bar in 1861; and soon afterward was appointed Assistant United States District Attorney, which office he held six years. From 1872 till 1884 he

was assistant and corporation counsel of New York city, and from 1884 till 1901 was an Associate Justice of the Supreme Court. His opinions, especially in tax cases, were considered of great value.

Ayres, Alfred. See OSMUN, THOMAS EMBLEY.

Babcock, Nathan, manufacturer, born in Westerly, R. I., Nov. 19, 1824; died in Pawcatuck, Conn., May 31, 1902. When eighteen years of age he was apprenticed to a machinist, and afterward he applied himself to mechanical pursuits. In 1855 he entered into partnership with the late C. B. Cottrell, under the firm name of Cottrell & Babcock, for the manufacture of cotton and woolen machinery, and in a few years the firm began building power printing-presses. In 1880 he retired from the firm, and two years later he organized the Babcock Printing-Press Manufacturing Company, of which he was secretary and treasurer from the time of its organization till his death.

Baldwin, Stephen Livingston, missionary, born in Somerville, N. J., in 1835; died in Brooklyn, N. Y., July 28, 1902. He became a missionary when a young man and labored in China under the auspices of the Methodist Episcopal Church for twenty years, during which time he translated a large part of the Bible into Chinese. He is also said to have printed the first copy of the Bible in that language. After his return to the United States he held pastorates in the Methodist Episcopal Church, and was conspicuous in the organization of the Ecumenical Missionary Conference in New York in 1900.

Bangs, Mark, jurist, born in Massachusetts about 1822; died in Chicago, Ill., June 23, 1902. He removed to Chicago in 1844, and for a time was engaged in farming. Later he studied law in Lacon, Ill., became a partner of his preceptor under the name of Fenn & Bangs, and on the death of Judge Fenn associated himself with F. W. Shaw. Mr. Bangs practised in association with Mr. Shaw till the organization of a new judicial district, when the former was chosen its first judge, and at the end of his term returned to private practise. In 1870 he was elected to the State Senate. In December, 1875, he was appointed United States District Attorney, and during his incumbency of this office he was active in prosecuting the famous Whisky Ring and other transgressors of the revenue laws. Judge Bangs was foremost among the temperance and total-abstinence reformers; was one of the organizers of the Republican party in the State of Illinois; and in 1862 with four others established the Union League of America.

Barnwell, Robert Woodward, clergyman, born at Beaufort, S. C., Dec. 27, 1849; died at Selma, Ala., July 24, 1902. He was a graduate of Trinity College, Hartford, Conn., and studied for the Episcopal ministry at the General Theological Seminary, New York city. He took orders, and, after some months devoted to missionary work in Georgia, was rector of Trinity Church, Demopolis, Ala., in 1876-'80, and of St. Paul's, Selma, in 1880-1900. He declined a nomination to the bishop coadjutorship of Alabama in 1890, but on the death of Bishop Wilmer, in 1900, he accepted the office of Bishop of Alabama and was consecrated in July. Bishop Barnwell possessed great charm of manner, and in his administration of affairs exhibited rare tact and skill.

Barrows, John Henry, educator, born in Medina, Mich., July 11, 1847; died in Oberlin, Ohio, June 3, 1902. He was a son of the late Prof. John M. Barrows; was graduated at Olivet Col-

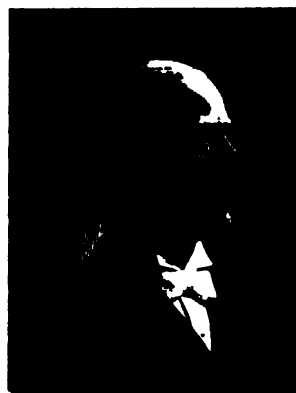
lege in 1867, and later at Yale, Union, and Andover Theological Seminaries; and for nearly three years was engaged in missionary and educational work in Kansas. After a pastorate with the First Congrega-

tional Church in Springfield, Ill., he spent a year in travel in Europe and the Holy Land. On his return to the United States he became pastor of the Eliot Congregational Church, Lawrence, Mass., where he remained for five years. He removed to Chicago in 1881, to take charge of the First Presbyterian Church, and remained there more

than fourteen years. The semicentennial celebration of the founding of the Presbyterian Church occurred in 1883, and this led him to publish a history of that Church, under the title of *Ecclesiastical Antiquities*. He took part in all missionary and reformatory enterprises in Chicago; became a favorite speaker at college commencements, on the lecture platform, at temperance, missionary, and Christian Endeavor conventions, at soldiers' meetings, and before the great gatherings at Chautauqua, N. Y. In 1893 he was president of the World's Parliament of Religions. In 1894 he accepted the lectureship of Comparative Religion in the University of Chicago, and in 1896 resigned his pastorates in order to deliver in India a series of lectures on a foundation endowed by Mrs. Caroline E. Haskell in connection with the University of Chicago. On his return to the United States in May, 1897, he delivered numerous lectures, including the Morse course at the Union Theological Seminary on *The Christian Conquest of Asia*. In November, 1898, he accepted the presidency of Oberlin College, which he held until his death. He was the author of *I Believe in God*; *Life of Henry Ward Beecher*; *The World's Parliament of Religions*; *A World-Pilgrimage*; *Christianity, the World Religion*; and *The Gospels are True History*.

Beach, Miles, jurist, born in Saratoga County, New York, in 1840; died in New York city, May 18, 1902. He was graduated at Union College in 1854, studied at Albany Law School, and soon after his admission to the bar became associated with his father in the law firm of Beach & Smith. He entered political life when a young man, and subsequently became mayor of Troy. In 1867 he removed to New York and organized the firm of Beach, Daly & Brown, later Beach & Brown. He was elected to the Court of Common Pleas in 1879, and on the expiration of his term in 1894 was elected a justice of the Supreme Court of the State.

Beardshear, William Miller, educator, born in Dayton, Ohio, Nov. 7, 1850; died in Des Moines, Iowa, Aug. 5, 1902. He was brought up on a farm, and at the age of fourteen entered the National army. After the war he studied at Otterbein University, Ohio, and later at Yale. In 1881 he was chosen president of Western College, Toledo, Iowa, where he served till 1889, when he became superintendent of the public



schools of Des Moines. Two years later he was made president of the Iowa State College of Agriculture and Mechanic Arts, which post he held until his death. In 1894 Dr. Beardshear was made president of the Iowa State Teachers' Association, and in 1897 was appointed one of the United States Indian Commissioners.

Behman, Louis C., theatrical manager, born in Brooklyn, N. Y., June 4, 1855; died there, Feb. 27, 1902. He was brought up with the view of becoming his father's assistant in the grocery business, but as he grew to young manhood his ideas of making a fortune developed along different lines. While still a mere youth he gave summer-night concerts in the old Clermont Avenue Skating-Rink, and with the money he made there he went to Philadelphia in 1876, while the Centennial Exposition was in that city, and, with a friend, Richard Hyde, another Brooklyn youth, he leased a theater and made considerable money. They returned to Brooklyn, and leased a building in Adams Street that had formerly been the Brooklyn Market. This the young managers soon turned into a theater, and they gave their first performance in it May 19, 1877. The character of the entertainment was similar to that presented at the German Volksgartens, but the venture prospered, and when the building was destroyed by fire, in 1890, Mr. Behman purchased more adjacent land and erected a new and handsome theater. The partnership was dissolved in 1899, and the Hyde and Behman Amusement Company was incorporated. They acquired the ownership of the Star, Novelty, and Amphion Theaters, in Brooklyn, and owned controlling interests in the Herald Square Theater, in Manhattan, and the Newark, Bijou, and Folly Theaters, in Newark, N. J. They also sent many companies of vaudeville performers on the road. When Mr. Behman died he was considered one of the wealthiest managers in the United States.

Bierstadt, Albert, artist, born near Düsseldorf, Germany, Jan. 7, 1830; died in New York city, Feb. 18, 1902. He was brought to the United States in infancy, his family settling in New Bedford, Mass., where he spent his youth. He studied painting in Düsseldorf, Germany, under Lessing, four years, and later in Rome, returning to the United States in 1858, and introducing what is known as the Düsseldorfian manner of landscape. He visited the West and the Rocky Mountains, where he obtained material for many of his most noted pictures; and in subsequent visits to Europe he collected material for Alpine and Italian subjects, the best known of which is his Storm on the Matterhorn. He was elected a member of the National Academy of Design in 1860; was awarded many foreign medals; was decorated with the Cross of the Legion of Honor in 1867, with two degrees of the order of St. Stanislaus in 1869 and 1872, and with the Imperial Order of the Medjidii in 1886. His paintings of American scenery include Laramie Peak (1861); Lander's Peak in the Rocky Mountains (1863); North Fork of the Platte (1864); Looking down the Yosemite (1865); El Capitan; On Merced River (1866); Valley of the Yosemite (1866); Settlement of California; Discovery of the Hudson River; Emerald Pool on Mount Whitney (1870); Great Trees of California (1874); Valley of Kern River, California (1875); Mount Whitney, Sierra Nevada (1877); Estes Park, Colorado; Mountain Lake, Sierra Nevada (1878); Mount Corcoran, Sierra Nevada (1878); Geysers (1883); View on Kern River (1884); On the Saco, New Hampshire (1886); and California Oaks (1886).

Bigelow, Marshall Train, printer and proof-reader, born in South Natick, Mass., Oct. 5, 1822; died in Cambridge, Mass., Dec. 23, 1902. He became connected with the University Press in Cambridge in 1843, and was for many years a member of the firm, the firm name from 1859 to 1879 being Welch, Bigelow & Co. He was long ranked as one of the most competent proof-readers in the country, but had retired from active life for several years. He published Punctuation and Other Typographic Matters (1881), and Mistakes in Writing English and How to Avoid Them (1886).

Bloodgood, Delavan, surgeon, born in Springfield, N. Y., Aug. 20, 1831; died in Brooklyn, N. Y., April 4, 1902. He was graduated at Madison University, Hamilton, N. Y., in 1852, and later at Jefferson Medical College, Philadelphia. He entered the United States navy with the rank of assistant surgeon in 1857, and in the civil war served on the Mohawk and the Dacotah, which took part in several important operations. After the war he served on foreign stations, and for several years was fleet surgeon of the Pacific squadron. In 1886-'87 he had charge of the Naval Hospital at the Norfolk Navy-Yard, and later of the naval laboratory at the Brooklyn Navy-Yard, holding the latter assignment at the time of his retirement, Aug. 20, 1893. When the Spanish-American War broke out, in 1898, Surgeon Bloodgood was assigned to special duty at the naval hospital in Brooklyn.

Bouton, John Bell, author, born in Concord, N. H., March 15, 1830; died in Cambridge, Mass., Nov. 18, 1902. He was graduated at Dartmouth College in 1849 and studied law, but did not practise. His life work was that of journalism and literature. He was editor of the Cleveland, Ohio, Plain-Dealer in 1851-'55; removed to New York city in 1857 and became connected with the Journal of Commerce, with which paper he remained till 1889, when he retired from journalism. He was a contributor to Appleton's Annual Cyclopædia for ten years. His published books include Loved and Lost, a series of essays (1857); Round the Block (1864); Treasury of Travel and Adventure; Round about Moscow (1887); Uncle Sam's Church (1895); and Memoirs of General Bell (1902).

Boynnton, James Stoddard, jurist, born in Henry County, Georgia, May 7, 1833; died in Griffin, Ga., Dec. 22, 1902. He was elected ordinary of Butts County, Georgia, in 1860; served in the Confederate army during the civil war, rising from private to colonel; was judge of the Spalding County Court in 1866-'68; mayor of Griffin in 1869-'72; president of the State Senate in 1880-'82; and became Governor of Georgia in 1883. In 1886-'93 he was judge of the Flint Circuit Court, resigning in the latter year to become division counsel of the Central of Georgia Railway.

Brantley, John Joyner, clergyman, born in Augusta, Ga., Dec. 29, 1821; died in Macon, Ga., June 8, 1902. He became connected with the Baptist Church in Milledgeville in 1839, and was licensed to preach in the First Church of Charleston, S. C., of which his father was pastor, in 1844. He held pastorates in Fayetteville, N. C., five years, and in Newbury, S. C., seventeen years; taught for several years in Richmond Academy, Augusta, Ga.; was principal of the Male Academy in Pillsboro, N. C.; and was Professor of Languages in Mercer University from 1867 till his death. Dr. Brantley was one of the most accomplished linguists in the South.

Bridges, Eloise (Mrs. Charles H. Erwin), actress, born in Brooklyn, N. Y., in 1832; died in

Kansas City, Mo., July 12, 1902. In early youth she played in support of Edwin Forrest and William Macready, and in later years she acted with Edwin Booth, Joseph Jefferson, Lawrence Barrett, and other stars. When Joseph Jefferson first produced his famous play, *Rip Van Winkle*, Miss Bridges was the original Gretchen. She made her last appearance in 1887, in *Fogg's Ferry*. She was first married, while very young, to Tunis J. Johnson, and after his death she became the wife of Charles H. Erwin. She possessed a pleasing personality and was a great favorite with the public for many years.

Brooks, Elbridge Streeter, author, born in Lowell, Mass., April 14, 1846; died in Somerville, Mass., Jan. 7, 1902. He was the son of a Universalist clergyman, was educated in what is now the College of the City of New York, and in early manhood was employed in the publishing house of D. Appleton and Company. For about fifteen years he was connected with New York book firms and was a member of the editorial staff of the *Brooklyn Daily Times*. From 1884 to 1887 he was an assistant editor of the *St. Nicholas Magazine*, and then, removing to Boston, he became connected with the publishing firm of D. Lothrop & Co. He edited the *Wide Awake Magazine* a few years, and on the reorganization of the Lothrop firm in 1895 became its literary adviser, and so continued until his death. With few exceptions, his writings are for young persons and are intended to popularize American history with juvenile readers and instill a sense of patriotism into the rising generation. In this aim he was eminently successful, and his books have attained a wide circulation. He was a member of the Authors Club of New York, and one of the founders of the later Boston Authors Club. He was a man of great kindness of disposition, and in spite of an overwhelming press of duties was always ready to extend a helping hand to younger writers who sought his advice or aid. Beside editing several works, such as *Great Cities of the World* (1890) and *The Boy Life of Napoleon* (1895), he was the author of *The Life Work of Elbridge Gerry Brooks* (his father) (1880); *In No-Man's Land*, a work similar to *Alice in Wonderland* (1885); *Historic Boys* (1885); *In Leisler's Times* (1886); *Chivalric Days* (1886); *Storied Holidays* (1887); *Historic Girls* (1887); *The Story of the American Indian* (1887); *The Story of New York* (1888); *The Story of the American Sailor* (1888); *The Story of the American Soldier* (1889); *A Son of Issachar*, a novel (1890); *The Story of the United States* (1891); *The True Story of Christopher Columbus* (1892); *Heroic Happenings* (1893); *The Century Book for Young Americans* (1894); *The True Story of George Washington* (1895); *A Boy of the First Empire* (1895); *Great Men's Sons* (1895); *The Story of Miriam of Magdala* (1895); *Under the Tamaracks* (1896); *The True Story of Abraham Lincoln* (1896); *The Century Book of Famous Americans* (1896); *The Long Walls* (with J. Alden) (1896); *The True Story of Ulysses S. Grant* (1897); *The Century Book of the American Revolution* (1897); *A Son of the Revolution* (1898); *The True Story of Benjamin Franklin* (1898); *The Master of the Strong Hearts* (1898); *Stories of the Old Bay State* (1899); *The Story of our War with Spain* (1899); *Historic Americans* (1899); *The True Story of Lafayette* (1899); *On Woodcove Island* (1899); *In Blue and White* (1899); *The Story of the Nineteenth Century* (1900); *A Godson of Lafayette* (1900); *With Lawton and Roberts* (1900); *The Century Book of the American Col-*

onies (1900); *In Defense of the Flag* (1900); *Animals in Action* (1901); and *Under the Allied Flags* (1901).

Brown, Egbert Benson, military officer, born in Brownsville, N. Y., Oct. 24, 1816; died in West Plains, Mo., Feb. 11, 1902. He received but little education, and at the age of thirteen went to work. Later he removed to Toledo, Ohio, of which city he became mayor. At the close of his term he engaged in railroad enterprises, but he abandoned them when the civil war began and raised a regiment of infantry. He was severely wounded at the battle of Springfield; was promoted brigadier-general of volunteers; and served till the close of the war. He was United States pension agent in St. Louis in 1866-'68, and afterward lived in retirement.

Brown, John Appleton, artist, born in Newburyport, Mass., July 24, 1844; died in New York city, Jan. 18, 1902. He studied art in Boston under B. C. Porter, and later in Paris under Emile Lambinet, and on his return to the United States opened a studio in Boston, where he had a yearly exhibition of his works. He gained a high reputation as a landscape-painter. His works include *A View at Dives Calvados, France; Summer; On the Merrimac at Newburyport; Autumn; A Storm at the Isles of Shoals; Glen Mill Brook; Springtime; and A May Day*.

Brown, Susan Dod, philanthropist, born in Mendham, N. J., Feb. 1, 1812; died in New York city, Oct. 10, 1902. For many years she supported several missionaries in foreign fields and in home work. She gave to Princeton University the Albert Dod Hall and the David Brown Hall (cost together, upward of \$200,000), and to Lincoln University, Illinois, the Mary Dod Chapel. She also contributed liberally to the support of religious, educational, and benevolent institutions.

Brown, William Bryant, clergyman, born in Thompson, Conn., June 29, 1816; died in East Orange, N. J., Aug. 3, 1902. He was educated at Oberlin College, and became pastor of a Congregational church in Hartford, Ohio, and later in Henrietta, N. Y. In 1854 he was called to the First Congregational Church, Newark, N. J., and remained at this post nearly twenty-five years, during which period he aided in forming 30 new churches. He was the author of *The Problem of Final Destiny, An Intertwined Congregational and Presbyterian History in New Jersey and the Middle Provinces, and The Gospel of the Kingdom and the Gospel of the Church*, his last literary work, which was published a few months before his death. Dr. Brown was also an artist. He painted a large canvas showing his conception of a bit of landscape in a remote geological period and exhibiting various forms of probable or extinct animal and vegetable life. He was also an accomplished portrait-painter, and was in the habit of painting the portraits of the children of his congregation who died, for presentation to their parents. He was a lifelong and enthusiastic student of geology and mineralogy, and had made a large and valuable collection of specimens.

Browne, Junius Henri, author, born in Seneca Falls, N. Y.; died in New York city, April 2, 1902. He was educated at St. Xavier College, Cincinnati, Ohio; and later removed to New York city, where he resided till his death. He was a journalist, war correspondent, and author. Among his best known works are *Four Years in Secessia* (1865); *The Great Metropolis: A Mirror of New York* (1869); and *Sights and Sensations in Europe* (1872).

Bruce, Saunders Dewers, author, born in Lexington, Ky., Aug. 16, 1825; died in New York city, Jan. 31, 1902. He was graduated at Transylvania University in 1846, and two years later engaged in business. When the civil war broke out he enlisted in the National army; became inspector-general of the Union Home Guards of Kentucky; built fortifications at the mouth of Cumberland river; had command of the 22d Brigade in the battle of Shiloh (where he was wounded), and of the provisional brigade that opened Cumberland river below Fort Donelson. He resigned on account of failing health in 1864, and removed to New York, where he became widely known as an authority on the pedigree of horses. He compiled the American Stud-Book, and wrote *The Thoroughbred Horse*.

Bryant, John Howard, poet, born in Cummington, Mass., July 22, 1807; died in Princeton, Ill., Jan. 14, 1902. He was the youngest brother of William Cullen Bryant, and was educated at Rensselaer Polytechnic Institute, Troy, N. Y. He settled in Jacksonville, Ill., in 1831, and a year later in Princeton, where he lived until his death. He became a justice of the peace for Putnam County in 1834; recorder of deeds for Bureau County in 1837; was twice a member of the State Legislature; frequently served on the Board of Supervisors; and was for fifteen years a member of the Board of Education, during part of this time acting as chairman. He was the author of *Poems, Life and Poems*, and several addresses.

Bryant, Neil, actor and minstrel performer, born in Keesville, N. Y., in 1835; died in Brooklyn, N. Y., March 6, 1902. He was the last of the three Bryant brothers, who at one time were at the head of the class of entertainment known as negro minstrels. His two older brothers had been playing some years before he made his first appearance, in 1845, but within a year after his *début* he was acknowledged to be the champion flute-player of America. He traveled for several seasons in the West and the South, and in 1853 he entered into partnership with his two brothers, Jerry and Dan, in the management of a New York theater. They organized a minstrel company called *The Corkonians*, and opened at Mechanics' Hall, No. 472 Broadway, in the autumn of 1857. They remained at that theater ten years, during which time they gained great popularity and a large fortune. In 1867, the oldest brother having died, Neil and Dan Bryant removed their company to the Tammany building, where Tony Pastor's Theater now stands. Here they gave minstrel performances until 1870, when they removed again to a hall in Twenty-third Street, near Sixth Avenue. When the building in East Fourteenth Street known as Tammany Hall was erected, Neil Bryant was chosen to lay the corner-stone. In 1875 Dan Bryant died, and the company was disbanded. In 1877 Neil organized a new company, calling it by the old name of Bryant's Minstrels, and opened at the New York Theater, on Broadway, near Eighth Street. The venture was unsuccessful, as the public had apparently wearied of that form of entertainment, and Bryant lost most of his money and was obliged to close the theater. In 1883 he retired from the stage and took a place in the sheriff's office, which he held until he received an appointment in the office of the Coast Survey, where he remained until 1900, when his enfeebled physical condition compelled him to retire.

Buck, Alfred Ellab, diplomatist, born in Foxcroft, Me., Feb. 7, 1832; died in Tokio, Japan, Dec. 4, 1902. He received a collegiate education, and became principal of the Lewiston (Me.) High

School, and later superintendent of the public schools of that city. When the civil war broke out he raised a company for the 13th Maine Volunteers, of which he became captain. In 1863 he recruited a colored regiment, of which he became colonel, and he was present at the capture of Fort Blakely, Mobile. In 1865 he was made inspector-general for western Louisiana, and in June, 1866, was mustered out. After the war he settled in Mobile, Ala., and engaged in the manufacture of turpentine. He was elected to Congress in 1869; was president of the Mobile City Council in 1873; and in the latter year removed to Atlanta, Ga., where he was clerk of the United States circuit and district courts in 1873-'87, and United States marshal for Georgia in 1889. In 1897 he was appointed minister to Japan by President McKinley, which post he held till his sudden death while hunting with the Emperor.

Burdett, Charles L., civil engineer, born in Nantucket, Mass., Sept. 3, 1848; died in Hartford, Conn., Feb. 21, 1902. He removed to Hartford, Conn., in 1882, where he lived until his death. Besides practising as a civil engineer, he was noted as a patent lawyer. He organized the signal corps of the Connecticut National Guard, and was signal officer on the brigade staff for several years. He was appointed colonel of the 1st Regiment of the National Guard of Connecticut in 1884, and at the outbreak of the war against Spain in 1898 he enlisted with a large part of his regiment, and was stationed first in Maine and later at Camp Alger, near Washington, where he remained till the close of the war.

Burke, Joseph, violinist, born in Galway, Ireland, about 1816; died in New York city, Jan. 19, 1902. He went on the stage when eight years of age, and traveled through Europe as musician and actor. In 1830 he came to the United States, where he acted for a time; later studied law in Albany, N. Y., and was admitted to the bar in 1840, but never practised. Jenny Lind selected him as her accompanist during her American concert tour in 1850-'51, and he was widely known as an instructor on the violin till his retirement in 1880.

Butler, William Allen, lawyer and author, born in Albany, N. Y., Feb. 20, 1825; died in Yonkers, N. Y., Sept. 9, 1902. He was the son of Benjamin F. Butler, who was Attorney-General of the United States in the administrations of Jackson and Van Buren. He was graduated at the University of the City of New York in 1843, studied law with his father, and then traveled abroad, contributing to the *Literary World* a series of sketches entitled *Out-of-the-Way Places in Europe*. On his return he entered upon active law practise, which he pursued all his life. He contributed frequently to periodicals, in prose and in poetry, two of his series being *The Cities of Art* and *The Early Artists* and a humorous one entitled *The Colonel's Club*. He published *The Future*, an academic poem, in 1846, and in 1850 *Barnum's Parnassus*, similar to the famous *Rejected Addresses*. His great hit was *Nothing to Wear*, a satirical poem, which appeared first in *Harper's Weekly*, and then in book-form, obtained immediate celebrity, was reprinted in England, and was translated into French and German. It was also followed by several imitations—*Nothing to Say*, *Nothing to Do*, *Nothing to Eat*, etc. Mr. Butler's poem *Two Millions* was written for delivery before the Phi Beta Kappa Society of Yale University; his *General Average* is a satire on mercantile life. In 1860 he delivered before the Bible Society an address on *The*

Bible by Itself. Two years later he published a biographical sketch of Martin Van Buren, and in 1871 Lawyer and Client, first delivered as a lecture before the Law School of the University of the City of New York. His collected poems were published in one volume in Boston in 1871. In prose he published, anonymously, *Mrs. Limber's Raffle* (1876) and *Domesticus*, a story relating to the labor question (1886). He also delivered or published numerous other addresses and sketches. For portrait, see frontispiece.

Carlton, Charles, educator, born in Eythorne, Kent, England, Aug. 21, 1821; died in Bonham, Texas, Feb. 13, 1902. He went to Toronto, Canada, with his parents in 1854; was a seaman several years; and later worked on a farm in Fredonia, N. Y. While farming he studied for the ministry, and was graduated at Bethany College, West Virginia, in 1849. He held pastorates in a Baptist church in Georgetown, Ky., in 1849-'50; in Lexington, Mo., and Little Rock, and Van Buren, Ark., where he also engaged in teaching, extending his labors from Fort Smith and Fayetteville to Waldron. When the civil war broke out he removed to Texas, and settled on a farm in Collins County, where he remained a year, when he removed to Dallas and resumed his work as teacher and preacher. In 1867 he removed to Bonham, where he resided till his death. Here he established the coeducational school known as Bonham Seminary, which in 1882 became an institution exclusively for women, the name being changed to Carlton College. He was active in the organization of the American Christian Missionary Society in 1849, and was also one of the leaders in the Christian denomination in Texas.

Catherwood, Mary Hartwell, author, born in Luray, Ohio, Dec. 16, 1847; died in Chicago, Ill., Dec. 26, 1902. She was graduated at the Female College in Granville, Ohio, in 1868; and married John Steele Catherwood in 1887. She began her literary career as contributor to a juvenile magazine, and later she was on the editorial staff of the *Chicago Graphic*. She was the author of *Craque-o'-Doom*; *Old Caravan Days*; *The Secret of Roseladies*; *The Romance of Dollard*; *The Belle of Ste. Anne*; *The Story of Tonty*; *The Lady of Fort St. John*; *Old Kaskaskia*; *The White Islander*; *The Chase of St. Castin and Other Tales*; *The Spirit of an Illinois Town and the Little Renault*; *The Days of Jeanne d'Arc*; *Bony and Ban*; *Mackinac and Lake Stories*; *Spanish Paggy*; and *Lazarre*.

Channing, Blanche Mary, author, born in Liverpool, England, about 1863; died in Brookline, Mass., Aug. 9, 1902. She was the daughter of the Rev. William Henry Channing, for many years a Unitarian minister in Liverpool, and a grand-niece of Dr. William Ellery Channing. Her earlier years were spent in England, but in 1890 she came to the United States and made her home in Brookline, where she engaged in literary work and the designing of posters and book-covers. Her published books include *Zodiac Stories* (1899); *Winifred West* (1901); and *The Balaster Boys* (1902).

Charles, Brother (name in religion), educator, born in Paterson, N. J., in 1855; died in New York city, March 11, 1902. He was graduated with high honors in 1874 at Manhattan College, of which he later became president, holding the office till his death. In adopting the career of teacher he interested himself especially in Latin literature, and for many years was widely known in the educational work of the Roman Catholic Church in the United States.

Chase, Jefferson, inventor, born in Concord, Vt., July 24, 1831; died in Portland, Me., May 20, 1902. He was a son of John Denison Chase, the inventor of the first all-iron-and-steel circular-saw mill made in New England. At an early age Jefferson showed a tendency to follow in his father's footsteps. He became associated with his father and brother under the firm name of the Chase Turbine Manufacturing Company, which in 1855 introduced the Chase water-wheel, a device that rapidly grew in favor. Mr. Chase had taken out 34 patents since his twenty-fifth birthday. These include the automatic shingle and heading machine, the lever set circular-saw mill, the traveling-bed planer, the automatic grooving machine, the self-shipping power-feed saw machine, and the lath machine and bolter. At the Centennial Exhibition in Philadelphia in 1876, while Mr. Chase was exhibiting some of his inventions, he became interested in some paper mills that were exhibited. These were made with sheets of paper wound round a block. He at once began experimenting, substituting wood-pulp for paper, and in 1883 made the first wood-pulp pails, tubs, etc. His son, the late William I. Chase, then invented machines for making these articles.

Cist, Henry Martyn, military officer, born in Cincinnati, Ohio, Feb. 20, 1839; died in Rome, Italy, Dec. 17, 1902. He was graduated at Farmer's (now Belmont) College in 1858, and studied law. When the civil war broke out he enlisted as a private in the 6th Ohio Infantry; was promoted to 2d lieutenant, then adjutant, and later major; and resigned from the army Jan. 4, 1866, with the rank of brevet brigadier-general. He was post adjutant of Camp Chase during the confinement of the Confederate prisoners captured at Fort Donelson, and served in Middle Tennessee and in the Chickamauga and Eastport campaigns. After the war he practised law in Cincinnati; was mayor of College Hill, Ohio, two terms; corresponding secretary of the Society of the Cumberland in 1869-'92; contributor to periodicals on civil-war subjects; and author of *The Army of the Cumberland* (1882); *Life of Major-Gen. George H. Thomas*, etc. He was president of the Ohio Chapter of the Sons of the American Revolution, and originator of the movement that resulted in the conversion of the Chickamauga battle-field into a national park.

Clark, Edward, architect, born in Philadelphia, Pa., in 1822; died in Washington, D. C., Jan. 6, 1902. He received an academic education; studied architecture with Thomas U. Walter, and when the latter became architect of the United States Capitol Extension was appointed his assistant. In 1865 Mr. Walter resigned, and Mr. Clark was appointed his successor, and in that office he served continuously until his death. He was a member of the commissions on the completion of the Washington Monument and the construction of the Library of Congress, and served on various other commissions for special Government work. In addition to his duties as architect of the Capitol, Mr. Clark had charge of improving the Smithsonian Institution, repairing the local court-house, and drawing plans for schoolhouses in Alaska. He was a trustee of the Corcoran Art Gallery and a member of numerous scientific societies.

Clark, Heman, contractor, born in Ohio about 1839; died in New York city, Sept. 7, 1902. He was educated at Hiram College, taught school for a short time, and then went to Pike's Peak, where he worked in the gold-mines. Later he removed to Salt Lake City and conveyed supplies

to the army post in that city from St. Louis under a contract with the Government. He also was an Indian agent for several years. He laid out the present town of Billings, Mont., and also formed a mining company and built extensive works there. He removed to California, where he was associated in business with men who afterward became very wealthy through mining enterprises. As a contractor Mr. Clark did considerable railroad building in Alabama and Nova Scotia, and then completed his greatest railroad work, the Northern Pacific. After finishing this railroad, he removed to New York city, where he formed the firm of O'Brien & Clark, which obtained the contract for building the New Croton Aqueduct. Mr. Clark's last engineering work was the construction of the Harlem River drawbridge for the New York Central Railroad.

Clark, William, manufacturer, born in Paisley, Scotland, in 1841; died in Portland, England, July 7, 1902. He entered the thread-mills in Scotland founded by his ancestors, and mastered the details of every department of the business. In 1860 he joined his brother, George A. Clark, who came to the United States in 1856, and established a branch of the Paisley establishment on a small scale, from which grew the great works in Newark, N. J. George A. Clark died in 1873, and William Clark became sole manager of the business. (See GIFTS AND BEQUESTS.)

Clarke, Annie, actress, born in Boston in 1845; died in Chicago May 22, 1902. She made her first appearance at the Boston Museum, in 1853, as the Duke of York in Richard III. Early in her experience with this company she appeared as Polly in Uncle Tom's Cabin when the play was first performed in Boston, and she played a juvenile rôle in The Silver Spoon. In 1856 she was one of the fairies in a spectacular production of A Midsummer Night's Dream. She then joined the Boston Howard Athenæum for a season, playing child's parts, after which she traveled in the New England States with various organizations. In 1861 she returned to the Boston Museum, occupying a secondary place for a few seasons, afterward becoming the leading actress and appearing for many years in the principal rôles of all the plays produced at that theater. It was a famous company that she acted with, including such players as William Warren, Charles Barron, and Mrs. Vincent, and Miss Clarke was their worthy associate, as she developed into a brilliant and versatile actress, in classical plays as well as in the modern drama. She became famous throughout the country, but seldom acted elsewhere than in Boston. The Museum was one of the last of the old theaters to keep its company together, but in 1892 its doors as a stock theater were closed, the plays on that occasion being A Scrap of Paper and Masks and Faces, in each of which Miss Clarke played the leading character. After this she played in several different companies, appearing with Richard Mansfield, Olga Nethersole, and Julia Marlowe. Her last appearance was in Chicago, where she was acting in Miss Marlowe's production of When Knighthood was in Flower at the time of her death. Miss Clarke was a highly accomplished woman, a great favorite professionally and socially, and one of the best-known stock actresses of her time.

Collis, Charles H. T., military officer; born in Cork, Ireland, Feb. 4, 1838; died in Philadelphia, Pa., March 11, 1902. He came to the United States in 1853, and was admitted to the bar in Philadelphia in 1859. His first military service was as sergeant-major in the 18th Pennsylvania

Volunteers in April, 1861. After serving three months with his regiment in Baltimore, he raised a company of infantry, with which he took part in operations in the Shenandoah valley. His first commission was as captain, and he was soon made colonel of the 114th Pennsylvania Volunteers. For bravery at Fredericksburg he received a Congress medal. At Chancellorsville the regiment took and held for some time the breastworks defended by Trimble's division of the enemy. Col. Collis was recommended as a brigade commander, but he was attacked with typhoid fever, and was sent to his home. Late in the same year, in the Mine Run campaign, a horse was shot under him. At Spottsylvania, in May, 1864, he performed a service that won the praise of Gen. Grant and gained for him the rank of brigadier-general. Before Petersburg, April 2, 1865, a portion of the 9th Corps having been driven back from the works they had stormed and captured, Gen. Collis, who had been ordered to the spot by Gen. Grant to assist Gen. Parke, rushed to their relief, leading the 114th Pennsylvania Volunteers and 61st Massachusetts in person, retaking all the lost ground and advancing to an inner line of works. This was not accomplished without serious loss of life. Three officers of his own regiment were killed in the assault. For his conduct on this occasion he was brevetted major-general at the request of Gen. Grant. In June, 1865, he was mustered out, and at once resumed the practise of law in Philadelphia. He was elected city solicitor in 1871 and 1874, and was for many years a member of the Board of Directors of Public Trusts of Philadelphia. In 1882 he removed to New York city, where he connected himself with the anti-Platt branch of the Republican party. He became a member of the Republican County Committee and the Committee of Thirty, which undertook the reorganization of the Republican party in 1894. In the following year he was appointed deputy commissioner of public works in the Strong administration, and later in the same year he became commissioner. He served in this office till the expiration of Mayor Strong's administration, Jan. 1, 1898. On the advent of the administration of Mayor Van Wyck, charges were laid against Gen. Collis of carelessness, incompetency, and favoritism as commissioner, but the grand jury promptly dismissed them.

Cooke, Lorrin Alanson, manufacturer, born in New Marlboro, Mass., April 6, 1831; died in Winsted, Conn., Aug. 12, 1902. He was educated at Norfolk Academy, taught school a few years, and then settled on a farm. In 1856 he was elected to the Connecticut Legislature; served four years in the State Senate; was elected Lieutenant-Governor in 1884 and 1894, and Governor in 1896. He was a director of the State Industrial School for Girls and the State Humane Society, and was a trustee of Hartford Theological Seminary.

Corrigan, Michael Augustine, third Roman Catholic archbishop of the diocese of New York, born in Newark, N. J., Aug. 13, 1839; died in New York city, May 5, 1902. His parents emigrated from the province of Leinster, Ireland, to America early in the last century and settled in Newark. They gave their son a good education, first at St. Mary's College, Wilmington, Del., and then at Mount St. Mary's College, Emmetsburg, Md., where he took the lead in his classes. In his junior year he made a tour of Europe with his sister, and returned to complete his course in 1859. By this time he had made up his mind to enter the priesthood. He was one

of the 12 theological students with whom the American college in Rome was opened, after he had devoted a year to preliminary studies, including Italian and Hebrew. He was an industrious student, and won several medals, and his piety and scrupulous obedience caused his superiors to consent to his becoming a priest a year before the close of his theological course. He was ordained on Sept. 19, 1863. He finished his studies in 1864, obtaining the degree of D. D. after a rigorous examination. In July of that year he returned to the United States. Bishop Bayley, of Newark, appointed him director of the

ecclesiastical seminary at Seton Hall College, South Orange, N. J., and made him Professor of Dogmatic Theology and Sacred Scripture in that institution, and he was soon made vice-president of Seton Hall, and in 1868 became head of the college. To his other duties were added in 1870 those of administrator and vicar-general of the diocese of Newark during the absence of Bishop Bayley at Rome. Early in 1873 Bishop Bayley was made Archbishop of Baltimore, and in March of that year Pope Pius IX made Dr. Corrigan Bishop of Newark, his consecration taking place on May 4. He retained the presidency of Seton Hall College until 1876, when he resigned in favor of the vice-president, his brother, the Rev. James H. Corrigan. During his episcopate in Newark he opened a reformatory for boys, a refuge for women, and an orphan asylum, introduced into New Jersey the Jesuits and Dominicans, founded a convent for the Dominican nuns of the Perpetual Adoration, dedicated 42 new churches, and consecrated the Newark Cathedral. On Sept. 26, 1880, owing to the age and infirmities of Cardinal McCloskey, Pope Leo appointed Bishop Corrigan as coadjutor for the diocese of New York, with the title of Archbishop of Petra and the right of succession. Thus he became the youngest archbishop in the United States, with the exception of Archbishop Seghers, as he had been the youngest bishop. Nearly all the practical work of the diocese devolved upon him. On Oct. 10, 1885, by the death of Cardinal McCloskey, he became Archbishop of New York, and he was invested with the pallium in March, 1886. Within three months he was confronted with the most serious controversy that ever disturbed the Catholic community in the United States. Henry George had been selected by the working men as candidate for mayor of New York and began to preach his doctrines, declaring private ownership of land unjust. He was supported by many of the Catholic clergy, and Dr. Edward McGlynn, pastor of St. Stephen's Church, openly espoused his cause. Archbishop Corrigan opposed the doctrines, and his vicar-general declared them to be heretical. Henry George was defeated, but immediately began preparations for the State campaign next year. Archbishop Corrigan, in a pastoral letter, defended ownership of land as the only means of securing the rights of property, which he based on the right of man to what he produces. Mr. George replied that exclusive possession would secure the same right and prevent an unearned increment being drawn in the form of rent from

those who did not own land. Archbishop Corrigan forbade Dr. McGlynn to continue his support, and complained to Pope Leo that the priest was attacking the rights of property. Dr. McGlynn was excommunicated, and Henry George was defeated at the election of 1887. Later, when Archbishop Satolli became papal legate at Washington, the case was reopened. Dr. McGlynn was restored to his priestly functions, and Archbishop Corrigan gave him a parish in Newburg. Subsequently a great public reception was tendered to Archbishop Corrigan in recognition of his defense of landed interests, in which not only Catholics but representatives of New York's wealthy families took part. In the Cabenaly controversy, which became acute in 1890, Archbishop Corrigan refrained from taking an active part, although he sympathized to some extent with the wishes of the Austrian nobleman that emigrants coming to America from different European countries should have placed over them bishops of their own nationalities. Cardinal Gibbons and Archbishop Ireland opposed the idea, and the Propaganda soon afterward condemned it. Archbishop Corrigan wrote a letter to Herr Cabenaly, complimenting him on his work in behalf of German-speaking immigrants, but saying that every one must abide by the decision of the Propaganda. In the seventeen years of his episcopate the Catholic population of the archdiocese of New York grew to be about a million and a half. It includes the counties of New York, Westchester, Putnam, Dutchess, Ulster, Sullivan, Orange, Rockland, and Richmond in the State of New York, and the Bahama Islands, to which the archbishop made periodical visits. On Feb. 23, 1902, while the archbishop was going from his house to the cathedral adjoining, he fell into an excavation under the pathway which had not been sufficiently boarded over, and received a severe shock, from which he did not recover for several weeks. In April he went to Washington to attend a meeting of the Catholic University, and took a severe cold on the trip, which developed into pneumonia on his return and caused his death. He was succeeded by the Right Rev. John M. Farley, who had been auxiliary bishop since 1896.

Cory, Florence Elizabeth, designer, born in Syracuse, N. Y.; died in New York city, March 20, 1902. In 1877 she took up the art of designing, became the first practical textile designer among American women, and founded and conducted the School of Industrial Art and Technical Design for Women in New York city. She was led to engage in textile designing by the sight of some costly but inartistic carpets, and was aided in her early efforts by the president of a carpet company in Connecticut and by the officials of other representative factories. She learned that tasteful designs were often rejected because they could not be woven, and that there was a limitation to machinery. This led her to study the mechanical part of the industry, and in time she became a successful designer not only of carpets, but of wall-paper and of silk and woolen goods.

Cowie, George, naval officer, born in Scotland in 1846; died in Rahway, N. J., May 23, 1902. He was appointed an acting third assistant engineer in the navy May 23, 1864; commissioned second assistant engineer July 9, 1870; promoted passed assistant engineer Dec. 3, 1876; chief engineer Sept. 12, 1892; lieutenant-commander March 3, 1899; commander July 1, 1899, and captain Feb. 11, 1901; and was advanced three numbers on the retired list of captains for eminent and conspicuous conduct in battle. He partici-

pated in both attacks on Fort Fisher, and was honorably discharged with the thanks of the Navy Department, Dec. 19, 1867. He served on the Mayflower and Pinta during the Virginius affair in 1873, and afterward on the flagship Hartford, the Blake, and the Yantic. During the war against Spain in 1898 he commanded the Indiana, and he was present at the destruction of Cervera's fleet, for which service the President advanced him three numbers. At the close of the war he was sent to the Philippines, and later he was assigned to duty at the New York Navy-Yard.

Crocker, Uriel Haskell, lawyer, born in Boston, Mass., Dec. 24, 1832; died there, March 8, 1902. He was graduated at Harvard University in 1853, studied at Harvard Law School, was admitted to the bar in 1856, and was in active practise till his death. He was a member of the Common Council in 1874-'78, and was appointed one of the commissioners to revise the statutes of Massachusetts in 1881. Among his publications were Notes on the Public Statutes of Massachusetts; Notes on Common Form; and Notes on the Revised Laws. He was prominent in charitable and philanthropic work, and was connected officially with several financial and public institutions.

Cummings, Amos Jay, journalist, born in Conkling, N. Y., May 15, 1841; died in Baltimore, Md., May 2, 1902. When a boy he entered his father's printing-office, but he soon afterward set out for himself, and for four years worked as a compositor in the West and South. Later he worked in the New York Tribune office. When the civil war broke out he enlisted in the volunteer service. He participated in many battles, and in 1863 was compelled by illness to return to New York, where he arrived in time to take part in the defense of the Tribune office when it was mobbed by the rioters in July. Subsequently he became successively night editor, city editor, and political editor of the Tribune, and still later he was on the staff of the New York Express and the Sun successively. He was elected to Congress in 1887, and retained his seat until his death. His publications include Sayings of Uncle Rufus and Ziska Letters.

Cutler, Henry Stephen, musician, born in Boston, Mass., Oct. 7, 1824; died in Swampscott, Mass., Dec. 6, 1902. He was organist and choir-master of Trinity Episcopal Church, New York city, in 1860-'68. When King Edward VII, then Prince of Wales, visited the United States in 1860, Dr. Cutler robed the boys and men in the choir according to the custom of the English Church, out of respect to the prince. The idea was at once taken up in several Episcopal churches, and vested choirs soon became general. In 1864 Columbia College conferred on him the degree of doctor of music. His musical compositions were numerous. He compiled The Psalter, with Chants (1858); Trinity Psalter (1863); and Trinity Anthems (1868). His musical setting of the hymn The Son of God goes forth to War is perhaps the best known of any American tune in the Hymnal.

Davidson, Andrew, military officer, born in Roxburghshire, Scotland, Feb. 12, 1840; died in Bath, N. Y., Nov. 10, 1902. He came to the United States with his parents, who settled in Otsego County, N. Y., in 1848. When the civil war broke out he enlisted as a private. Later he was commissioned a 1st lieutenant in the 30th United States Colored Infantry, of which he subsequently became adjutant. At the battle of Salem Church he was shot through both legs; at Hatcher's Run was wounded in the hand; and

at Petersburg in the face. After the war he studied law and practised till 1874, when he purchased the Otsego Republican, which he was then editing. He was a State Senator in 1884-'85; First Deputy Commissioner of Pensions under President Harrison; Deputy Secretary of State of New York in 1894; then Deputy State Treasurer; and afterward commandant of the New York State Soldiers' and Sailors' Home in Bath. Col. Davidson received the congressional medal of honor.

Davis, Noah, jurist, born in Haverhill, N. H., Sept. 10, 1818; died in New York city, March 20, 1902. He studied law, was admitted to the bar in 1841, and practised in Gaines, N. Y., and Buffalo, N. Y. In 1844 he entered into partnership with Sanford E. Church, with whom he practised in Albion, N. Y., till 1857, when he was made a justice of the State Supreme Court. He was twice reelected to this office, but in 1868 he resigned, having been elected to Congress, where he served from March 4, 1869, till July 20, 1870, when President Grant appointed him United States Attorney for the Southern District of New York. He resigned this office Dec. 31, 1872, on being elected justice of the Supreme Court of New York, where he served till December, 1887. A short time after Justice Davis took his seat on the bench the trial of William M. Tweed for malfeasance in office was held before him. He sentenced Tweed to a year's imprisonment for each of the 12 counts of the indictment; but two years later the Court of Appeals decided that this cumulative sentence was contrary to law. He resumed private practise in New York city as head of the firm of Davis & Marsh till 1901, when he retired.

Daxian, Wolf, theatrical costumer, born in Wurzburg, Bavaria, in 1816; died in New York, Jan. 10, 1902. He came to America in 1835, and in 1842 he founded the first and the most important costume establishment in this country. He imported theatrical and fancy dresses, and built up a large and profitable business. He furnished the costumes for the most notable dramatic and operatic productions of his time, chief among which was the first spectacular play presented in this country, The Black Crook, which was played at Niblo's Garden, New York city. He was the chief costumer for the Metropolitan Opera House, New York, in all its great productions of grand opera that required brilliant accessories of dressing and drapery.

Dean, John Ward, genealogist, born in Wiscasset, Me., March 13, 1815; died in Medford, Mass., Jan. 22, 1902. He was educated in the public schools of Portland, and, after learning the bookbinder's trade, removed to Boston, presently setting up in business in Providence, but subsequently returning to Boston, where he conducted a bookbinding establishment till in 1872 he was appointed librarian of the New England Historic Genealogical Society, in which office he continued, save from 1889 to 1893, until the time of his death. He had become a member of that society in 1850, and his wide knowledge of New England family and local history was thereafter so constantly extending that he became almost, if not quite, the chief authority in such matters.

His acquaintance with the literature and persons of the seventeenth century in New England was extremely thorough, and, while he had few of the graces of style, he was always clear in his presentation of a theme and discriminating in his choice of material. Besides frequent contributions to the New England Historical and Genealogical Register, of which he was editor in 1876-1902, Mr. Dean was the author of *A Memoir of the Rev. Nathaniel Ward* (1868) and *A Memoir of Rev. Michael Wigglesworth* (1871).

Depue, David Ayres, jurist, born in Mount Bethlehem, Pa., Oct. 27, 1826; died in Newark,

N. J., April 3, 1902. He was graduated at Princeton University in 1846. In 1849 he was admitted to the bar and began practice in Belvidere, N. J., where he remained till 1866, when he was appointed a judge of the Supreme Court, where he remained by successive appointments till 1900. On May 1, 1900, he was commissioned Chief Justice of the Supreme Court of New Jersey, and he

held that office till Nov. 16, 1901, when he resigned after thirty-five years of service.

Dickerman, Lyander, Egyptologist, born in Bridgewater, Mass., in 1830; died in Boston, Mass., Dec. 13, 1902. He was graduated at Brown University in 1851, and at Andover Theological Seminary in 1856; was ordained in the Congregational Church in 1858; held pastorates in Massachusetts and New Hampshire till 1869, and then spent two years in the University of Berlin. In 1873 he was called to a church in Quincy, Ill., and later held charges in Gilroy and Chico, Cal. Since 1878 he had supplied pulpits in Boston, New York, and elsewhere. He spent much time in travel, especially as an antiquary, and became well versed in Egyptology. His publications include *The Egyptian Deities* (1885); *The Hittites of the Bible* (1889); *The Fayam* (1892); and *Mariette-Bey's Monument of Upper Egypt* (1900).

Drummond, Josiah Hayden, jurist, born in Maine in 1827; died in Portland, Me., Oct. 25, 1902. He was admitted to the bar and practised in Waterville till 1860, when he removed to Portland. He served in both houses of the State Legislature; was Attorney-General of the State in 1860-'64; a delegate to the Republican National Convention in 1864, 1876, and 1884; and a director of the Maine Central Railroad from 1865 till his death. His publications included *Maine Masonic Text-book for the Use of Lodges*; *History of Masonic Jurisprudence*; and the article on *Masonry in the Universal Cyclopaedia and Atlas*.

Earl, Robert, jurist, born in Herkimer, N. Y., Sept. 10, 1824; died there, Dec. 2, 1902. He was graduated at Union College; was principal of Herkimer Academy two years, during which time he studied law; and was admitted to the bar in 1848 in his native town, where he practised till 1870. He edited the *Herkimer Democrat* several years, and was supervisor of Herkimer County in 1849 and 1860; judge and surrogate of the same county in 1856-'60; judge of the old Court of Appeals in 1869-'70, and then its chief justice.

He was a member of the Commission of Appeals till July, 1875, and was elected judge of the new Court of Appeals in the following year, which post he held till he retired in 1895. He was a founder and later president of the Herkimer County Historical Society, and with his wife founded the Herkimer Free Library and gave it property valued at \$30,000.

Eggleston, Edward, author, born in Vevay, Ind., Dec. 10, 1837; died at Joshua's Rock, Lake George, N. Y., Sept. 3, 1902. His father, who was a Virginian and a lawyer, died when Edward was nine years old. The son was prevented by delicate health from entering college, but by private study he acquired a liberal education. He spent four months in Minnesota, in 1856, for the benefit of his health, and then returned to Indiana and became a Methodist preacher, riding circuit. Six months later he went again to Minnesota, became general agent for the Bible Society, and was pastor of churches successively in St. Peters, St. Paul, Stillwater, and Winona. When his still delicate health forbade pastoral work he supported his family in various ways, which he himself characterized as "always honest, but sometimes very undignified." He removed to Evanston, Ill., in 1866, and for six years was associate editor of *The Little Corporal*, a popular juvenile periodical, of which Emily Huntington Miller was the chief editor. Mr. Eggleston had previously contributed to this publication a series entitled *Round-Table Stories*. Later he edited the *Sunday-School Teacher* in Chicago, which under his management increased its circulation from 5,000 to 35,000, and at the same time he became popular as an organizer of Sunday-school teachers' institutes and a speaker at their conventions. He had also become a regular contributor to the *New York Independent*, using the pen-name Penholder. In 1870 he became literary editor of that paper, and for a short time he was superintending editor. In 1871 he became chief editor of the newly established *Hearth and Home*, published in New York. In this periodical first appeared his story *The Hoosier Schoolmaster*, which was immediately popular, appeared in book form in 1871, has been translated into several European languages, and still has a steady sale in the United States. This was followed by *The End of the World* (1872); *The Mystery of Metropolisville* (1873); *The Circuit-Rider* (1874); *The Schoolmaster's Stories* (1874); *Roxy* (1878); *The Hoosier Schoolboy* (1883); *Queer Stories* (1884); *The Graysons* (1888); *The Faith Doctor* (1891); and *Duffels* (1893). He had published *Mr. Blake's Walking-Stick* in 1869. He looked upon his works of fiction as little more than so much work to earn money for historical investigation, since his ambition was the writing of history, for which he made preparation in costly research and minute study. He published a *History of the United States and its People*, for the use of schools (1888); a *Household History of the United States and its People* (1888); a *First Book in American History* (1889); and two volumes of an elaborate history of our country, entitled *The Beginners of a Nation* (1896) and *The Transit of Civilization* (1900). He edited *Christ in Art* (1874) and *Christ in Literature* (1875). Dr. Eggleston, who had received honorary degrees from several colleges, was a brilliant talker and a man of fine sympathies. When he returned from Ireland, whither he had been sent by a metropolitan newspaper to investigate the famine, he remarked, "I felt ashamed to have money in my pocket when I saw the condition of those poor people." For portrait, see frontispiece.

Ellis, Howard, lawyer, born in Elkon, Md., July 6, 1834; died in New York city, Dec. 24, 1902. He entered business life as a bank clerk in Philadelphia, and later studied law. At the outbreak of the civil war he, with his four brothers, assisted in raising the 6th Pennsylvania Cavalry, with which he served till 1863, when he retired with the rank of captain. He then removed to New York, where he practised his profession. In 1875 he began the publication of the *New York Weekly Digest*; later became editor of *The Law and Equity Reporter*, with which he remained for fourteen years, when he resigned to become United States consul-general in Holland. After his return from Rotterdam he acted as counsel for several business concerns and wrote on legal subjects, his last work in this line being *The Case Law*.

Emerson, William (William Emerson Redmond), familiarly known as "Billy" Emerson, actor and minstrel performer, born in Belfast, Ireland, in 1847; died in Boston, Mass., Feb. 22, 1902. He came to the United States when he was a year old, and made his first appearance as a "burnt-cork" negro minstrel when he was a lad of eleven in the Sweeney Minstrel Company. As he grew up he became a favorite with the public all over the country, for his sweet singing and graceful dancing. He commanded the highest salary ever paid to any minstrel performer, at one time receiving \$1,000 a week. He sang with Haverly's Minstrels for a long time, and was once in partnership with Ben Cotton, one of the noted minstrel singers in the palmy days of that form of amusement. Emerson went to San Francisco, and for ten years managed a company of his own. He made three very successful trips to Australia. In recent years he appeared as a monologist in vaudeville entertainments. His last appearance was at the Boston Theater in May, 1901, with West's Minstrel Company.

English, Thomas Dunn, author, physician, and lawyer, born in Philadelphia, Pa., June 29, 1819; died in Newark, N. J., April 1, 1902. He was graduated in medicine at the University of Pennsylvania in 1839; but he immediately took up the study of law, and was admitted to the bar in Philadelphia in 1842. His tastes had been strongly inclined toward literature from his early youth, and in 1844 he became editor of a daily paper in New York. In the following year he began the publication of a literary magazine, *The Aristidean*, of which only a single volume was issued. In 1843 he was asked to contribute a poem to the *New York Mirror*, and in the issue of Sept. 25 appeared *Ben Bolt*, the poem that made him famous. It won wide admiration in this country, and was soon stolen by English publishers and announced in England as the work of a British poet. It was set to the familiar air that accompanies it by Nelson Kneass in 1846, and was sung by him in theaters all over the United States. For many years the song dropped out of memory, but interest in it was revived by its use in George Du Maurier's novel *Trilby*. Soon after the publication of *Ben Bolt*, President Tyler offered a diplomatic post to the author, which was declined. Dr. English settled in New Jersey in 1859, making it his permanent home. He served in the New Jersey Legislature in 1863 and 1864, and was sent to the Fifty-second and Fifty-third Congresses as a Democrat. In 1876 he received the degree of doctor of laws from William and Mary College, Virginia. Among his writings, besides numerous poems and several plays and novels, are *Walter Woolfe* (1842);

Ambrose Fecit, or the *Peer and the Painter* (1864); *American Ballads* (1882); *Book of Battle Lyrics*; and *Jacob Schuyler's Millions* (1886). For a portrait of Dr. English, see frontispiece.

Eytinge, Harry, actor, born in Philadelphia, Pa., Oct. 30, 1822; died in Nyack, N. Y., Sept. 18, 1902. He made his first appearance in his twenty-first year. Having a great liking for the sea and belonging to a wealthy family, he had built a merchant vessel and commanded it on a voyage to Holland at the age of eighteen. His tastes were varied and his talents versatile; besides being a fine actor, he was an artist of much ability and a ship-builder, and he spoke several languages with perfect fluency. In the early days of his theatrical life he played with Junius Brutus Booth, Edwin Forrest, Charlotte Cushman, Edwin Booth, and other famous actors. He appeared at times in both tragedy and comedy, and managed many different theaters and companies in various cities of the United States. He played important rôles in all the Shakespearian dramas in the early days of his stage career, and in later years supported Margaret Mather for several seasons, besides other stars. He retired from public life in 1893. Mr. Eytinge was a highly cultivated man, of fine presence and distinguished manner, an accomplished actor, and a favorite both professionally and socially.

Feehan, Patrick Augustine, clergyman, born in Tipperary, Ireland, Aug. 29, 1829; died in Chicago, Ill., July 12, 1902. He was graduated at Maynooth College in 1852, and soon afterward came to the United States. He was ordained in the Roman Catholic Church in Illinois; appointed president of the Seminary of Carondelet; was pastor of the Church of the Immaculate Conception in St. Louis, and was consecrated Bishop of Nashville in 1865. In 1880 he was chosen first Archbishop of Chicago. During his administration he created 9 new parishes in Chicago; founded a college of the Christian Brothers, a convent and refuge of Sisters of the Good Shepherd, and 2 orphan asylums; and introduced into his diocese the Sisters of Mercy, the Sisters of Charity, and the Sisters of St. Joseph, all of whom he placed in charge of academies and parochial schools.

Fenger, Christian, surgeon, born in Copenhagen, Denmark, Nov. 3, 1840; died in Chicago, Ill., March 7, 1902. He was graduated at the University of Copenhagen with the degree of M. D. in 1864. He practised medicine in Copenhagen till the Franco-Prussian War broke out, when he became a surgeon in the Red Cross Ambulance Corps and served till the close of the war. He then lectured for a time in the University of Copenhagen; went to Egypt as a member of the Sanitary Council; and later was appointed surgeon of Khalifa Quarter, Cairo. In 1877 he removed to Chicago, where he resided until his death. In 1880 he became curator of Rush Medical College Museum, and in 1884 Professor of Clinical Surgery at the College of Physicians and Surgeons, going to the similar chair in Chicago Medical College in 1893, and in Rush Medical College in 1899. He was president of the Chicago Medical Society and vice-president of the American Association of Surgeons; and at different times was surgeon to the Cook County, Presbyterian, Tabitha, Norwegian, Passavant Memorial, Lutheran, German, and the German-American Hospitals. He contributed more than 80 papers on surgical subjects to American periodicals.

Fernald, Orlando Marcellus, educator, born about 1835. He was educated at Phillips Exeter Academy, and was instructor there several years.

He was graduated at Harvard University in 1864. In 1864-'65 he was principal of Exeter High School; and then became classical master of the Springfield High School. In 1872 he became Professor of Greek at Williams College, where he remained until his death. He edited Selections from the Greek Historians.

Ferris, Andrew Curtis, inventor, born in Mamaroneck, N. Y., about 1818; died in the Catskill mountains, New York, Aug. 1, 1902. In 1849 he went to the California gold-diggings in command of 200 armed men. He was the first to refine petroleum so that it could be burned as an illuminant without smoke.

Floyd-Jones, De Lancey, military officer, born in Queens County, New York, Jan. 20, 1826; died in New York city, Jan. 19, 1902. He was graduated at West Point and commissioned a 2d lieutenant in the 7th Infantry July 1, 1846; brevetted 1st lieutenant, Jan. 1, 1848; promoted captain, July 31, 1854; major of the 11th Infantry, May 14, 1861; brevetted lieutenant-colonel, Aug. 1, 1863; colonel, June 25, 1867; and was retired at his own request, March 20, 1879. He served with distinction through the Mexican War, taking part in the siege of Vera Cruz, in the capture of the city of Mexico, and in the battles of Cerro Gordo and Molino del Rey. After the war he was on frontier duty and in expeditions against hostile Indians till the civil war broke out, when, as major of the 11th Infantry, he served in the battles of Yorktown, Gaines's Mill, and Malvern Hill. He was also engaged in the battles of Manassas, Antietam, Chancellorsville, and Gettysburg. At the close of the war he was again assigned to service against the Indians. After his retirement he devoted much of his time to literature. He was the author of Letters from the Far West.

Ford, Paul Leicester, author, born in Brooklyn, N. Y., in 1865; died in New York city, May 8, 1902. At about the age of eight he met with an accident that injured his spine and dwarfed his physical growth. But he had a naturally brilliant mind, which was developed by a love of study and lifelong command of books and leisure. He was educated by private tutors in the house of his father, Gordon L. Ford, which contained one of the finest private libraries in the metropolis. He was a skilled bibliographer, and made the catalogue of the fine library that James Lorimer Graham bequeathed to the Century Association. Mr. Ford edited Thomas Jefferson's writings (10 volumes), John Dickinson's writings (3 volumes), and other works relating to American history, and wrote *The True George Washington* and *The Many-Sided Franklin*. In fiction he produced *The Honorable Peter Stirling*, *The Great K. & A. Train-Robbery*, *The Story of an Untold Love*, *Tattle-Tales of Cupid*, *Wanted—a Match-Maker*, *Wanted—a Chaperone*, and *Janice Meredith*. The last-named, a story of the time of the Revolution, had a remarkable success, the sale reaching the hundreds of thousands. Mr. Ford married, in 1900, Miss Mary Grace Kidder, of Brooklyn, and built a beautiful home in New York. He had inherited wealth from his father and had received large returns from the sale of his books. One of his brothers, who had been disinherited because of his devotion to athletics, brooded over what he considered the injustice done him, until he became undoubtedly a monomaniac if not completely insane. In this condition he visited Paul in his library and demanded a large sum of money; when this was refused, or when it appeared that Paul would refuse, he shot Paul through the breast, and

then shot himself, dying instantly. Paul died in half an hour. For portrait, see frontispiece.

Foster, Rebecca S. (popularly known as the "Tombs Angel"), benefactor, born about 1842; died in New York city, Feb. 21, 1902. In 1865 she married Gen. John A. Foster, who died in 1890, and after his death she undertook the humane work in the Tombs (the city prison in New York) that earned for her the title of the "Tombs Angel." She worked wholly on independent lines, representing no church, society, or organization, and rendered the prisoners under her care incalculable benefits, especially the women. She was greatly esteemed by the judges, lawyers, reporters, and all others who had business in the Criminal Courts building. Mrs. Foster was one of the victims of the Park Avenue Hotel disaster.

Fowler, Joseph Smith, lawyer, born in Steubenville, Ohio, Aug. 31, 1820; died in Washington, D. C., April 1, 1902. He was graduated at Franklin College, Ohio, in 1843, and was for four years Professor of Mathematics there. He then removed to Kentucky, where he was admitted to the bar, and later to Tennessee, where he practised until the civil war broke out, when he removed to Springfield, Ill., in consequence of Jefferson Davis's proclamation ordering all supporters of the Union to leave the Southern States. In 1862 he returned to Tennessee; was made Comptroller of the State; took an active part in reconstructing the State government in the interest of the Union; was elected United States Senator in 1865, but was not admitted to his seat till July, 1866; and was one of the 7 Republicans who voted against the impeachment of President Johnson. He practised in Washington, D. C., from 1871 till his death.

Frémont, Jessie Benton, author, born in Virginia in 1824; died in Los Angeles, Cal., Dec. 27, 1902. She was the daughter of United States Senator Thomas H. Benton, of Missouri. She removed to Washington at the age of fourteen and was educated at Georgetown Seminary. In Washington she became acquainted with John Charles Frémont, a lieutenant in the corps of topographical engineers. She was then about fifteen years old, and her parents objected to her receiving the addresses of the young lieutenant, and when the latter was assigned to a Government survey of Des Moines river, the young lovers believed that Senator Benton had obtained the order for the purpose of separating them. The survey was executed rapidly, and on Frémont's return the couple eloped and were married, Oct. 19, 1841. After a reconciliation with her parents, Mrs. Frémont returned to her father's home, where she remained while her husband was on one of his famous expeditions to explore the Rocky mountains. They removed to California a few years later, and returned to Washington in 1850, when Mr. Frémont was elected to represent California in the Senate. From the close of his senatorial term till his unsuccessful presidential campaign against James Buchanan, in 1856, they resided in St. Louis. After Gen. Frémont's death (1890) Mrs. Frémont wrote much for the newspapers and magazines. She was the author of *The Story of the Guard*; *A Year of American Travel*; *Far West Sketches*; *Souvenirs of My Time*; *Sketch of Senator Benton*; and *The Will and The Way Stories*.

French, Thomas Henry, publisher of plays and theater manager, born in New York city, Dec. 7, 1848; died there Dec. 1, 1902. He was educated in the United States and in France, and in 1870 he became a partner in the play-pub-

ishing business of his father, the firm being known as Samuel French & Son. In 1871 the elder French opened a branch house in London, leaving his son at the head of the New York office. The first play of great importance that the firm published in this country was *A Celebrated Case*, which was rented to the manager of the Union Square Theater at a royalty of 50 per cent. This venture proving very profitable, Mr. French set about securing American rights to other successful foreign plays, and in the course of a few years the firm published in the United States scores of the best European dramas that have been seen in this country. Mr. French's managerial experience began in 1873, when he produced *White Lies*, a dramatization of Wilkie Collins's novel of that name, at the old Olympic Theater, New York. In 1877 he undertook the management of Mr. and Mrs. J. C. Williamson, in *Struck Oil*, which was highly successful. In 1878 he took the entire Union Square Theater Company on tour, playing the Sardou drama *Mother and Son*, which had made a great hit in New York. In 1883 he took the Wallack's Theater Company to San Francisco with *The Silver King*. In 1889 Mr. French produced *Little Lord Fauntleroy*, which made a tremendous hit, and, in company with Frank Sanger, he soon had four companies playing this piece in different parts of the country. In 1892 Mr. French formed the Lillian Russell Opera Company, and it was regarded as the finest light-opera organization that ever had been seen in the United States. At different times he managed the Broadway Theater, the Madison Square Garden, and the Grand Opera-House, and he built and managed the new American Theater in West Forty-second Street, New York. The last dramatic production under his direction was the *Hotel Topsy Turvy*, at the Herald Square Theater in 1898.

Fries, Wulf Christian Julius, violoncellist, born in Germany, 1825; died in Roxbury, Mass., April 29, 1902. He began his musical career as a member of the orchestra in the theater of Bergen. He came to the United States with Ole Bull, and played the violoncello in the Ole Bull Concert Company in its tours throughout the country. He appeared also in concerts with Rubinstein, the pianist; and after he had settled permanently in the United States he founded the Mendelssohn Quintet Club, of Boston.

Frost, William Henry, author, born in North Providence, R. I., March 18, 1863; died in New York city, March 21, 1902. He was graduated at Brown University in 1886, and became connected with the New York Tribune as a general reporter in 1887, and as dramatic news reporter in 1889. He was the author of *The Wagner Story-Book* (1894); *The Court of King Arthur* (1896); *The Knights of the Round Table* (1897); and *Fairies and Folk of Ireland* (1900).

Frothingham, Ellen, translator, born in Boston, Mass., March 25, 1835; died there, March 11, 1902. She was a daughter of the Rev. Nathaniel Frothingham. She inherited the literary tastes of her father, and early turned her attention to German literature, her first published work being a translation of Lessing's *Nathan der Weise* (1868), usually considered the finest English version of Lessing's great drama. This was followed by translations of Goethe's *Hermann und Dorothea* (1870); *Lessing's Laokoon* (1874); *Grillparzer's Sappho* (1876); and from *Marie-Herbert, Poems of Therese* (1899).

Gallaudet, Thomas, clergyman, born in Hartford, Conn., June 3, 1822; died in New York

city, Aug. 17, 1902. He was a son of the Rev. Thomas Hopkins Gallaudet, who introduced into the United States the systematic education of deaf-mutes, and brother of Edward Miner Gallaudet, through whose instrumentality the National Deaf-Mute College in Washington, D.C., was established, of which he became president. He was graduated at Trinity College in 1842; taught in the New York Institution for the Deaf and Dumb in 1843-'58; and in the meantime was ordained in the Protestant Episcopal Church. In 1852 he founded St. Ann's Church for Deaf-Mutes, services being held in a room in the old building of the New York University, and later in the hall of the New York Historical Society till 1858, when a church and a rectory were secured on Eighteenth Street, near Fifth Avenue; and in 1864 this church was consolidated with St. Matthew's Church. In 1892 he resigned his active pastorate to enter into broader missionary work, and became pastor emeritus. Besides his other duties he accepted the pastorate of the Sisterhood of the Good Shepherd in 1869, and the chaplaincy of the Midnight Mission in 1871. He founded the Church Mission for Deaf-Mutes in 1872, and was its manager till his death. This society was the pioneer of church work among deaf-mutes throughout the country and has established the Gallaudet Home for Aged and Infirm Deaf-Mutes.

Gardiner, Charles Randolph, theatrical manager and agent, died in Millford, Del., Jan. 1, 1902. He opened the first theatrical booking agency in New York city, and managed it successfully for many years, introducing to the public numerous players who are now well known. He was the originator of various forms of theatrical amusement, the most profitable of which was musical farce-comedy, his own play, *The Tragedians of Kalamazoo*, being the first entertainment of this kind seen on the stage. He was the first to introduce music and specialties in *Uncle Tom's Cabin*, and he also organized the first regular company of traveling variety performers. Probably the most notable of Mr. Gardiner's theatrical achievements was the building of the first theater in Chicago after the great fire of 1871. He went to that city very soon after the calamity, and found many thousands of people with no place of amusement. He announced that he would have a new theater ready in one month, and in thirty-three days an attractive playhouse, 70 x 100 feet in dimensions, completely finished and handsomely furnished, was built and opened to the public, Lawrence Barrett giving the first performance. A few years ago Mr. Gardiner retired from theatrical life, and he was at the head of a large mercantile business in Millford up to the time of his death.

Garrard, Theophilus Toulmin, military officer, born in Manchester, Ky., June 7, 1812; died there March 14, 1902. He was a member of the Kentucky Legislature in 1843-'44, served in the Mexican War as captain of the 16th United

States Infantry, and on the discovery of gold went to California in 1849. He was elected a member of the State Senate in 1857 and in 1861, and at the outbreak of the civil war entered the National service as colonel of the 3d Kentucky Infantry. He was promoted brigadier-general in March, 1864, and was mustered out of the service April 4 following. After the war he engaged in farming and the manufacture of salt.

Gibbs, James Ethan Allen, inventor, born in Raphine, Va.; died there, Nov. 25, 1902. He lived in the South till the civil war broke out, when he settled in New York city, where, with Charles H. Willcox, he formed the firm of Willcox & Gibbs, manufacturers of the sewing-machine bearing its name. He invented the controlling principle of the single and double thread in sewing-machines, and other devices. He returned to his native town in 1892, where he did much to develop the industrial life there and in the Shenandoah valley.

Godkin, Edwin Lawrence, journalist, born in Moyne, Ireland, Oct. 2, 1831; died in Brixham, England, May 20, 1902. He was graduated at Queen's College, Belfast, in 1851, and was a war correspondent for the London News in Russia and Turkey during the Crimean War in 1854-'56. After the war he came to the United States; settled in New York city; studied law, and in 1859 was admitted to the bar. He was on the editorial staff of the New York Times in 1862-'65, and during that period again served the London News as correspondent in the civil war. In 1865 he established and became editor of the Nation, which was made the weekly issue of the Evening Post in 1881, and he then became one of the editors and proprietors of the joint publication, and remained as such till 1898, when he retired. In 1895 Mayor Strong appointed him a member of the Civil-Service Commission, on which he served till Mayor Van Wyck's election. He was the author of a History of Hungary; Reflections and Comments; Problems of Democracy; and Unforeseen Tendencies of Democracy.

Goshorn, Alfred Traber, manufacturer, born in Cincinnati, Ohio, in 1834; died there, Feb. 19, 1902. He was graduated at Marietta College in 1854, and two years later was admitted to the bar, and began practise in Cincinnati. On becoming proprietor of an extensive white-lead plant in Cincinnati he retired from his profession to engage in manufacturing. In 1870 he became president of the Cincinnati Industrial Exhibition, which proved so successful that it has since been repeated annually. His administrative abilities in this field led to his appointment as director-general of the Centennial Exposition at Philadelphia in 1876. Mr. Goshorn was one of the organizers in 1881 of the Cincinnati Museum Association, and till his death was its director.

Goucher, Mary C., philanthropist, died in Alto Dale, Md., Dec. 19, 1902. She was the daughter of Dr. John Fisher. In early life she became interested in educational and church work, and was conspicuous as an advocate of the education of women. She married the Rev. John F. Goucher, inherited a fortune of more than \$1,000,000, and applied much of her time and money in assisting her husband in establishing the Woman's College of Baltimore, which through her aid has become one of the most important educational institutions under the auspices of the Methodist Episcopal Church. She, with her husband, established nearly 100 Methodist mission schools in India.

Grant, Julia Dent, born on her father's farm in Whitehaven, 10 miles southeast of St. Louis, Feb. 16, 1826; died in Washington, D. C., Dec. 14,

1902. Her father was Judge Dent, a practitioner at the St. Louis bar. Julia was the fifth child and the oldest daughter. She received her education in St. Louis. Her brother was a classmate of

Ulysses S. Grant, who saved his (Dent's) life while fighting in the Mexican War. Grant married her Aug. 22, 1848, at the Dent residence. The young officer was then assigned to Sackett's Harbor, N. Y., and six months later was transferred to Detroit. Mrs. Grant accompanied him to both places. In 1854 Capt. Grant resigned from the army, when his father-in-law gave him a 65-acre farm. The couple were unable to get a living out of it, however, and Grant found employment in a real-estate office in St. Louis. In the spring of 1860 he went to work in his father's leather store in Galena, Ill. At the close of the civil war Grant was made commanding general of the army, and, with Mrs. Grant, settled in Washington. After this came his election to the presidency, and Mrs. Grant became the mistress of the White House, where she presided with dignity and tact. The eight years' régime of the Grants at the White House was characterized by social functions of great elegance. Subsequently they made a trip around the world. Some of the greatest honors ever shown to an American woman were showered on Mrs. Grant, and she and her husband received many rare and costly gifts. After the death of her husband Mrs. Grant's life was remarkably quiet, much of it being spent in Washington. The most noticeable incident in the latter part of her life was her decision in regard to \$150,000 borrowed by her husband from William H. Vanderbilt. This was in 1884, three days before the failure of the firm of Grant & Ward in May. Gen. Grant believed the loan could be returned by him in a day or two, but his affairs changed radically in a very short time, and when Mr. Vanderbilt demanded payment he was unable to make it. Mr. Vanderbilt began a suit, and Gen. Grant permitted judgment to be entered against him. He and Mrs. Grant, however, sent to Mr. Vanderbilt the deeds of their property, which they believed was sufficient to cover the debt of honor. Mr. Vanderbilt thereupon wrote to Mrs. Grant, presenting to her, as her separate estate, the debt and judgment he held against Gen. Grant's real estate and the household furniture and ornaments. In reply Mrs. Grant declined the proposition, excepting the trust that applied to articles to go to the Government. Gen. Grant acquiesced in the plan after it was modified considerably, but Mrs. Grant, after first agreeing with him, withdrew her consent. During Gen. Grant's last illness she was his constant attendant. After her husband's death Congress voted her a life pension of \$5,000 per annum. In accordance with an agreement concerning the permanent resting-place of Gen. Grant's remains, those of his widow were laid beside his own in a sarcophagus of the mausoleum in Riverside Park, New York city.

Gray, Ada (Mrs. Charles F. Tingay), actress, born in Oneonta, N. Y., in 1834; died in Fordham, N. Y., Aug. 27, 1902. She made her first appearance when she was only ten years old, and at fifteen she played Juliet in Rochester, N. Y.



A little later she became a member of the Boston Museum Company, appearing chiefly in spectacular and Shakespearian plays. After this she traveled through New England, and then became leading lady of a stock company in St. Louis, Mo. While occupying this place she played in support of Edwin Forrest, Edwin Booth, and other noted actors. After a few seasons in the St. Louis company she appeared in New Orleans, starring in *Lucrezia Borgia*, and was very successful. In 1855 Miss Gray obtained the play called *East Lynne*, a dramatization of Mrs. Henry Wood's once popular novel, and appeared in the rôle of Lady Isabel, in which she scored a tremendous success, and played it exclusively thereafter for twenty years. According to her own reckoning, she acted this rôle, in the United States and in England, about 5,000 times. In 1872 Miss Gray married Charles A. Watkins, of Albany, N. Y., and after his death, in 1891, she married (1894) Charles F. Tingay, an English actor belonging to Henry Irving's Lyceum Theater Company, of London, England.

Gray, Horace, jurist, born in Boston, Mass., March 24, 1828; died in Nahant, Mass., Sept. 15, 1902. He was graduated at Harvard University in 1845, and at Harvard Law School in 1849, was admitted to the Massachusetts bar in 1851, and practised in that State till 1854, when he was appointed reporter of the Supreme Court of Massachusetts. In 1864 he was appointed an associate justice of the Supreme Court of Massachusetts, and in 1873 became chief justice. He held the latter post till 1882, when he was appointed an associate justice of the Supreme Court of the United States, from which post he retired a few weeks before his death.

Green, Francis Mathews, naval officer, born in Boston, Mass., Feb. 23, 1835; died in Albany, N. Y., Dec. 19, 1902. He was educated in Boston, and after a short business life he became a seaman. In 1861 he was appointed acting master in the volunteer navy. He was promoted to acting volunteer lieutenant, April 21, 1864; transferred to the regular navy and commissioned lieutenant-commander, Dec. 18, 1868, and commander July 7, 1883; and was retired Feb. 23, 1897. At the beginning of the civil war he was attached to the sloop *Vincennes* of the Western Gulf blockading squadron; later he served in the North Atlantic and Gulf blockading squadrons, at times in command of steamers on special service. He commanded the steamer *Boxer* at the capture of Fort Fisher, and also took part in severe fighting elsewhere. From 1873 to 1883 he was connected with five expeditions for determining exact latitudes and longitudes in various parts of the world; and from that time till his retirement he served in navy yards, as commander of the Pennsylvania school-ship *Saratoga*, and as inspector of lighthouses along the coasts of Massachusetts. Commander Green was author of *The Navigator of the Caribbean Sea* (1877); *Telegraphic Determination of Longitudes* (1876, 1880, 1883); and *List of Geographical Positions* (1883).

Griffin, Simon Goddell, military officer, born in Nelson, N. H., Aug. 9, 1824; died in Keene, N. H., Jan. 14, 1902. He was a teacher for several years; was admitted to the bar in 1860, and began practise in Concord. When the civil war broke out he entered the National service as captain in the 2d New Hampshire Regiment, with which he took part in the first battle of Bull Run. He was promoted lieutenant-colonel in October, 1861, and transferred to the 6th Regiment, of which he became colonel in April following. He took part in

the battles of Manassas, Antietam, and Fredericksburg; was placed in command of the 1st Brigade, 2d Division of the 9th Army Corps, in 1863, and served under Gen. Grant in his operations against Vicksburg, and under Gen. Sherman in his Mississippi campaign. Later he was placed in command of the 2d Brigade, 2d Division, and commanded it in the battles of the Wilderness and Spottsylvania. In 1864, on Gen. Grant's recommendation, he was promoted brigadier-general, and in 1865 was brevetted major-general for gallant conduct at the assault on Fort Stedman. After the war he was offered a commission in the regular army, which he declined. He settled in Keene, N. H., and served five years in the State Legislature, being for two years Speaker of the House.

Grissom, Eugene, alienist, born in Granville, N. C.; died in Washington, D. C., July 27, 1902. He served in the Confederate army in the civil war till he was wounded, and was afterward a member of the North Carolina Legislature. For twenty-one years he was superintendent of the North Carolina Insane Asylum. He gained a wide reputation as an alienist and lecturer. His lecture on *The Borderland of Insanity*, delivered before the American Medical Society, attracted considerable attention. Dr. Grissom was the first vice-president of the American Medical Society, several times presiding officer of the Association of Superintendents of American Insane Asylums, and author of *True and False Experts*.

Guernsey, Alfred Hudson, editor, born in Brandon, Vt., May 12, 1818; died in New York city, Jan. 17, 1902. He was educated at Oneida Institute, where he also learned typesetting, and later at Union Theological Seminary. Subsequently he was employed by Messrs. Harper & Brothers, first as corrector of the press, and afterward as one of the literary advisers. When Harper's Magazine was established, he was assigned to the editorial staff, where he remained for twenty years, during which time he contributed numerous articles to the magazine and conducted the department of *Monthly Record of Current Events*. In 1883 he became an associate editor of the *American Cyclopædia*, to which he contributed many historical and biographical articles relating to the civil war, and later he was editor of *Alden's Cyclopædia of Universal Literature*. With Henry M. Alden he compiled Harper's *Pictorial History of the Great Rebellion* (1863-'67). His writings in book form include *The Spanish Armada*; *Thomas Carlyle: His Theories and Opinions*; *Ralph Waldo Emerson, Philosopher and Poet*; and *The World's Opportunities and How to Use Them*.

Ham, Charles Henry, lawyer, born in Canterbury, N. H., in January, 1831; died in Pater-son, N. J., Oct. 16, 1902. He was a clerk in a store in Loudon, and later (1852-'56) in the Concord Railroad office in Concord, N. H., and while thus employed he studied law. In 1856 he removed to Chicago, where he entered the banking-house of R. K. Swift & Co., and was admitted to the bar in 1860. In 1871 President Grant appointed him appraiser of the port of Chicago, where he remained till 1886; and in 1889 President Harrison appointed him a member of the Board of General Appraisers, which office he held till June, 1901. He advocated the School of Manual Training in Chicago, and labored earnestly for many years as a speaker, lecturer, and author for reform in public-school education. He was a writer on the *Chicago Tribune* and the *Inter-Ocean* and was author of *Ten-Minute Sketches* and of books on manual training.

Hampton, Wade, military officer, born in Charleston, S. C., March 28, 1818; died in Columbia, S. C., April 11, 1902. He came of a family of military men bearing the Christian name of Wade. His father was a lieutenant of United

States dragoons in 1813 and an aid to Gen. Jackson in 1815. His grandfather was an officer in the Revolutionary War and major-general in 1813, and one of his sons was a Confederate officer, killed in battle near City Point, Va., in 1864. He was

graduated at the University of South Carolina, and studied law, but never practised. His early life was devoted almost exclusively to the management of his large plantations in South Carolina and Mississippi. He served in both branches of the State Legislature, where he gave expression to political views of a national Democratic rather than a secession tendency, and such were not then popular in his State. At the outbreak of the civil war he enlisted as a private in the Confederate army, but soon raised a command of infantry, cavalry, and artillery, which became widely known as the Hampton Legion, and won distinction in the early part of the war, a record repeated in the Peninsular campaign, and especially at Seven Pines, where the command lost half of its number and its leader was wounded. Soon afterward Hampton was commissioned a brigadier-general of cavalry. He was actively engaged in the Maryland and Pennsylvania campaigns in 1862-'63; distinguished himself at Gettysburg, was promoted major-general, Aug. 3, 1863; and in 1864, after several days' fighting, checked Sheridan at Trevillian's Station. In September following he was made commander of Lee's cavalry, with the rank of lieutenant-general; and later of Gen. Johnston's. After the war he engaged in cotton-planting. He was Governor of South Carolina in 1877-'79; United States Senator in 1879-'91; and United States Commissioner of Pacific Railroads in 1893-'97, when he was succeeded by Gen. James Longstreet.

Hanchett, David, actor, born in Montgomery County, New York, in 1823; died in Brooklyn, N. Y., April 20, 1902. As a youth he showed decided preference and talent for the stage, and in 1845 he founded the old Shakespearean Association, giving many performances in Gothic Hall, Broadway, New York. After playing a variety of roles with this company of amateurs for one year, he joined a professional company in 1846, traveling with it in the South. He kept on the road eight seasons, gradually advancing in his art, and winning friends and admirers wherever he appeared. In 1854 he returned to New York as leading man in the old Broadway Theater, on the site where Daly's Theater now stands. He played there one year, and in 1855 he went to Boston, where he made some of the most distinguished successes of his career. For one season he played leading roles at Howard Athenaeum, then under the management of Edward L. Davenport. The next season he appeared at the National Theater, with William B. English as manager. Here he acted with the popular Western Sisters—Lucilla and

Helen—in their whole repertoire, and became as great a favorite in Boston as he had been in New York. In the height of his popularity Mr. Hanchett played very often with Charlotte Cushman, making several tours of the United States with her. He also acted frequently in support of Julia Dean and of Edwin Booth. In earlier years he had been associated with Junius Brutus Booth, a fact of which he was very proud. He married Emma Warren, sister of William Warren, the leading actor of the old Boston Museum company. In his later years Mr. Hanchett retired from the stage, and devoted much of his time to teaching elocution and dramatic art.

Harkins, Daniel H., actor, born in Boston, April 27, 1836; died in New York, Dec. 7, 1902. He made his first appearance at Rice's Theater, Chicago, in 1853. In 1854 he played in the stock company at the Walnut Street Theater, Philadelphia, where he supported Edwin Forrest and many other celebrated actors. He went to New York in the following year, and became a member of Laura Keane's company. At the outbreak of the civil war he was playing at Niblo's Garden, N. Y., but he organized a company of cavalry and served through the war, being at different times on the staffs of Gen. Slocum, Hunter, and Sullivan, and receiving after a time an appointment as major of a New York regiment. After the war he returned to the stage, and in 1866 he appeared in the support of James K. Hackett, after which he joined Augustin Daly's company, in which he played leading roles for many seasons. After leaving Daly's Theater Mr. Harkins organized a dramatic company of his own, and with it made a tour of the world, playing Shakespearean and modern dramas in nearly every English-speaking country. When this tour ended he settled in San Francisco, and for several years appeared in classic roles at the California Theater. In 1887 he joined Richard Mansfield's company, remaining with that organization nine seasons. During his later years he was interested in fruit-farming and owned a fine farm at White Plains, N. Y. He made his last appearance, April 14, 1902, at Wallack's Theater, New York city, on the first night of the production of *The Last Appeal*, when he became ill and was unable to continue playing. Mr. Harkins had a fine presence and a melodious voice, and a genial nature that won him many friends.

Harrison, Gabriel, actor, artist, and author, born in Philadelphia, March 25, 1818; died in Brooklyn, N. Y., Dec. 15, 1902. When he was six years old his family removed to New York, and their house was often visited by well-known literary, theatrical, and other notable people. Aaron Burr was among these, and young Harrison became a favorite with the former Vice-President, who taught him to read. When he reached early manhood he desired ardently to become an actor, and after some stage experience in amateur societies he joined, in 1838, the National Theater Company, in New York, under the management of James W. Wallack, playing Othello to Mr. Wallack's Iago. Later he appeared in the support of Edwin Forrest and of Charles Kean. In 1851 he organized the Academy of Art, in Brooklyn, and in 1853 he opened the Park Theater in that city. He became a member of the Brooklyn Academy of Design in 1877, and for several years was its secretary. When the Long Island Historical Society was organized (in 1864), Mr. Harrison presented to it a library of dramatic works, comprising nearly 1,000 volumes, several valuable manuscripts, and the wedding-ring of Edgar Allan Poe, which had been given to him by a

member of the poet's family. He was one of the founders of the Faust Club, and organized the movement for placing in Prospect Park a bust of John Howard Payne, who was his lifelong friend. Mr. Harrison was one of the first in this country to produce the portraits known as daguerreotypes. He achieved considerable distinction as a landscape artist, and won prizes at the Crystal Palace in London and at the World's Fair in New York. His writings were chiefly dramatic, including a dramatization of Hawthorne's *Scarlet Letter* and adaptations of Schiller's plays. He also wrote a biography of John Howard Payne. In his later years he was a successful teacher of elocution and dramatic action. He painted a portrait of Poe from a daguerreotype that he himself had taken, and presented it to the Authors Club of New York.

Harte, Bret, author, born in Albany, N. Y., Aug. 25, 1839; died in Camberley, England, May 6, 1902. His Christian name originally was Francis Bret, but he dropped the name Francis about 1870. His father was a teacher in Albany Female Seminary. Bret received a common-school education, and at the age of fifteen went to California with his widowed mother. He walked from San Francisco more than a hundred miles to Sonora, then a great gold-mining center, and opened a school. In this he was unsuccessful, and he then became a miner, still without success. He next became a compositor in a printing-office, contributed to the paper, and set some of his articles directly in type, without manuscript. For a time, when the editor was absent, he conducted the journal; but his editing did not please the subscribers, and he was obliged to withdraw from the establishment. He returned to San Francisco, became a compositor in the office of the *Golden Era* in 1857, contributed sketches to the paper (at first anonymously), and after a time became a member of the editorial staff. Later he was associated in the establishment of *The Californian*, a short-lived literary weekly, to which he contributed his *Condensed Novels*. From 1864 to 1870 he was secretary of the United States mint in San Francisco, and in those years he wrote several poems (some humorous and others serious) that attracted attention and were widely copied. The most successful of these were *The Society upon the Stanislaus* and *John Burns of Gettysburg*. In 1868 he became editor of the new magazine the *Overland Monthly*. It is said that when the artist had drawn a picture of a grizzly bear for the cover design, Harte drew two straight marks under it, representing the track of the new railroad, on which the bear appeared to be looking at an approaching train, thus greatly increasing the artistic suggestiveness. In the number for August of that year he published *The Luck of Roaring Camp*, which at once gave him a high reputation as a story-writer, and in the September number *The Outcasts of Poker Flat*. These two are recognized as ranking with the very best short stories in the language—or in any language. Harte created a dialect, attributed to the mining-camps, which had no existence except in his pages. Other short stories of California life followed in quick succession. In September, 1870, he published his satirical poem entitled *Plain Language from Truthful James*, commonly known as *The Heathen Chinee*, which was copied and repeated everywhere. He was appointed Professor of Recent Literature in the University of California in 1870, but the next spring he resigned that chair and removed to New York. He entered into a contract with the Boston house of James R. Osgood & Co. by which

he contributed exclusively to the *Atlantic Monthly*, and that firm published all his books, bringing out at once collected editions of his poems and short stories. He appeared on the platform with a lecture on *The Argonauts of '49*, but he was no orator. He was appointed United States consul at Crefeld, Germany, in 1878, and was transferred to Glasgow, Scotland, in 1880. This office he held till 1885, when on the incoming of a new administration he was removed. Thenceforth he made his home in London. His publications in book form are *Condensed Novels* (1867); *Poems* (1871); *The Luck of Roaring Camp, and Other Sketches* (1871); *East and West Poems* (1871); *Mrs. Skaggs's Husbands* (1872); *Tales of the Argonauts, and other Stories* (1875); *Thankful Blossom* (1876); *Two Men of Sandy Bar* (1876); *Gabriel Conroy* (1876); *The Story of a Mine* (1877); *Drift from Two Shores* (1878); *Echoes of the Foothills* (1879); *The Twins of Table Mountain* (1879); *Flip and Found at Blazing Star* (1882); *In the Carquinez Woods* (1883); *On the Frontier* (1884); *By Shore and Ledge* (1885); *Maruja, a novel* (1885); *Snow-Bound at Eagle's* (1886); *A Millionaire of Rough and Ready* (1887); *The Crusade of the Excelsior* (1887); *Cressy* (1887); *The Heritage of Dedlow Marsh* (1888); *A Ward of the Golden Gate* (1888); *A Sappho of Green Springs* (1889); *Colonel Starbottle's Client* (1889); *A First Family of Tassajara* (1890); *Susy* (1890); *Sally Dows, and Other Stories* (1891); *The Protégée of Jack Hamlin's, and Other Stories* (1891); *The Bell-Ringers of Angel's, and Other Stories* (1892); *Clarence* (1892); *In a Hollow of the Hills* (1893); *Barker's Luck, and Other Stories* (1893); *Three Partners* (1894); *Tales of Trail and Town* (1894); *Stories of Light and Shadow* (1895); *Mr. Jack Hamlin's Meditation, and Other Stories* (1896); *From Sand-Hill to Pine* (1897); *Under the Redwoods* (1898); and *Openings in the Old Trail* (1900). For portrait, see frontispiece.

Hartley, Marcellus, manufacturer, born in New York city, Sept. 28, 1828; died there, Jan. 8, 1902. After completing his education he entered a counting-room, and in 1854 he established the firm of Schuyler, Hartley & Graham, which in 1898 became the M. Hartley Company. This house during the civil war did a large business in supplying the Government with arms, and Mr. Hartley was appointed by the Secretary of War to take charge of an important service. He was commissioned a brigadier-general of volunteers, and was authorized to buy all the guns in the European market, to prevent, if possible, the Confederates from securing them. He was a director in several financial corporations, a member of a number of scientific societies, and was closely identified with many charitable institutions, especially with Hartley House, erected by the New York Association for the Improvement of the Poor.

Hastings, William Granville, sculptor, born in England about 1868; died in Mount Vernon, N. Y., June 13, 1902. He was educated at Dulwich College, studied art in London and Paris, and in 1885 began the study of sculpture and art pottery. In 1889 he went to Paris, where he was engaged in ecclesiastical figure work. He came to the United States in 1891, and executed considerable work, including a series of bas-reliefs illustrating the history of the phonograph for the Edison Company, the *Soldiers and Sailors Monument* at Pawtucket, R. I., the *Soldiers and Sailors Monument* at Orange, N. J., and the *Lincoln Monument* at Cincinnati, Ohio.

Helmuth, William Tod, physician, born in Philadelphia, Pa., Oct. 30, 1833; died in New York city, May 15, 1902. He was graduated at the Homeopathic Medical College, Philadelphia, in 1853; became Professor of Anatomy there in 1855; and during the interval wrote *Surgery and its Adaptation to Homeopathic Practise*. In 1858 he began practise in St. Louis, Mo., and in the following year organized the College of Homeopathic Physicians and Surgeons there, and was made its dean and Professor of Surgery. In 1867 he was president of the American Institute of Homeopaths; the following year he spent in Europe studying surgery; and in 1869 he was made Professor of Surgery in the New York Homeopathic Medical College and Hospital. Dr. Helmuth was one of the editors of the *North American Homeopathic Journal*, and was author of numerous works, including *A System of Surgery*, *Scratches of a Surgeon*, *Suprapubic Lithotomy*, and *With the Pousse Café*.

Hemphill, William Arnold, publisher, born in Athens, Ga., May 5, 1842; died in Atlanta, Ga., Aug. 17, 1902. He was graduated at the University of Georgia, where he received the degree of civil engineer; served in the Confederate army during the civil war, and was wounded at Gettysburg. He was mayor of Atlanta in 1891, and founded the Atlanta Constitution.

Hendrickson, John, merchant, born in Middletown, N. J., about 1832; died in New York city, June 29, 1902. He served in the civil war, first as a lieutenant in the 7th New York Regiment and later as colonel of the 9th Regiment. In the battle of Fredericksburg he lost his right leg, and at the close of the war he was brevetted brigadier-general of volunteers for gallant and meritorious services. In early life he was engaged in the silk business, later in the cotton trade, and after 1880 in the woolen trade.

Henry, John W., jurist, born in Cynthiana, Ky.; died in Kansas City, Mo., Dec. 12, 1902. He studied law at the Transylvania Law School, began practise in Booneville about 1840, and subsequently formed a partnership with J. Brown Hovey in Independence, Mo. In 1872 he was appointed a district judge to fill a vacancy, and afterward was twice elected to the office for full terms. In 1876 he was appointed a judge of the Supreme Court, on which bench he served till 1888, being Chief Justice in the two last years. On his retirement he settled in Independence. A year afterward he was appointed a judge of the circuit court, which was his last judicial office.

Hepworth, George Hughes, clergyman and journalist, born in Boston, Mass., Feb. 4, 1833; died in New York city, June 7, 1902. He was graduated at Harvard Divinity School in 1855. He was pastor of a Unitarian Church in Nantucket in 1855-'57, and in the following year organized a Unitarian Society in South Boston, which grew so rapidly that a church was built, known as the Church of the Unity. In 1862, while in charge of this church, he received leave of absence and entered the 47th Massachusetts Regiment as chaplain, and served throughout the Louisiana campaign. In 1863 he was transferred to the staff of Gen. Banks, and at the end of the year returned to his church, and soon afterward wrote an account of his army experiences under the title *Whip, Hoe, and Sword*. In 1870 he left this church, and soon afterward was called to the Church of the Messiah, New York city, where he remained two years, when he withdrew from the Unitarian Church and became pastor of the Madison Avenue Presbyterian Church, New York city. In 1880 he was sent to Ireland by the New

York Herald to distribute a relief fund to the famine sufferers. Since 1885 he had applied himself exclusively to journalism and literary work. In 1897 he was sent to Armenia as special correspondent of the Herald. Dr. Hepworth was author of *They Met in Heaven*; *The Life Beyond*; *The Farmer and the Lord*; *Starboard and Port*; *The Little Gentlemen in Green*; *Rocks and Shoals*; *Lectures to Young Men*; *Christ and His Church*; *Hiram Golf's Religion*; *Brown Studies*; and *On Horseback through Armenia*.

Herron, Francis Jay, military officer, born in Pittsburg, Pa., Feb. 17, 1837; died in New York city, Jan. 8, 1902. He was graduated at the Western University of Pennsylvania in 1854; and removed to Dubuque, Iowa, in 1856, where he became a merchant. When the civil war broke out he organized and commanded the Governor's Grays, in the 1st Iowa Regiment; was engaged in the battles of Booneville, Dug Springs, Ozark, and Wilson's Creek; was promoted lieutenant-colonel of the 9th Iowa Infantry in September, 1861; commanded it through the campaigns in Missouri, Arkansas, and Indian Territory; and later was promoted colonel of the regiment, and distinguished himself at the battle of Pea Ridge, where he was wounded and taken prisoner, but was soon exchanged. He was commissioned a brigadier-general of volunteers July 29, 1862, and commanded in the battle of Prairie Grove, Ark., for which he was promoted major-general of volunteers Nov. 9. Early in 1863 he joined Gen. Grant at Vicksburg, where he commanded the left wing of the National forces till the surrender of the city. He then commanded the expedition that captured Yazoo City and the large fleet of boats and supplies there. Later he was placed in command of the 13th Army Corps, on the Texas coast. While there he broke up the traffic across the Rio Grande, and, under private instructions from Washington, gave what aid he could to President Juarez of Mexico, and prevented Maximilian's troops from establishing themselves at any point on the Rio Grande frontier. For this service President Juarez offered him a high command in the Mexican army. In March, 1865, he was assigned to command the Northern Division of Louisiana, and in June he received the surrender of all the Confederate forces west of the Mississippi. In July he was appointed one of the commissioners to negotiate treaties with the Indian tribes. He resigned the latter commission together with that of major-general in August of the same year. In 1873 he removed to New York, where he practised law till his death.

Hirsch, Solomon, diplomatist, died in Portland, Ore., Dec. 15, 1902. He was a merchant in Portland, and well known in Oregon politics. While president of the State Senate, in 1885, he was nominated for the United States Senate. As the vote was a tie, he could have elected himself, but he cast his vote for his opponent. In 1889 he was appointed minister to Turkey.

Hoadly, George, jurist, born in New Haven, Conn., July 31, 1826; died in Watkins, N. Y., Aug. 27, 1902. He was graduated at Western Reserve College in 1844; studied at Harvard Law School, and was admitted to the bar in 1847. In 1849 he became a partner in the law firm of Chase & Ball; in 1851 was elected a judge of the Superior Court of Cincinnati; in 1855, city solicitor; and in 1858 succeeded Judge Gholson on the bench of the new Superior Court. He resigned his judgeship in 1866, and established a law firm of which he was the head. During the civil war he became a Republican, but in 1876 his opposi-

tion to a protective tariff led him to affiliate again with the Democratic party. He was one of the counsel that successfully opposed the project of a compulsory reading of the Bible in the public schools, and was the leading counsel for the assignee and creditors in the case of the late Archbishop Purcell. He was an active member of the constitutional convention of Ohio in 1873-'74; professor in Cincinnati Law School in 1884-'87; Governor of Ohio in 1883-'85; and a trustee of the University of Ohio for several years. He removed to New York city in 1887 and resumed practise.

Hobart, Harrison C., military officer, born in Ashburnham, Mass., about 1822; died in Milwaukee, Wis., Jan. 26, 1902. He was graduated at Dartmouth College in 1843, and removed to Wisconsin in 1846, where he began the practise of law. He was elected to the Territorial Legislature in 1847, and was the first State Senator from his district. He aided in framing the Constitution, and had a marked influence on much of the early legislation of the State. In the civil war he became a brigadier-general of volunteers; was captured by the Confederates and taken to Libby Prison; and was one of the men who constructed the famous tunnel through which they escaped. Gen. Hobart was the last survivor of the Wisconsin constitutional convention.

Hoffman, Eugene Augustus, Episcopal clergyman, born in New York city, March 21, 1829; died near Plattsburg, N. Y., June 17, 1902. He was educated at Rutgers College and Harvard University, and after studying in the General Theological Seminary in his native city, was ordered priest in 1853. He was rector of Christ Church, Elizabeth, N. J., 1853-'63; of St. Mary's Church, Burlington, N. J., 1863-'64; Grace Church, Brooklyn, N. Y., 1864-'69; and St. Mark's, Philadelphia, 1869-'79. In the year last named he was appointed dean of the General Theological Seminary, in which office he continued until his death. When he accepted the office of dean the seminary was hampered by insufficient endowment and equipment; he left it a flourishing institution housed in stately buildings ample for its needs for a long time to come. Dean Hoffman was many times a millionaire, the wealthiest clergyman in the United States, and not only was he liberal toward the institution under his charge, but his wise benefactions were extended in many other directions. He was actively interested in the work of historical, genealogical, scientific, and other societies. His writings include *Free Churches*; *The Ritualistic Week*; and *Manual of Devotion for Communicants*. Theologically he was classed among the more advanced churchmen, although not an extremist.

Holbrook, Martin Luther, hygienist, born in Mantua, Ohio, Feb. 3, 1831; died in New York city, Aug. 12, 1902. He was educated at Ohio University, and was associate editor of the *Ohio Farmer*, of Cleveland, in 1859-'61, when he became interested in medicine and hygiene, and went to Boston to study. He was associated with Dr. Dio Lewis in his propaganda of physical culture and hygiene, and the introduction of his system into the public schools. In 1864 he removed to New York and formed the partnership of Miller, Wood & Holbrook, publishers of medical books and the *Herald of Health*, of which paper Dr. Holbrook remained editor till 1898. He was the author of *Hygiene of the Brain and Cure of Nervousness*; *Eating for Strength*; *Parturition without Pain*; *Liver Complaint*; *Mental Dyspep-*

sia and Headache; *Chastity, Marriage, and Par- entage*; *Hygienic Treatment of Consumption*; *Stirpiculture*, etc.

Hooker, George W., banker, born in Salem, N. Y., in 1838; died in Brattleboro, Vt., Aug. 6, 1902. He was educated at West River Academy. At the outbreak of the civil war he enlisted as a private in the volunteer service, and soon afterward was made sergeant-major. He reached the rank of lieutenant-colonel in 1865, and received a medal of honor for gallantry at South Mountain. After the war he became associated with the banking firm of William Belden & Co., of New York, as junior partner; was elected to the State Legislature of Vermont in 1880, and by it was chosen judge-advocate general. In 1879 and 1880 he was elected department commander of the Grand Army of the Republic; and he was president of the Vermont Agricultural Society.

Hopkins, George Milton, inventor, born in Oakfield, N. Y., Nov. 21, 1842; died in Cheshire, Mass., Aug. 17, 1902. He early showed an aptitude for mechanics, and was placed in a workshop in Albion. In 1862 he obtained his first patent for an apparatus for turning leaves of music, after which followed many other inventions, among them an electromagnetic sewing-machine, two for telegraph relays, five on telephone transmitters, and two on telephone receivers. Later he became interested in the construction of gas-engines, and secured several patents in that line. In 1876 he became connected with the *Scientific American* as an attorney in the patent department. As one of the editors of that publication he had charge of the electricity department and also conducted the department of questions and answers. He was the author of *Experimental Science*, a handbook, and of many pamphlets on scientific subjects.

Hopkins, John, jurist, born in England, March 19, 1843; died in Millbury, Mass., May 19, 1902. He removed to the United States with his parents in infancy; was graduated at Dartmouth College in 1862; studied law, and was admitted to the bar in Massachusetts in 1864. He opened a law office in Millbury in 1864, and one in Worcester in 1878. He was a member of the State Senate in 1882-'83; and was a delegate to the National Democratic Convention in Chicago in 1884. From 1891 till his death he was a judge of the Superior Court of Massachusetts.

Horton, Albert H., jurist, born in Orange County, New York, March 13, 1837; died in Topeka, Kan., Sept. 1, 1902. He was educated at Farmer's Hall Academy and the University of Michigan; removed in 1860 to Kansas, where he practised law, served in the Legislature, and held several judicial offices. He was at one time United States attorney for the district of Kansas, and he was Chief Justice of Kansas from Jan. 1, 1877, to May 1, 1895, when he resigned.

Horton, David Philander, musician, born in Southold, Long Island, N. Y., in 1827; died there, April 1, 1902. He began his musical studies in 1845 under Prof. Edward Home, Jr. In 1856 he began musical work in the Brooklyn public schools, and he continued in that service till 1892, when he retired on account of failing health. He played in the Brooklyn Orphan Asylum, free of charge, for thirty-five years; taught sailors on board the United States training-ship *Minnesota* three years; gave lessons free to those too poor to pay; and was interested in singing classes all over Long Island. He composed many pieces of music; published several singing-books, including *Songs of the Nation* and *Naval Songs*; and set to music many of Fanny Crosby's hymns.

Howe, William F., lawyer, born in Boston, Mass., about 1828; died in Bronx Borough, New York city, Aug. 2, 1902. He was taken to England when three years old, and was educated at King's College, London. Returning to the United States in 1857, he was admitted to the bar in 1859, and passed his life in practise in New York city. In 1869 he formed the partnership of Howe & Hummel; and in 1882, with Daniel G. Rollins, codified the State laws as they now appear in the Penal Code. During his professional career he had charge of the defense in nearly 600 homicide cases. He was a skilful orator, and obtained many favorable verdicts by his eloquence.

Huesmann, George, pomologist, born about 1827; died in Napa, Cal., Nov. 6, 1902. He was a promoter of horticultural and viticultural interests, and for three years was Professor of Pomology and Forestry in the University of Missouri. He founded, with Parker Erie, the American Pomological Society. Prof. Huesmann was author of several books on viticulture and horticulture; publisher of *The Viticultural Journal*; and a contributor to many magazines.

Hull, Harmon D., financier, born in Fulton, N. Y.; died in New York city, June 6, 1902. He entered the National army in April, 1861; with Col. Abram Duryea organized the 5th New York Volunteers, known as the Duryea Zouaves, in which he was made captain, and later major and lieutenant-colonel; and served with this regiment till October, 1862, when he was appointed colonel of the 165th New York Volunteers. Near the close of the war he raised and commanded a regiment recruited from the veterans of the 5th and 165th Volunteers. In 1866 he was appointed by Gov. Fenton one of three commissioners to confer with representatives of the State of New Jersey as to quarantine jurisdiction, and in 1889, by Secretary Windom, a special agent of the Treasury Department in Europe.

Humphreys, Willard, educator, born in New York in 1867; died in Princeton, N. J., Sept. 26, 1902. He was educated at Brooklyn Polytechnic Institute and at Berlin and Heidelberg; and was graduated at Columbia University in 1888. In 1892 he was admitted to the New York bar, and in the same year he removed to Princeton. He was Professor of Latin at Princeton University in 1892-'94, when he was transferred to the German department, of which, in 1902, he became head. He was secretary of the New York Medico-Legal Society; editor of the *Columbia Law Times*, of *Selections from Quintus Curtius* (1896), and *Schiller's Jungfrau von Orleans* (1899); and associate editor of the *Medico-Legal Journal*.

Hunnewell, Horatio Hollis, philanthropist, born in Watertown, Mass., July 27, 1810; died in Wellesley, Mass., May 20, 1902. He was educated in Watertown, and in Paris, France. In 1835 he entered the Paris banking-house of Welles & Co., and on his return to the United States, in 1860, established the firm of H. H. Hunnewell & Sons in Boston. He was interested in the construction of Western railroads, and was a director in financial institutions in Boston. Mr. Hunnewell's summer home was in the town of Wellesley, which took its name from Mrs. Hunnewell's family. He gave Wellesley its town hall, its library, and about 20 acres of wooded park.

Hyatt, Alpheus, naturalist, born in Washington, D. C., April 5, 1838; died in Cambridge, Mass., Jan. 15, 1902. He was graduated at Lawrence Scientific School, Harvard, in 1862. During the civil war he served in the 47th Massachusetts Regiment, becoming a captain, after which he renewed his studies under Agassiz, and then passed

a year in Germany. In 1867, in association with Edward S. Morse, Alpheus S. Packard, and Frederick W. Putnam, he settled in Salem, Mass., where he became one of the curators of the Essex Institute and a founder of the Peabody Academy of Sciences. In 1870 he was

elected to the chair of Zoology and Paleontology in the Massachusetts Institute of Technology, which he held for many years, and he also taught in the Boston University, and in connection with the Society of Natural History was manager of the Teachers' School of Science, founded in 1870. Prof. Hyatt had charge of the laboratory of Natural History founded at Annisquam, Mass., by the Woman's Educational Society of Boston during its existence. In 1870 he was elected custodian of the collections of the Boston Society of Natural History, where in 1881 he became a curator. During recent years he had charge of invertebrate fossils in the Museum of Comparative Zoology in Cambridge, and was one of the collaborators of the United States Geological Survey in its field-work and paleontological researches. With Morse, Packard, Putnam, Scudder, and others, he founded the *American Naturalist*, and was one of its editors. He was one of the originators of the American Society of Naturalists, of which he became president at its first meeting, held in Springfield, Mass., in 1883. The American Academy of Arts and Sciences elected him to fellowship in 1869, and he was chosen a member of the National Academy of Sciences in 1876. In 1898 Brown University gave him the degree of LL. D. His scientific researches were largely devoted to the lower forms of animal life, and the more important of his publications were: *Observations on Polyzoa* (1866); *Fossil Cephalopods of the Museum of Comparative Zoology* (1872); *Revision of North American Porifera* (1875-'77), which is the only work on North American commercial sponges; *Genesis of Tertiary Species of Planorbis* at Steinheim (1880), giving the details of his study at Steinheim of fossils that were regarded in Europe as affording the only positive demonstration of the theory of evolution; and *Genera of Fossil Cephalopoda* (1883), containing important contributions to the theory of evolution. *Larval Theory of the Origin of Cellular Tissue* (1884) contains his theory of the origin of sex; and of later date were his monographs on *Genesis of the Arietidae* (Washington, 1889); *Bioplas-tology and the Related Branches of Biologic Research* (1893); *Phylogeny of an Acquired Characteristic* (1894); *Cephalopoda* (1900). Besides the foregoing, Prof. Hyatt edited a series of *Guides for Science Teaching*, and was himself the author of several of the series, including *About Pebbles*; *Commercial and Other Sponges*; *Common Hydroids, Corals, and Echinoderms*; *The Oyster, Clam, and Other Common Mollusks*; and *Worms and Crustaceans*.

Isham, Edward S., lawyer, born in Bennington, Vt., Jan. 15, 1836; died in New York city, Feb. 17, 1902. He was graduated at Williams College in 1857, and later at Harvard Law School; and was admitted to the bar in Rutland. In 1858 he removed to Chicago, and in 1859 became associated with James L. Stark, under the firm name of Isham & Stark, and in 1872 with Robert T. Lincoln, under the firm name of Isham & Lincoln, which subsequently was changed, by



the admission in 1894 of William B. Beale, to Isham, Lincoln & Beale. He was elected to the General Assembly of Illinois in 1864, and served as a member of the Judiciary Committee. He was a trustee and vice-president of the Newberry Library Board; and author of *The Social and Economic Relations of Corporations in the Encyclopedia of Political Science*; *Frontenac and Miles Standish in the Northwest*; and *Ethan Allen, a Study in Civic Authority*.

Johnson, John Butler, educator, born in Marlboro, Ohio, June 11, 1850; died in Pier Cove, Lake Michigan, June 20, 1902. He was graduated at the University of Michigan in 1879, with the degree of civil engineer; served as such on the United States Lake and Mississippi Surveys till 1883, when he became Professor of Civil Engineering in Washington University. In 1898 he was made dean of the College of Mechanics and Engineering in the University of Wisconsin. He was instrumental in securing for the university an engineering building valued at \$100,000 and apparatus valued at \$40,000; conducted a large testing laboratory in St. Louis, in which all the United States timber tests were made; superintended the Index Department of the Journal of the Association of Engineering Societies; contributed largely to engineering literature; and wrote *Topographical Surveying* (1884); *Theory and Practice of Surveying* (1886); *Modern Framed Structures* (1893); *Engineering Contracts and Specifications* (1895); and *Materials of Construction* (1897).

Johnston, Robert, actor, born in Philadelphia in 1827; died in Bath, N. Y., March 19, 1902. He was one of the oldest American actors, and at one time was very well known in the theatrical profession. He made his first appearance at the Arch Street Theater, Philadelphia, before he was twenty, under the management of William E. Burton. After Mr. Burton removed to New York young Johnston managed the Arch Street Theater for a time. He went to New York in 1851 and joined Burton's stock company at the old Chambers Street Theater. After acting several seasons in this company, he went to England and played a long and successful engagement at Surrey Theater, London. When he returned to this country he played for many years in various organizations. In March, 1896, after being in retirement from illness for a number of years, Mr. Johnston entered the Edwin Forrest Home for old actors, but remained only a short time, going thence to the State Soldiers' Home, at Bath, N. Y., to which he was admitted because of his service in the civil war, when he was a captain in the 25th New York Volunteers. He was a fine actor in the old classic drama, and had played in support of Charlotte Cushman, Edwin Forrest, Junius Brutus Booth, and William Macready. He married Nellie Germon in 1858.

Joseph, Jacob, rabbi, born in Wilna, Russia, in 1840; died in New York city, July 28, 1902. He was educated at the Talmudic Academy, studied under Rabbi Israel, and then became a preacher. In 1888 he came to New York city; was made chief rabbi of the United Jewish Congregations; and preached to large congregations of Russian Jews who had immigrated to the United States in 1880. He was head of the Congregation Beth Hamedrash Hagodal for fourteen years. Rabbi Joseph was a charming lecturer, and wrote several books, including *Beth Jacob, a work on Jewish religion, philosophy, and law*. When his death was announced nearly 1,000 people gathered in front of his house, and prayers were offered for the rabbi, and his por-

traits, which had not been seen for several years, were hung in store windows heavily draped in mourning. On the morning of his funeral hundreds of stores were closed in his honor, and the streets were crowded with people. A band of 300 boys, singing psalms, preceded the hearse to six of the largest synagogues on the East Side of the city, in each of which brief services were held. As the funeral cortege was passing a large manufactory on its way to Brooklyn some operatives threw water from windows on the mourners, and in a moment a riot occurred, in which many of the Hebrews were clubbed by the police and otherwise maltreated by a rabble on the street. Mayor Low ordered an official investigation of the action of the police, and the chief precinct officers were blamed for not affording the mourners an adequate escort and for permitting the clubbing.

Jouett, James Edward, naval officer, born in Lexington, Ky., Feb. 27, 1828; died in Sandy Springs, Md., Oct. 1, 1902. He entered the United States navy as midshipman in 1841; was promoted passed midshipman Aug. 10, 1847; master and lieutenant in 1855; lieutenant-commander, July 16, 1862; commander, July 25, 1866; captain, Jan. 6, 1874; commodore, Jan. 11, 1883; and rear-admiral, Feb. 19, 1886; and was retired on reaching the age limit in 1890. After serving in the Mexican War he went to the United States Naval Academy, where he was graduated in 1847. At the outbreak of the civil war he was a lieutenant on the frigate *Santee* of the Western Gulf blockading squadron. In 1861, while in command of a detachment of sailors and marines from the *Santee*, he boarded and destroyed the Confederate vessel *Royal Yacht*, and received wounds in his arm and side. For this achievement Lieut. Jouett received the commendation of his commanding flag-officer and the thanks of the department. Later he received command of the R. R. Cuyler, of the Western Gulf blockading squadron, with which he captured 8 blockade-runners in 1863. He was afterward commander of the *Metacomet*, with which he captured 3 more blockade-runners, and he was selected by Admiral Farragut to accompany the flagship *Hartford* in the battle of Mobile Bay. His little vessel was lashed to the side of *Farragut's* flagship, and passed the forts with her. The *Metacomet* was then detached from the *Hartford*, and Jouett began a chase of Confederate gunboats. He crippled the *Gaines* so that she ran ashore, forced the *Morgan* to retreat, and, after an hour's running fight up the bay, captured the *Selma*. In Admiral Farragut's official report of the battle he says: "Lieut.-Commander Jouett's conduct during the whole affair commands my warmest commendations." Jouett was subsequently engaged on blockade duty off the coast of Texas. In 1874 he became a member of the Board of Inspection, and in 1885, while in command of the North Atlantic squadron, conducted the operations on the Isthmus of Panama and succeeded in quelling one of the most serious revolutions that ever had occurred there. In 1887 he became president of the Board of Inspection and Survey, and served till his retirement.

Kedzie, Robert Clark, chemist, born in Delhi, N. Y., Jan. 23, 1823; died in Lansing, Mich., Nov. 7, 1902. He was graduated at Oberlin College in 1846, and at the Medical Department of the University of Michigan in 1851. When the civil war broke out he enlisted as surgeon of the 12th Michigan Infantry, but resigned in 1863 to become Professor of Chemistry at the Michigan Agricultural College, which post he held till June, 1901, when he was made professor emeritus. He was a member of the Michigan Legislature in 1867; of the State Board of Health in 1873-'81, serving as president in 1877-'81. Prof. Kedzie had been president of the Michigan State Medical Society, the American Public Health Association, the Association of Agricultural Colleges, and the Sanitary Council of the Mississippi Valley.

Kendrick, Adin A., educator, born in Ticonderoga, N. Y., Jan. 7, 1836; died in Alton, Ill., April 7, 1902. He was educated at Granville Academy and at Middlebury College, Vermont; later he studied law and practised for two years. In 1861 he was graduated at the Theological Department of the University of Rochester, and he held pastorates in the Baptist Church till 1872, when he was elected president of Shurtleff College, where he remained till 1894. He was pastor of Immanuel Baptist Church, of St. Louis, in 1894-'99, and in the latter year returned to Shurtleff College as dean of the School of Divinity, where he remained till his death.

Kimball, James Patterson, military medical officer, born in Berkshire, Tioga Co., N. Y., Aug. 21, 1840; died in Ontario, Tannersville, N. Y., April 19, 1902. He was graduated at Hamilton College in 1862, and at Albany Medical College

in 1864. So determined was he to enter the army before the close of the civil war that he completed the work of two years in one at the medical college, and was admitted to the corps of medical cadets. In January, 1865, he was advanced to the rank of assistant surgeon of the 121st New York Infantry. At the battle of Hatcher's Run, in March, he was almost con-

stantly under fire, his duty being to assist in bringing off the wounded as they fell on the field. He passed through the ensuing campaign when for a week the Confederate army was retreating westward from Petersburg, closely pursued by the Army of the Potomac, with a running fight all the way, and he was present at the surrender. He was mustered out in July of that year; and in 1867 he joined the medical staff of the regular army and was made assistant surgeon with the rank of 1st lieutenant. His first important service under this appointment was at Fort Buford, Dakota, from 1867 to 1870. Here the little garrison, surrounded by hostile Sioux and frequently raided, led a lonely and hazardous life. From 1884 to 1887 he was on duty at West Point, and from 1887 to 1896 at various posts in the West, except a part of 1892, when he had leave of absence and visited Europe. He was promoted to the rank of major and surgeon Jan.

24, 1886; lieutenant-colonel and deputy surgeon-general, Feb. 1, 1900; colonel and assistant surgeon-general, Jan. 1, 1902; and on April 7, 1902, he was retired for disability incurred in the line of duty. During the war with Spain he was stationed at Governor's Island, where he performed the double duty of post surgeon and attending surgeon at headquarters, Department of the East. In 1898 the hospital accommodations were more than doubled and the wards were filled with wounded and fever-stricken patients. Besides carrying the great burden of regular duty, Dr. Kimball spent many hours at night answering the constant letters of inquiry concerning wounded or missing soldiers. In 1900 he was promoted to the rank of lieutenant-colonel and deputy surgeon-general, and transferred to Omaha, Neb., as chief surgeon of the Department of the Missouri. The change of climate and of duty was at first beneficial, but in the end the strain of the preceding two years told upon him and his health steadily failed. Through thirty-five years of active service Dr. Kimball placed first his duty to his patients and to the service, yet he always found time for hunting, and he was also a reader of wide range. Outside of his professional reading, his favorite study was botany, and he knew thoroughly the flora of every military post at which he was stationed. An account of some rare or curious plant was often embodied in reports sent to Washington, or to the medical journals (see *Apocynum Cannabinum*, *New York Medical Journal*, 1896, vol. lxi). The language and customs of the Indians, particularly those of the Sioux and Navajos, interested him greatly. His mastery of the Sioux tongue enabled him to discover and decipher the autobiography of Sitting Bull, a narrative told in pictures, which Dr. Kimball contributed to the Smithsonian collections. Both in camp and in garrison he was frequently consulted by the Indians, and he invariably won their confidence and gratitude. Both as a physician and as a surgeon he was cautious and conservative, yet alert and daring when necessary. Thus in a case of maggots in the nose (the larvae of a little-known fly had been deposited in diseased tissues) he saved the life of a soldier by heroic injections of chloroform (see his report of the case, *New York Medical Journal*, 1893, vol. lvii). Again, an officer wounded in an Indian campaign was being tortured to death by the jolting of the hospital ambulance. The command was ordered to halt while the surgeon devised a litter on wheels upon which he successfully carried his patient for a month's march across the plains. His article on Transportation of the Wounded in War, written at the outbreak of war with Spain, was considered authoritative (*Albany Medical Annals*, 1898, vol. xix; *Medical News*, New York, 1898, vol. lxxii; *Journal Military Service Institution*, U. S., Governor's Island, New York Harbor, 1898, vol. xxiii). In 1899 he was president of the Albany Medical College Alumni in the City of New York. A high medical authority writes: "As a military surgeon and sanitarian Dr. Kimball stood very high, not as a brilliant man, fond of innovation and display, but as one imbued with the highest sense of duty. His reports to the department all show care and a low mortality rate, and to this he lent every effort. His personality was quiet and yet magnetic, his manner dignified but always approachable, his voice was low, sweet, and musical." In 1869 Dr. Kimball married Sarah Eddy, of Albany, N. Y., who died in 1890, and in 1892 Maria Porter Brace, who survives him.

Kimberly, Lewis Ashfield, naval officer, born in Troy, N. Y., April 2, 1830; died in West Newton, Mass., Jan. 28, 1902. He was graduated at the United States Naval Academy and made passed midshipman June 8, 1852; master and lieutenant in 1855; lieutenant-commander in 1862; commander in 1866; captain in 1874; commodore in 1884; and rear-admiral in 1887; and was retired April 2, 1892. When the civil war broke out he served on the frigate *Potomac* of the Western Gulf blockading squadron till 1862, when he was transferred to the *Hartford*, on which he served till the close of the war, taking part in the engagement and passage of the Port Hudson batteries, the engagement with the batteries at Grand Gulf and Warrington, on the Mississippi, and the battle of Mobile Bay. Capt. Percival Drayton, in his official report of the battle of Mobile Bay, said: "To Lieut.-Commander Kimberly, the executive officer, I am indebted not only for the fine example of coolness and self-possession which he set to those around him, but also for the excellent condition to which he had brought everything belonging to the fighting department of the ship, in consequence of which there was no confusion anywhere, even when, from the terrible slaughter at some of the guns, it might have been looked for." After the war he was attached to the steam frigate *Colorado*, flagship of the European squadron, and on becoming a commander was transferred to the receiving-ship *New York*. He commanded the *Benecia* on the Asiatic coast in 1870-'72, and later the *Canonicus* of the North Atlantic squadron, the *Monongahela*, and the *Omaha*; was on duty at the New York Navy-Yard in 1880-'83; a member of the Examining and Retiring Boards in Washington in 1884-'85; commandant of Boston Navy-Yard in 1886; and of the Pacific station in 1887. In 1889, while he commanded the fleet in the Pacific, during the trying period of negotiations with Germany over the Samoan difficulty, his ships were wrecked in the hurricane at Apia, the *Trenton* and *Vandalia* being completely destroyed and the *Nipsic* cast ashore. From 1890 till his retirement he served as president of the Naval Board of Inspection and Survey.

Kling, Isaac, inventor, born in Hirschberg, Germany, March 16, 1835; died in Louisville, Ky., June 12, 1902. He came to the United States in 1854. His chief inventions were an automatic car-coupler for use on both freight and passenger cars and a steam-engine occupying a space of 3 square feet which developed 100 horsepower. He received the patent on this engine three days before his death.

Knowles, Edwin (Philander Milton Knowles), actor, born in Hamlet, R. I., June 27, 1845; died in Brooklyn, N. Y., April 14, 1902. He was of Quaker parentage, and was apprenticed in boyhood to a blacksmith, but early showed a taste for reading and declamation, and while still a lad he appeared in the town hall in his native village in a scene from *Hamlet*. In 1867 he became a supernumerary at the old New York Theater, managed by the Worrell Sisters. After a brief experience in this capacity, he joined a traveling company, and before long he had had sufficient dramatic practise to be able to play minor rôles. He acted in the stock companies of Troy and New Orleans, the John E. Owens Company, and the stock organizations of Cincinnati, Cleveland, and other cities. During these engagements he advanced from playing unimportant characters to the place of leading man. He obtained a play entitled *The Black Flag*, which displayed his talents to the best advantage, and he traveled with

it as a star for many seasons with much success. In 1882 Mr. Knowles, in partnership with Col. Theodore Morris, leased the Grand Opera-House, Brooklyn, and he managed it until 1888, when he disposed of his interest and became one of the lessees of Amphion Academy, Brooklyn. From 1892 to 1896 he was interested also in Brooklyn Columbia Theater. In 1894 he became A. M. Palmer's partner in the management of Brooklyn Park Theater, and he also took a lease of Fifth Avenue Theater, New York, managing it successfully for three years, and in 1900 disposing of his interest in it to F. F. Proctor. Mr. Knowles was very successful in organizing and managing traveling companies, and he owned an interest in some of the best plays on the road, among which were *The Great Diamond Robbery* and four *Quo Vadis* companies. In theatrical club life he was a prominent figure, serving several times as vice-president and secretary of the Actors' Fund, and acting as president of the Actors' Order of Friendship, vice-president of the Hanover Club, and president of the Aurora Grata Club, Brooklyn, and as treasurer of the Theatrical Managers' Association of the United States. He married, in 1876, Sarah E. Goodrich, of Chicago. Mr. Knowles was associated with nearly all the distinguished actors of his time, and was a leading spirit in everything that could improve the condition of the stage and theatrical life in general.

Latane, James Allen, clergyman, born in Essex County, Virginia, Jan. 15, 1831; died in Baltimore, Md., Feb. 21, 1902. He was graduated at the Law Department of the University of Virginia in 1852, and at the Episcopal Theological Seminary in 1854. He organized Trinity Protestant Episcopal Church in Staunton, Va., in 1857, and was its rector fourteen years. He was then called to St. Matthew's Church, Wheeling, W. Va., where he remained till 1874, when he formally withdrew from the Protestant Episcopal Church and announced his adhesion to the Reformed Episcopal tenets. Returning to his early home, he founded a church in Essex County and one in King William County. He declined the bishopric of the Reformed Episcopal Church in Chicago in 1876, but accepted on being again chosen in 1879, and was assigned to the Southern jurisdiction. In 1883 he was elected presiding bishop of the Reformed Episcopal Church in the United States, and in 1901 was made Bishop of the Synod of New York and Philadelphia.

Leeds, Albert Ripley, chemist, born in Philadelphia, Pa., June 27, 1843; died there, March 13, 1902. He was graduated at Harvard University in 1865, and before graduation he was appointed Professor of Chemistry in the Philadelphia High School, and in the following year to the same chair in the Franklin Institute, the Philadelphia Dental College, and Haverford College. The three latter professorships necessitated incessant lecturing and teaching, and in the attempt to discharge these duties his health broke down. Resigning them, he spent two years in travel in Europe. On his return he organized the Department of Chemistry at Stevens Institute of Technology. During the first five years Prof. Leeds contributed papers on new mineral species and on lithology, which he published in the *American Journal of Science*. Subsequently the teaching of analytical chemistry occupied most of his time, and 30 papers on this topic were published in the *Fresenius Zeitschrift* and the *Chemical News*. On election as presiding officer of the American Chemical Society and Secretary of the New York Academy of Sciences, he turned his attention to technical and general

chemistry, and published 42 papers thereon in the Proceedings of those societies. In 1872 he became expert chemist to the water-boards of Newark and Jersey City, and afterward he held the same post in Hoboken, Albany, New London, Jamestown, Philadelphia, Reading, Wilmington, Plymouth, Ottawa, and other cities. In 1881 he became a member of the New Jersey State Board of Health and chairman of its Council of Analysts. He was president of the International Water-Purifying Companies. In the early part of 1902 he was prostrated with cancer and was informed that he had a few weeks only to live. At this, he resigned his chair at Stevens Institute, called his classes together, and bade the students farewell. A few days before his death he was presented with a loving-cup by the students.

Lewisohn, Leonard, merchant, born in Hamburg, Germany, about 1848; died in London, England, March 5, 1902. He came to the United States in 1864 as an agent for his father, who was in the feather business, and two years later his brother joined him and the firm of Lewisohn Brothers, importers of feathers, bristles, etc., was formed. In 1868 the brothers engaged in the metal trade, and in a few years became the most conspicuous copper dealers in the United States. Mr. Lewisohn was one of the organizers of the American Smelting and Refining Company, of the Tennessee Copper Company, and the Feather River Exploration Company, and a member of the New York Coffee Exchange. He made many gifts for charitable purposes, including \$100,000 to the Sheltering Guardian Society, \$60,000 to the Montefiore Home, \$50,000 to the Jewish Seminary, and \$10,000 to the Young Men's Hebrew Association. (See GIFTS AND BEQUESTS.)

Lippitt, Francis James, lawyer, born in Providence, R. I., July 19, 1812; died in Washington, D. C., Sept. 27, 1902. He was graduated at Brown University in 1830, and was attached to the American legation in Paris in 1834-'35. He served in the Mexican War as captain of the 1st New York Volunteers, and in 1849 was chairman of the California State Constitutional Convention. In the civil war he was colonel of the 2d California Infantry and was promoted brigadier-general of volunteers. In 1877-'82 he was counsel for the United States in the Department of Justice. He lectured before the Boston University Law School in 1873 and 1874, and the Naval War College in 1896, 1897, and 1900. His publications include *Treatise on the Practical Use of the Three Arms*; *Treatise on Intrenchments*; *Special Operations of War*; *Field Service in War*; *Criminal Law in Massachusetts*; *Physical Proofs of Another Life*; and contributions on economic subjects to American and English periodicals.

Litchfield, Henry G., military officer, born in New York, Dec. 14, 1837; died in New York city, Jan. 26, 1902. He entered the National army as a private in March, 1862; was made 2d lieutenant in the 18th United States Infantry in July, 1862; 1st lieutenant and transferred to the 36th Infantry in April, 1863; captain, February, 1869; assigned to the 2d Artillery in 1871; and was retired in 1892. In September, 1863, he was brevetted captain for gallant and meritorious service in the battle of Chickamauga. He served in the Army of the West; accompanied Sherman in his march to the sea; took part in the battles of Missionary Ridge, Hoover's Gap, Peach Tree Creek, Buzzard's Roost, and Bentonville, N. C., and was brevetted lieutenant-colonel for gallant and meritorious services in the last-named battle. In 1879-'83 he was on special duty on the staff of

Gen. Hancock; in 1886-'89 commanded the military post at St. Augustine, Fla.; and later at Fort Trumbull, Connecticut, and Fort Schuyler, New York.

Lockwood, Henry Clay, lawyer, born about 1839; died in New York city, Dec. 24, 1902. He studied law; entered the National army in 1862; was appointed a captain and assigned to the staff of Brig.-Gen. Morris, and participated in the battles of the Wilderness and Spottsylvania Court-House. He also served on the staffs of Gens. Martindale and Ames; was brevetted major for gallantry at the storming of Fort Fisher in 1865; and was mustered out of the service with the full rank of major in 1866. Returning to New York, he took up the practise of law. In March, 1872, he was commissioned major of the 71st Regiment, N. G. S. N. Y., and in September following lieutenant-colonel. He was author of *The Abolition of the Presidency*; *True History of the Army at Fort Fisher*; and *The Making of the Monocrate*.

Long, Charles D., jurist, born in Grand Blanc, Mich., June 14, 1841; died in Detroit, Mich., June 27, 1902. He entered the National army as a private when the civil war broke out, and in the battle of Wilmington Island, Georgia, in April, 1862, received two severe wounds, which rendered him an invalid for life. A shot shattered his left arm, which had to be amputated above his elbow, and another pierced his hip. He studied law, and was elected a judge of the Supreme Court of Michigan in 1887, and reelected in 1897.

Lord, James Brown, architect, born in New York city, April 26, 1859; died there, June 1, 1902. He was graduated at Princeton University in 1879, and studied architecture with William A. Potter. He designed many of New York's best-known structures, including the two Delmonico buildings; the Hospital for Babies; the courthouse for the Appellate Division of the Supreme Court, in Madison Square; and the first of the Carnegie libraries, and 16 of the other 65. He also designed many of the beautiful homes in Tuxedo Park, completed plans for a new building in University Place for the Sailors' Snug Harbor, and was selected as the architect of the Memorial Building to be erected by the class of 1879 of Princeton University.

Loring, Charles Greely, military officer, born in Boston in 1828; died in Prides Crossing, Mass., Aug. 20, 1902. He was graduated at Harvard University in 1848; served in the civil war as captain, lieutenant-colonel, and inspector-general of the 9th Army Corps till July, 1865, when he resigned; and was brevetted major-general of volunteers. He became a trustee of the American Museum of Fine Arts in 1873, and was executive officer from 1876 till 1902.

McCulloch, Hugh, poet and litterateur, born in Fort Wayne, Ind., March 9, 1869; died in Florence, Italy, March 27, 1902. He was educated at Harvard University, and was an assistant in English there in 1892-'94, afterward going abroad and devoting himself to literary study and work. The *Quest of Herakles*, a volume of poems published several years before his death, exhibited much promise, and was characterized by careful technique and reserve power.

Mackay, John William, capitalist, born in Dublin, Ireland, Nov. 28, 1831; died in London, England, July 20, 1902. He removed with his parents in 1840 to New York, where he learned the ship-building trade. On the discovery of gold in California he went thither and led a miner's life for several years. In 1860 he removed to

Nevada, where he also engaged in mining. In 1872 he was one of the discoverers of the celebrated Bonanza mines, on a ledge in the Sierra Nevada. He was one of the founders of the Bank of Nevada, with headquarters in San Francisco, being also its president till his death. In 1884, in association with James Gordon Bennett, he laid two cables across the Atlantic Ocean, connecting the United States with England and France under the system known as the Commercial Cable Company. Mr. Mackay was a generous patron of religious and charitable institutions, especially those of the Roman Catholic Church. Among his notable benefactions is the Roman Catholic Orphan Asylum in Virginia City, Nev.

McMillan, James, capitalist, born in Hamilton, Ontario, May 12, 1838; died in Manchester, Mass., Aug. 10, 1902. He removed in 1855 to Detroit, Mich., where he entered the hardware business. In 1857 he became a purchasing agent for the Detroit and Milwaukee Railroad Company; and later, with John S. Newberry, organized the Michigan Car Company; became interested in a great number of enterprises, including the Detroit Car-Wheel Company, the Baugh Steam-Forge Company, and the Detroit Iron-Furnace Company, of which he was president, and which employed more than 3,000 men; was active in the construction of the Duluth South Shore and Atlantic Railway, which united the two Michigan peninsulas; and also was connected with steamboat, elevator, telephone, bank, and dry-dock enterprises. He was elected a United States Senator in 1889, 1895, and 1901; was a presidential elector in 1884; and was chairman of the Republican State Convention in 1885 and 1896. He gave the city of Detroit a thoroughly equipped hospital, costing \$250,000, and endowed it with \$300,000; to the University of Michigan, one of the finest Shakespearian libraries in the country and McMillan Hall; to the Agricultural College of the State, the Tupper collection of insects; and also a building for a seminary for colored girls at Crockett, Texas, and a building for the Presbyterian Club of Ann Arbor. (See GIFTS AND BEQUESTS.)

Marquand, Henry Gurdon, capitalist, born in New York city, April 11, 1819; died there, Feb. 26, 1902. He was engaged for twenty years in managing the estate of his brother, and then became a banker. He observed the poor construction and faulty design of city architecture, was among the earliest to become interested in its improvement, and was the first honorary member of the American Institute of Architects. He was one of the purchasers of the Iron Mountain Railroad in 1868, of which he became vice-president and later president, till its incorporation in the Missouri Pacific system, and was a director in the latter company and many other corporations. He devoted much time to the Metropolitan Museum of Art, of which he was first a trustee, then (1870-'90) treasurer, and afterward president, and made it numerous gifts and loans. He presented a chapel and, with Robert Bonner, a gymnasium to Princeton University; with his brother, a pavilion to Bellevue Hospital; and individually founded and endowed the Free Public Library at Little Rock, Ark.

Marsh, Luther Rawson, lawyer, born in Pompey Hill, N. Y., April 4, 1813; died in Middletown, N. Y., Aug. 15, 1902. He studied law and was admitted to the bar in Albany, N. Y., in 1838. He practised in New York city a year, and then in Utica till 1844, when he returned to New York city. He was for a time associated

with Daniel Webster; in 1850-'51 carried on a crusade against intramural burials, and drew the bill of 1850 and the city ordinance of February, 1851, which put an end to the custom. In 1883 he introduced a bill into the Legislature for enlarging the park area, and later was made park commissioner. In 1891 he gave up his law practise and devoted the remainder of his life to lecturing in defense of spiritualism. He came so far under the influence of the notorious Ann O'Delia Diss de Bar that the most influential of his friends of the bar interfered and brought about a separation.

Martin, Augustus P., military officer, born in Abbott, Me., Nov. 23, 1835; died in Dorchester, Mass., March 12, 1902. He was a clerk till 1861, when he went to the front with the Boston Light Artillery, popularly known as Cobb's Battery, and served three months. On his return he was commissioned 1st lieutenant in the 3d Massachusetts Battery; was promoted captain in November; assigned to duty as chief of artillery of the 1st Division, 5th Corps, in 1862, and when the artillery of the 5th Corps was organized into a brigade in May, 1863, he was placed in command of it. He took part in numerous engagements, including the siege of Yorktown and the battles of Hanover Court-House, Mechanicsville, Gaines's Mill, Malvern Hill, Manassas, Antietam, Fredricksburg, Chancellorsville, Gettysburg, the Wilderness, Spottsylvania, and Petersburg. On his return home he resumed mercantile business; was elected mayor of Boston in 1883, and later was appointed police commissioner.

Mason, John L., inventor, born in Philadelphia, Pa., in 1826; died in New York city, Feb. 26, 1902. In 1857 he patented the screw-top glass fruit-jar, on which invention he made an improvement in 1901. He was treasurer and director of the Colonial Bond and Guaranty Company of New York at the time of his death.

Maxwell, Henry W., philanthropist, born in Brooklyn, N. Y., Dec. 7, 1850; died in Bay Shore, Long Island, May 11, 1902. Early in life with his brother, J. Rogers Maxwell, he became interested in railroad enterprises. At the time of his death he was a member of the stock-brokerage firm of Maxwell & Graves. He was president of the Board of Regents of Long Island College Hospital, Trustee of the Brooklyn Institute of Arts and Sciences, and treasurer of Polhemus Memorial Clinic. Mr. Maxwell built and equipped three industrial schools for the Brooklyn Industrial School Association; built the Maxwell House and Kindergarten and presented it to the Brooklyn Guild Association; erected a dormitory and Nurses' Home for Long Island College Hospital; and, among other benefactions, gave \$60,000 to Long Island College Hospital for the establishment of an operating-room and \$20,000 for the relief of the Johnstown-flood sufferers.

Merrill, Moses, educator, born in Methuen, Mass., in 1833; died in Boston, Mass., April 26, 1902. He was graduated at Harvard University in 1856, and taught in Cambridge, Mass., till 1858, when he became a master in the Boston Latin School. He was made head master in 1879, and resigned on account of failing health in 1901.

Miller, Alfred Brashear, educator, born in Brownsville, Pa., Oct. 16, 1829; died in Waynesburg, Pa., Jan. 30, 1902. He was graduated at Waynesburg College in 1853, and was Professor of Mathematics there in 1853-'58; president in 1858-'69; and later president emeritus and acting professor of the philosophical sciences. He was pastor of a Cumberland Presbyterian Church in Waynesburg ten years, and lecturer before

teachers' institutes, summer schools, and Chautauquas. He was author of *Doctrines and Genius of the Cumberland Presbyterian Church* and a contributor to periodicals.

Mitchell, Henry, engineer, born in Nantucket, Mass., Sept. 16, 1830; died in Boston, Mass., Dec. 11, 1902. He was educated at the Normal School in Bridgewater, Mass.; entered the Government service as a civil engineer in 1851; was assistant to the commissioners on harbor encroachments of New York in 1859; led an expedition under Count de Lesseps in connection with the Panama Canal scheme; was consulting engineer of the United States Commission on Boston harbor; was appointed in 1874 to represent the Coast and Geodetic Survey on the Board of Engineers having in charge the improvement of the mouth of the Mississippi river; and served on the Advisory Board of the Harbor Commission of Virginia and Rhode Island in 1875-77. He was appointed Professor of Physical Hydrography at the Massachusetts Institute of Technology in 1899, and to the same chair in the Agassiz School of Science in 1873, but was unable to perform the duties. He was the author of articles on tides and tidal phenomena, river currents, and other subjects connected with physical hydrology. He also published an elaborate defense of Count de Lesseps.

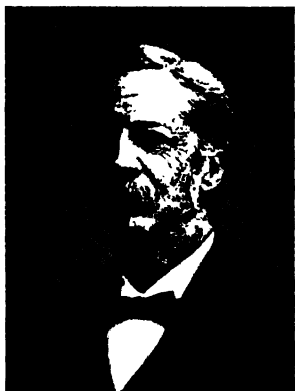
Moore, Edward Mott, physician, born in Rahway, N. J., July 15, 1814; died in Rochester, N. Y., March 3, 1902. His family removed to Rochester, N. Y., in 1830. In 1838 he was graduated at the medical department of the University of Pennsylvania, and began practice in Rochester. In 1843 he was elected Professor of Surgery in the Medical College at Woodstock, Vt. From 1858 till 1883 he held the same chair in Buffalo Medical College. He was the first president of the New York State Board of Health and at one time he was president of the Medical Society of the State of New York. He had also been president of the National Surgical Association and of the National Medical Association. His investigations resulted in important additions to the pathology of the heart, and they were recorded in numerous medical papers. For many years he was president of the Board of Trustees of the University of Rochester. He also organized the Rochester Public Health Association.

Morgan, Thomas Jefferson, soldier and educator, born in Franklin, Ind., Aug. 17, 1839; died in Ossining, N. Y., July 13, 1902. He was the son of the Hon. and Rev. Lewis Morgan, and was educated at Franklin College, which he left in his senior year (1861) to enlist in the 7th Indiana Volunteer Infantry, where he served for three months, and then became superintendent of schools in Atlanta, Ill. The next year he entered as a 1st lieutenant the 70th Indiana Volunteer Infantry, which was commanded by Benjamin Harrison, afterward President, and served continuously till the close of the war in 1865, leaving the army with the rank of brevet brigadier-general, bestowed "for gallant and meritorious service during the war." He organized three

regiments of colored infantry, and commanded the first colored brigade of the Army of the Cumberland. He was for a time on the staff of Gen. Oliver O. Howard, and distinguished himself in the battle of Resaca; and again especially at the battle of Nashville, where he commanded a division. After the war he studied theology, being graduated at Rochester Theological Seminary in 1868, and then for three years was corresponding secretary of the New York Baptist Union for Ministerial Education. He was pastor of a church in Brownville, Neb., one year, and later was principal of the Nebraska State Normal School. From 1874 to 1881 he was Professor of Homiletics and Church History in Chicago Theological Seminary; after which he was principal successively of the normal schools at Potsdam, N. Y. (1881-'83), and Providence, R. I. (1884-'89). In July, 1889, he was appointed Commissioner of Indian Affairs, which office he held through President Harrison's administration. In this office he devoted his energies to the extension of the public-school system to the Indian schools. Agreeing with President Harrison in the fundamental doctrine of the absolute separation of Church and state, he recommended that the cost of educating the wards of the General Government be assumed by that Government, and succeeded in breaking up, with excellent results, the long-established system of so-called contract schools. He also placed the schools and other departments of the Indian service under the civil-service rules. On retiring from that office in 1893, he became corresponding secretary of the American Baptist Home Mission Society, to which service he gave the remaining nine years of his life. His work here as chief executive officer was extended and arduous along all lines. The extension of schools for the colored people in the South and West being one of the primary interests of the society, Gen. Morgan's attainments as an educator, administrator, and commander of colored troops especially fitted him to increase and broaden the efficiency of this branch of mission work. He aimed at a middle course between misplaced philanthropic efforts at too ambitious culture and what he considered a too strictly industrial training. He received the degrees of D. D. and LL. D., and was a member of the Phi Beta Kappa and a companion of the Loyal Legion. He married in 1870 Caroline, daughter of Hon. Frederick Starr, of Rochester, who survives him. Gen. Morgan wrote frequently for the periodicals of his denomination and the press at large; edited the *Home Mission Monthly*, the *Students' Hymnal*, and the *Praise Hymnal*; and published in book form *Educational Mosaics* (1887); *Studies in Pedagogy* (1888); *Patriotic Citizenship* (1895); and *The Negro in America* (1900).

Morton, Henry, physicist, born in New York city, Dec. 11, 1836; died there, May 9, 1902. He was the son of the Rev. Henry J. Morton, rector of St. James's Protestant Episcopal Church in Philadelphia, and was educated at the University of Pennsylvania, where, after graduation in 1857 with the valedictory, he took a post-graduate course in chemistry. He then turned his attention to law, but, having been invited to lecture on chemistry and physics in the Episcopal Academy of Philadelphia, he found that task so congenial that he soon relinquished his law studies. In 1863 he was chosen Professor of Chemistry in Philadelphia Dental College, and a year later he became resident secretary of the Franklin Institute in Philadelphia, in connection with which he began the delivery of a series of lectures on light, sound, and similar topics, which were so

brilliantly illustrated that they gave him a high standing as a popular lecturer. He was invited to the chair of Physics and Chemistry in the University of Pennsylvania during the absence of Prof. John F. Frazer in 1867-'68, and in 1869 the professorship was divided and the chair of Chem-



istry was assigned to him. In 1870 he resigned his connection with the Franklin Institute to accept the presidential chair of the Stevens Institute of Technology, then about to be organized in Hoboken, N. J., under the will of Edwin A. Stevens. The building of this institution was then in course of erection, and President Morton was entrusted with the

selection of a faculty, with whom he arranged the courses of instruction. This office he continued to hold until his death, having, in 1880, presented the institution with a workshop fitted up with steam-engines and machine tools at a cost of more than \$10,000. In 1883 he established the department of applied electricity, presenting \$2,500 for the purchase of electrical apparatus and machinery, and guaranteeing the salary of the professor who should take charge of that department. Again, in 1888, he gave \$10,000 to the institution as the first instalment with which to endow a chair of Engineering Practice, to which, in 1892, he added a similar amount. At the time of the celebration of the twenty-fifth anniversary of the organization of the institution he added \$25,000 to his donations, and in 1900 \$15,000, and again in 1901 \$50,000. His total contributions to the funds of Stevens Institute amounted to more than \$150,000. Dr. Morton organized and conducted the photographic department of the Eclipse Expedition that was sent, in 1869, to Iowa under the auspices of the United States Nautical Almanac Office. He obtained numerous satisfactory exposures, and was the first to prove the true nature of the bright light of the sun's disk adjacent to the edge of the moon, seen in partial phase-eclipse photographs. This phenomenon, which had been previously noticed by Stephen Alexander, Warren de la Rue, and Sir George B. Airy, was explained as a subjective effect not really existing in the picture but developed to the eye by contrast. President Morton was a member of the private expedition that was organized by Henry Draper to observe the total solar eclipse of July 29, 1878, at Rawlins, Wyo. His most important and extensive researches were on the fluorescent and absorption spectra of the uranium salts, in connection with which he examined the spectrum of anthracene, pyrene, chrysene, and a new solid hydrocarbon found in certain petroleum distillates. This new body he named thallene, from its brilliant green fluorescence. In 1878 he was appointed to the vacancy on the Lighthouse Board caused by the death of Joseph Henry, and he continued in that office seven years, conducting meanwhile various investigations on fog-signals, electric lighting, fire-extinguishers, illuminating buoys, and like subjects, which appeared in the annual reports of

the board. President Morton appeared frequently in court as an expert on questions relating to chemistry and physics in connection with patent suits, and acquired an extended reputation for that work. His printed testimony, it is said, "if collected in separate form, would equal in volume a set of Scott's novels." The degree of Ph. D. was conferred upon him by Dickinson College in 1869, and by Princeton in 1871, and that of D. Sc. by Pennsylvania, and LL. D. by Princeton in 1897. In 1874 he was chosen to the National Academy of Sciences, on several of whose commissions he served. During 1867-'70 he was editor of the journal of the Franklin Institute. Besides articles on electricity and fluorescence contributed to the *Universal Cyclopædia*, he published the results of his researches in the scientific journals of this country and Europe. He was associated in the preparation of *The Student's Practical Chemistry* (Philadelphia, 1868), and also, during his college course in 1859, in the publication of a translation of the trilingual hieroglyphic inscription of the Rosetta stone, for which he made the lithographic drawings. (See *Biographical Notice of President Henry Morton*, Ph. D., of the Stevens Institute of Technology, prepared by Prof. Coleman Sellers, E. D., and Prof. Albert R. Leeds, Ph. D., New York, 1892.)

Morton, Julius Sterling, agriculturist, born in Adams, N. Y., April 22, 1832; died in Lake Forest, Ill., April 27, 1902. He was graduated at Union College in 1854; removed to Nebraska City in 1855; became editor of the *Nebraska City News*; a member of the Territorial Legislature in 1856 and 1857; secretary of the Territory in 1858; acting Governor on the resignation of Gov. Richardson a few months later; and was appointed Secretary of the United States Department of Agriculture in 1893, which post he held till 1897. Mr. Morton was the originator of Arbor Day; one of the original members of the Nebraska Territorial Board of Agriculture and of the Territorial Horticultural Society; later served as president of both organizations; was a charter member of the Nebraska State Historical Society, of which he also was president; and was editor of the *Conservative*, a weekly journal.

Moses, Adolph, rabbi, born in Posen about 1840; died in Louisville, Ky., Jan. 8, 1902. He was graduated at Breslau University, and became a teacher of Hebrew. He was a soldier under Garibaldi; came to the United States in the sixties, and from that time till his death preached in Montgomery and Mobile, Ala., and for twenty-one years was rabbi of the Temple Adas Israel in Louisville, Ky. He also studied medicine and received the degree of M. D. Rabbi Moses was an eloquent speaker and a forceful writer. His publications include *Religion of Moses*; *Loser, the Watchmaker*; and frequent contributions to the weekly press.

Mundé, Paul Fortunatus, surgeon, born in Dresden, Saxony, Sept. 7, 1846; died in New York city, Feb. 7, 1902. In 1863 he entered the Medical Department of Yale University, but left before his course was completed to enter the National army as medical cadet. After serving six months he went to the Harvard Medical School, where he was graduated in 1866, and went to Germany. He became assistant surgeon in the Bavarian army, and served through the war of 1866, after which he was on hospital duty at Würzburg. In 1870 he enlisted in the Bavarian army as battalion surgeon with the rank of 1st lieutenant, and served in the Franco-Prussian War. In 1872 he returned to the United States, where he made a specialty of gynecology. He was Professor of

Gynecology at the New York Polyclinic and at Dartmouth College, and also was gynecologist to Mount Sinai Hospital, consulting gynecologist to the Mothers' and Babies' and the Skin and Cancer Hospitals; and consulting obstetrician to the City Maternity Hospital. He was editor of the American Journal of Obstetrics in 1872-'92; president of the New York Obstetrical Society in 1886-'88; invented numerous instruments for the practise of his specialty; and was author of *Obstetric Palpation* (1880); *Minor Surgical Gynecology* (1880); *Appendix to Midwifery of Cazeaux and Tamier* (1884); and *Pregnancy and the Puerperal State* (1887).

Munstery, Thomas Hoyer Munster, maître d'armes, born in Baltimore in 1814; died in Chicago, Jan. 2, 1902. His mother was the daughter of a famous Swedish beauty who was reported to have been the morganatic wife of King Frederick William II of Prussia, and his father was a Danish nobleman, who was expelled from the Danish court because of a duel that was unfavorably regarded. He was afterward made Governor of Santa Cruz, but left that place in 1812 and came with his wife to the United States and lived for a time in Baltimore. They returned to Denmark in 1820. When the boy Thomas was fifteen years old, he entered the Danish navy and served for three years. While in port at Rio Janeiro he killed a man who had insulted him. No action was taken against him in the matter, however, and he soon went to Stockholm, where he studied fencing and athletics under Dr. Linge, inventor of the Swedish system of massage. Under this instruction he became an expert swordsman and developed phenomenal strength. In 1836 he went to St. Petersburg as fencing-master and commander of the body-guard of the Grand Duke Constantine. For the amusement of the court, he fought with every one that wished to test his strength, including wild men from beyond the frontier, and he became such a favorite that a palace and large sums of money were given to him. But because of an intrigue with one of the ladies of the court he was exiled from Russia, and went to Copenhagen with almost empty pockets. He soon won enough money at cards, however, to go to Berlin, where he boldly claimed the right to a commission in the army on account of the Hohenzollern blood inherited from his mother. His story and his claim were not agreeable to the reigning family, and he soon found himself in prison at Spandau, from which, after a short time, he was suddenly set free without a trial. He never knew why he was released, but ascribed it to the pleadings of his mother, the reputed daughter of Frederick William II. After obtaining his freedom, young Munstery became infatuated with a lady in whom a Danish nobleman was interested; the two men fought a duel on her account, and the nobleman was killed. Munstery hurriedly departed for America and joined the United States navy, seeing some service and receiving wounds, for the treatment of which he was taken to the naval hospital at Portsmouth, N. H. After his recovery he went to Philadelphia and sold cigars for a time, but his love of adventure made him restless, and he soon went to Nicaragua, where he found a revolution in progress, in which he joined, killing several men and receiving severe wounds himself. From Nicaragua he went to Cuba with Narciso Lopez, thence to the United States of Colombia, where he fought for the dictator, José María Melo. He came very near being hanged, but escaped to New York, and in 1855 he returned to Copenhagen just in time to act as second in a duel for the

Spanish *chargé d'affaires*. After this he went to Madrid, where he displayed his skill in arms and his wonderful strength for the amusement of royalty and the nobility, and became a high favorite, with gold showered upon him. The Spanish Government sent him to Cuba to teach the use of the sword and bayonet to the soldiers there. In Cuba he had many adventures, and a jealous rival in love bribed a barber to disable him. The barber had been summoned to bleed him for a fever, but he treacherously cut a tendon in the sword-arm, supposing that the injury would be permanent. Munstery asserted that, thanks to the tricks in massage and sword practise learned from Dr. Linge, he was able to overcome the effect of this injury, and as soon as he could use his arm again he assembled a band of 50 adventurers, and they went to Honduras to take part in a revolution in that country. The whole band was captured, and Munstery was put under a guard of 8 men. He killed 3 of them and broke the bayonets of 3 more, and the other 2 ran away. He made his escape, and was about to leave the country when President Guardiola heard of his exploit with the revolutionists and made him a general. The hero fought the strongest man in Honduras before an audience of 20,000 people and won. He became a popular favorite, and all went well with him until he aroused the jealousy of the President by paying too marked attention to Madame Guardiola. He was sentenced to fight a bull in the public arena, and one week was allowed him to prepare for the contest. He had in the city an American friend, Dr. Wells, who helped him to buy 6 bulls, and with these animals he practised a week, killing one bull every day. He won the fight in the arena against a bull with filed horns. Guardiola, still angry, tried to get rid of him by forcing him to go to the frontier and fight a wild tribe that was making trouble. Munstery was captured and tied to a tree overnight, to be killed in the morning. He managed to escape, and made his way to San Salvador, and thence to Chiapas, gathering about him 12 followers. At Chiapas he was made chief of cavalry in a war against Miramon and Ortega. He became separated from his companions, and it was said that he alone fought 10 men, killing them all. He discovered Ortega's stolen treasure, amounting to \$100,000, which he hid, but he afterward lost the maps showing where he had buried it. He was wounded in this last adventure so badly that he determined to fight no more, and he returned to the United States and settled in Chicago, where he became the best known *maître d'armes* in the country. Among the many actors he trained in fencing were Edwin Forrest, Edward L. Davenport, Junius Brutus Booth, Jr., Edwin Booth, and Francis Wilson. General Munstery was a man of distinguished presence and charming personality. He had acted as principal in 20 duels, and as second in 33.

Nast, Thomas, caricaturist, born in Landau, Bavaria, Sept. 27, 1840; died in Guayaquil, Ecuador, Dec. 7, 1902. He went to New York with his mother and sister in June, 1846, attended the public schools for a short time, and when fourteen years old was employed as doorkeeper at Bryant's gallery of paintings. In 1855 he applied to Frank Leslie for employment as a draughtsman, and began work on a salary of \$5 a week, studying at the School of Design in the evenings. He soon acquired a local reputation, which became international in 1860 when he went to England to make sketches of a prize fight for the Illustrated News. Next he drifted to Italy, where he followed Garibaldi's campaign. He was

present at the sieges of Capua and Gaeta, and sold sketches of the events he witnessed to periodicals in the United States, France, and England. He then returned to New York, and in 1862 became a regular contributor to Harper's Weekly. The civil war gave him abundant opportunity, and he was often sent to the front to sketch battle and camp scenes. He developed into a political cartoonist as the armed conflict subsided, espousing the Republican cause with vigor. His pictorial attacks on the Tweed ring contributed not a little to the downfall of that corrupt oligarchy. Many of his creations have passed into types. It was he who invented the tiger as the symbol of Tammany Hall, the elephant as the emblem of the Republican party, and the donkey as representing the Democracy. When there was question of reducing the military and naval appropriations, he depicted the United States army as a skeleton, a timely defense, which was afterward acknowledged by the presentation to him of a silver vase by 3,500 officers and enlisted men of the army and navy. In 1872 his cartoons were conspicuous in the campaign against Mr. Greeley. In that year he began the publication of Nast's Illustrated Almanac, which he continued for several years. In 1873 he visited the larger cities of the country, lecturing and illustrating his lectures with cartoons drawn in the presence of the audience. In 1876 he made cartoons on the Hayes-Tilden campaign, representing Mr. Tilden as a sphinx. In 1884 he was on the Democratic side, opposing Mr. Blaine in a very bitter manner. Soon afterward he left Harper's Weekly. Nast was in comfortable circumstances at one time, but nearly all his savings were lost in the Grant & Ward failure in 1884, and he again took to lecturing. In 1892 he established Nast's Weekly, opening a campaign against police corruption in New York, which was of brief duration. In 1894 he visited London to do special work for the Pall Mall Magazine, but soon returned and devoted himself to illustrating books, including an edition of Robinson Crusoe, and the works of Petroleum V. Nasby and other comic writers. On May 2, 1902, he was appointed consul-general at Guayaquil, for which post he sailed on July 1. On Dec. 4 he was attacked by yellow fever. Besides his work with the pencil, Nast painted in oil and water-colors. His best known picture is the Departure of the Seventh Regiment for the War, 1861. It represents the troops passing the corner of Broadway and Prince Street, and vividly depicts the intense excitement of the time. It was bought by the Seventh Regiment, of which Nast was a member. Among his numerous other paintings are Peace Again (1865); Lincoln Entering Richmond (1868); St. Nicholas (1895); and The Immortal Light of Genius (1896), painted for Sir Henry Irving. Nast's home for twenty-five years prior to his death was at Morristown, N. J.

Needham, George C., evangelist; born in Ireland about 1842; died in Marberth, Pa., Feb. 16, 1902. He worked a year in a business house in Dublin, and then became an evangelist. He preached throughout England and Ireland till 1868, when he came to the United States. The greater part of his life was passed in constant movement from one part of the country to another. He wrote much on Biblical themes. Among his best known works are Shadow and Substance; Conflict and Courage; The Spiritual Life; and Street Arabs.

Norris, Frank, author, born in Chicago, Ill., in 1870; died in San Francisco, Cal., Oct. 25, 1902. He was educated at the San Francisco High

School, the University of California, and Harvard University; studied art in Paris in 1887-'89; was war correspondent for the San Francisco Chronicle in South Africa during the Uitlander excitement in 1895-'96; editor of the San Francisco Wave in 1896-'97; war correspondent for McClure's Magazine in Cuba in 1898; and was author of McTague, The Octopus, and The Pit. The latter, his last work, ran serially in the Saturday Evening Post, of Philadelphia, in 1902-'03.

Ochiltree, Thomas P., journalist, born in Nacogdoches County, Texas, in 1840; died in Hot Springs, Va., Nov. 25, 1902. At the age of fifteen years he enlisted in the Texas Rangers, and served in the campaign against the Apache and Comanche Indians in 1854-'55. He was editor of the Jeffersonian in 1860-'61; entered the Confederate army at the outbreak of the civil war, and served on the staffs of Gens. Green, Taylor, and Sibley. He was promoted major and colonel, and was taken prisoner at the battle of Five Forks. In the autumn of 1865 he returned to Texas and engaged in journalism. He became United States marshal for Texas, editor of the Houston Daily Telegraph in 1866, Texas State Commissioner of Emigration to Europe, and the first native Texan ever elected to Congress (1882). He was the author of several pamphlets on Texas and her resources.

Osborn, Virginia E., philanthropist, died in New York city, Feb. 7, 1902. She was the widow of William H. Osborn, formerly president of the Illinois Central Railroad, who died in 1894. For many years she was actively identified with charitable institutions in New York city, including the City Mission and the Cooking-School, and she was a founder of Bellevue Hospital Training-School for Nurses.

Osborne, William McKinley, lawyer, born in Girard, Ohio, April 26, 1842; died in Wimbledon, England, April 29, 1902. He was educated at Poland Academy, Ohio, and Allegheny College; enlisted in the 23d Ohio Regiment when the civil war broke out; and after a year's service was taken ill with typhoid fever. After his recovery he studied law; was admitted to the bar in 1864; and practised in Youngstown, Ohio, till 1880, during part of which time (1874-'75) he was mayor. He then removed to Boston, Mass., where he practised his profession; was a member of the Common Council in 1884 and 1885; of the Board of Police Commissioners in 1885-'93; and Secretary of the National Republican Convention in 1896. In 1897 he was appointed United States consul-general in London.

Osmun, Thomas Embley (Alfred Ayres), author, orthoepist, elocutionist, and dramatic critic; born in Montrose, Ohio, Feb. 26, 1834; died in New York, Oct. 26, 1902. He was graduated at Oberlin College, after which he spent six years in Paris and Berlin, studying medicine and languages. He returned to the United States in 1859, and became a resident of New York city. His attention was attracted to the wide-spread misuse of his native tongue, as shown in current "newspaper English," and he resolved to make it his life-work to attempt to preserve the purity of the English language in the public press. He argued for the better use of words in every avenue that lay open to him, writing personally to advertisers in the newspapers and pointing out to them the defects in their advertisements, and remonstrating with editors for permitting bad English to appear in their publications. This led naturally to the writing of several books on the subject, namely, The Orthoepist, The Verbal-

ist, and Some Ill-Used Words, all of which have become authorities on the use of English. He became a dramatic critic, and finally a teacher of elocution, always laboring to bring about a better pronunciation and emphasis in English upon the stage.

When he was in Germany, as a young man, he played Shylock, Richelieu, and other leading rôles, in the German tongue; and in May, 1891, he appeared as Shylock in Boston, playing that part afterward throughout New England. His books on topics connected with the stage are *Actors and Acting* and *The Art of Acting*. His personal appearance was distinguished, and his manner was that of the gentleman of the old school. He abounded in kindly and benevolent impulses, and often went out of his way to have infractions of the law punished when children or other helpless persons were the sufferers, and sometimes when the good of the general public demanded something that the general public neglected.

Packard, Joseph, clergyman; born in Wiscasset, Me., Dec. 23, 1812; died in Alexandria, Va., May 3, 1902. He was graduated at Bowdoin College in 1831; was a professor at Bristol College, Pennsylvania in 1834-'36; and was ordained in the Protestant Episcopal Church in 1837. He was Professor of Sacred Literature in the Protestant Episcopal Theological Seminary of Virginia from 1837 till 1890, and during that time was dean fifteen years. In 1890 he was made professor emeritus. He was a member of the American Committee on the Revision of the Bible in 1872-'85, prepared the work on Malachi for Lange's Commentary, and was a frequent contributor to Church periodicals.

Paine, Levi Leonard, educator; born in Holbrook, Mass., Oct. 10, 1832; died in Bangor, Me., May 10, 1902. He was graduated at Yale University in 1856, and at its Theological Seminary in 1861; and preached in Farmington, Conn., till 1870, when he became dean of Bangor Theological Seminary, which post he held till his death. He was president of the Maine Missionary Society in 1888-'94. He wrote a *Critical History of the Evolution of Trinitarianism and The Ethnic Trinities*.

Palmer, Alice Freeman, educator, born in Colesville, N. Y., Feb. 21, 1855; died in Paris, France, Dec. 6, 1902. She was graduated at the University of Michigan in 1876, was appointed teacher of Greek, Latin, and Mathematics at Geneva Lake, Wis., where she remained a year, and principal of the high school at East Saginaw, Mich., in 1877, where she remained till 1879, when she became Professor of History in Wellesley College. She held the latter post till 1881, when she became acting president. In 1882 she accepted the presidency of Wellesley College and remained at the head of that institution till 1887, when she married George Herbert Palmer, Professor of Philosophy in Harvard University. In 1892-'95 she was dean of the Woman's Department of the University of Chicago.

Palmer, Benjamin Morgan, clergyman, born in Charleston, S. C., Jan. 25, 1818; died in New

Orleans, La., May 28, 1902. He was graduated at the University of Georgia in 1838, and at Columbia Theological Seminary in 1841; held Presbyterian pastorates in Savannah, Ga., in 1841-'43; in Columbia, S. C., in 1843-'56; and in New Orleans from 1856 till his death. He was Professor of Church History and Polity in Columbia Theological Seminary in 1853-'56; director of the same institution in 1842-'56; and a director of the Southwestern Presbyterian University, Clarksville, Tenn., from 1873 till his death, and of Tulane University from its organization. He frequently served as a commissioner to the General Assembly of his denomination, and was one of the founders, in 1847, of the Southern Presbyterian Review, of which he was editor till his death. He was author of *Life and Letters of J. H. Thornwell* (1875); *Sermons* (1876); *The Family in its Civil and Churchly Aspects* (1876); *Formation of Character* (1889); *The Broken Home* (1890); and *Theology of Prayer* (1894).

Palmer, Francis Asbury, banker, born in New York city in 1812; died there, Nov. 1, 1902. He was noted for his rugged tenacity of purpose and strong will. He served a term as city chamberlain more than twenty-five years ago. At the time of his death he was president of the Broadway Savings-Bank, and had recently retired from the presidency of the Broadway National Bank. Mr. Palmer in life gave much of his large wealth to charitable and educational causes. For about a quarter of a century he was in the habit of giving a dinner on his birthday to several clergymen and others to whom he entrusted the greater part of his philanthropic work. The institutions in which he was most largely interested are the Palmer Institute, in Muncie, Ind., to which he gave \$500,000; the Starkey Seminary, in Eddytown, N. J., to which he gave \$500,000; and Palmer College, in La Grande, Iowa, to which he gave \$30,000.

Palmer, Potter, capitalist, born in Rensselaerville, N. Y., in 1826; died in Chicago, Ill., May 4, 1902. He was in business in Dunham, in Oneida County, and in Lockport, N. Y., till 1852, when he established in Chicago a dry-goods store, which became widely known under the name of Field, Palmer & Leiter. In 1867 he retired, and engaged in real-estate operations. He purchased three-quarters of a mile of property, and built the Palmer House, which was half completed when it, with 35 other buildings that he owned, was destroyed by the great fire of 1871. He rebuilt the Palmer House at a cost of \$2,500,000, and many other buildings, and accumulated a vast fortune. He gave \$200,000 for the Woman's Building at the World's Columbian Exposition in 1893.

Pangborn, Zebina Kellogg, journalist, born in Peachman, Vt., July 31, 1829, died in Hilburn, N. Y., Nov. 1, 1902. He was graduated at the University of Vermont in 1850; taught school for a short time; and later was principal of two academies in Vermont. In 1854 he gave up teaching for newspaper work, and was successively editor of the *St. Albans (Vermont) Tribune*; the *Worcester Daily Transcript*, and the *Boston Daily Atlas and Bee*. Later he studied law, but abandoned practice to enter the National army at the outbreak of the civil war. He was made paymaster, with the rank of major, and served till 1865, when he became editor of the *Jersey City Times*. In 1867 he founded the *Jersey City Evening Journal*, and he was its editor till 1895, when he sold his interest. Major Pangborn had a high reputation as a political speaker. He was a delegate to the Republican convention that nominated John C. Fremont for the presidency,

and was either a delegate or an alternate to nearly every National convention until his retirement from active work.

Patterson, Calvin, educator, born in Clarendon, N. Y., July 2, 1847; died in Brooklyn, N. Y., Jan. 27, 1902. He was graduated at the Albany Normal Institute in 1867, and later at Rochester University. He taught in Rochester a year, and then in the Buffalo Classical School. In 1871 he became Professor of Mathematics in the New York State Normal School, where he remained till 1873, when he became principal of a grammar school in Brooklyn. In 1882 he became superintendent of public instruction in Brooklyn, and he held this post till 1888, when he was made principal of the Girls' High School, where he remained till his death. He established the first evening sessions of the public schools of Brooklyn.

Pennoyer, Sylvester, lawyer, born in Groton, N. Y., July 6, 1831; died in Portland, Ore., May 30, 1902. He was graduated at Harvard Law School in 1854; removed to Oregon in 1855, and taught school several years. In 1862 he became connected with the lumber industry, in which he acquired large wealth. In 1886 and 1890 he was elected Governor of Oregon, and in 1896 mayor of Portland. He attracted attention while Governor by saying, on an occasion when Secretary of State Gresham conveyed to him certain suggestions of President Cleveland concerning the Chinese exclusion act: "I will attend to my business; let the President attend to his."

Perkins, William Oscar, composer, born in Stockbridge, Vt., May 23, 1831; died in Boston, Mass., Jan. 13, 1902. He was graduated at Kimball Union Academy in 1853; studied music, and then taught in Boston. He organized what is believed to have been the first male quartet for concert singing in the United States, the Mendelssohn Vocal Quartet; became conductor at the Boston Music Hall in 1858; and conducted many musical festivals. He lectured and wrote on musical and other topics; composed numerous part songs and hymns; and compiled and edited many collections of vocal music, his published works numbering 60 volumes. His last composition was *The War in South Africa*; or, *Boer and Briton*.

Pierce, Henry Miller, manufacturer, born in Susquehanna County, Pennsylvania, Oct. 6, 1831; died in Ocala, Fla., Feb. 19, 1902. He was graduated at Waterville (now Colby) University, and was elected president of Rutgers Female College, New York city, which post he held thirteen years. Later he engaged in the wood-alcohol and phosphate industries. On the outbreak of the civil war, he, with two others, organized the army ambulance corps, and he personally directed its work during the campaign on the James, under Gen. McClellan. In 1887 he founded the city of West Nashville, Tenn., where he lived till 1890, when he removed to Washington, and thence, in 1894, to Rochester, N. Y.

Piper, Alexander, military officer, born in Pennsylvania, May 11, 1829; died in New York city, Feb. 21, 1902. He was graduated at West Point in 1847; was brevetted 2d lieutenant, 3d Infantry, July 1, 1851; promoted 2d lieutenant, Dec. 12, 1851; 1st lieutenant, Jan. 31, 1855; captain, 3d Artillery, May 14, 1861; major, 4th Artillery, Dec. 20, 1875; lieutenant-colonel, 1st Artillery, Nov. 8, 1882; transferred to the 3d Artillery, Nov. 10 following, and to the 1st Artillery, Jan. 25, 1885; colonel, 5th Artillery, Aug. 10, 1887; and was retired at his own request, July 1, 1891. In the volunteer service he was brevetted colonel of the 10th New York Artillery, Jan. 7, 1863, and

honorably mustered out July 6, 1865. He was assistant professor at West Point in 1853-'54; on frontier duty in 1854-'60; during the civil war participated in the campaigns of the Army of the Potomac in 1861-'64; and was brevetted major, in August, 1862, for gallant and meritorious services during the campaign in Virginia, and lieutenant-colonel in June, 1865, for similar services at the siege of Petersburg. After the war he was assistant instructor of artillery tactics at West Point, and served at various posts and stations in 1868-'90. He was a victim of the Park Avenue Hotel disaster in New York city.

Polk, Joseph B., actor, born in Maryland in 1841; died in Baltimore, Md., Jan. 5, 1902. His first appearance was in 1861, under the management of John T. Ford. He began to attract attention when he became a member of Wallack's Theater company, New York, and later he played for a time in Augustin Daly's Fifth Avenue Theater, finally joining the Union Square company, under the management of A. M. Palmer, where he remained for many seasons, making the most distinguished successes of his career. Associated with him were Clara Morris, Charles Thorne, Stuart Robson, Sara Jewett, and other well-known actors. His most artistic impersonations were of genial, humorous old men and strong "character" rôles. After the disbanding of the Union Square Theater company, Mr. Polk went on a successful starring tour in the United States and also in England and Australia, where he became as great a favorite as in his own country. His last appearance was in Salt Lake City, in 1898, in *What Happened to Jones*. At that time he was stricken with paralysis, from which he partially recovered. He then became president of the Chesapeake Brewing Company, of Baltimore, holding that place until his death. He married, in 1867, Julia Parker, daughter of the comedian, Joseph Parker. Mrs. Polk died June 20, 1900.

Poston, Charles D., pioneer, born in Hardin County, Kentucky, about 1822; died in Phenix, Arizona, in June, 1902. He was a native of Kentucky, where he practised law in early life, and afterward in Washington, D. C. In 1854 he went to California as a gold seeker, and remained there till the civil war broke out, when he joined the National army as an aide on the staff of Gen. Heintzelman. After the war he returned to California as Superintendent of Indian Affairs, and while holding this office served also as recorder of the region now embraced within Arizona. He gave Arizona her name in 1863, and secured the organization of the new Territory. In 1864 he was elected the first Delegate to Congress from Arizona. Subsequently he traveled in Europe, and again returned to Arizona, where he held various minor offices. For a time he was connected with several New York papers.

Potter, Edward Eels, naval officer, born in Medina, N. Y., May 9, 1833; died in Belvidere, Ill., Jan. 8, 1902. He entered the navy as midshipman Feb. 6, 1850; was promoted passed midshipman, June 20, 1856; master, Jan. 22, 1858; lieutenant, March 18, 1858; lieutenant-commander, July 16, 1862; commander, March 2, 1869; captain, April 1, 1880; and commodore, June 27, 1893; and was retired May 9, 1895. His first important duty was in conveying the first Japanese embassy home in 1860. At the outbreak of the civil war he was ordered to the Wissahickon, and he served on it during the bombardment and passage of Forts Jackson and St. Philip, and the capture of New Orleans. He also passed the Vicksburg batteries twice, and participated in the engagement

with the Confederate ram *Arkansas*. In 1862 he was attached to the *De Soto*; later to the *Wabash*; and in 1864-'65 had command of the ironclad *Mahopac*. He received command of the *Chippewa* in 1863, and took part in the engagement at Fort Fisher and the bombardment of Fort Anderson. In 1868, while attached to the *Shawmut*, he ascended Orinoco river to Ciudad, Bolivar, and recovered from the revolutionists 2 steamers belonging to an American mercantile company. The seizure of these vessels formed the basis of the celebrated Venezuelan claims, which were settled in Washington in 1895. He was sent to Ireland with the *Constellation* loaded with provisions to relieve the famine of 1880, and later had charge of the *Naval Home* in Philadelphia.

Powell, John Wesley, geologist and anthropologist, born in Mount Morris, N. Y., March 24, 1834; died in Haven, Me., Sept. 23, 1902. His father, a Methodist clergyman, came to this country from England a few months before the birth of his son, and held pastorates in Ohio, Wisconsin, and Illinois. His early schooling was that ordinarily obtained in a rural community, and his scientific bent is said to have been acquired by association with an old friend who directed his attention to natural history.

He studied at Illinois College, and subsequently entered Wheaton College, teaching at intervals in public schools. In 1854 he entered Oberlin, where, for two years, he pursued a special course. As he reached manhood his interest in studies of natural history increased, and he traversed portions of Illinois, Iowa, Missouri, and Wisconsin on foot, making collections of plants, shells, minerals, and fossils, which he placed in institutions of learning in Illinois. The Natural History Society of Illinois elected him secretary and provided him with facilities for carrying on his researches. At the beginning of the civil war he enlisted as a private in the 20th Illinois Regiment, and he received successive commissions until he became lieutenant-colonel of the 2d Illinois Artillery. He lost his right arm at the battle of Shiloh, but soon afterward returned to his regiment and continued in active service until the close of the war. He accepted the professorship of Geology and the curatorship of the museum in the Illinois Wesleyan University, Bloomington, in 1865, which he soon resigned to accept a similar appointment in Illinois Normal University. In the summer of 1867 he organized and led a geological excursion of American students to the mountain region of Colorado, and so began a practise that has since been continued by teachers elsewhere. He remained in the mountains as an explorer after his party had returned home, and in 1868 organized a second expedition with geologic and geographic exploration and research as its chief objects, the necessary funds for which were furnished by educational institutions in Illinois and the Smithsonian Institution. On this expedition he formed the idea of exploring the Grand Cañon of the Colorado, and a year later he organized a party for that purpose. When this work was begun it was known that the Colorado river flowed for 700 to 1,000 miles

through walls 5,000 feet high, mostly unscalable; but the nature of the rapids, cascades, and cataracts in that cañon was altogether unknown. The journey lasted more than three months, and his party passed through numerous perilous experiences, living for a part of the time on half rations. The success of this undertaking resulted in the establishment by Congress, in 1870, of a topographical and geological survey of Colorado river and its tributaries, which was placed under his direction, and for several years thereafter he conducted a systematic survey of the territory until the Colorado valley, embracing an area of nearly 100,000 square miles, was thoroughly explored. This expedition, at first conducted under the auspices of the Smithsonian Institution, was transferred to the Department of the Interior and received the title of the Geological and Geographical Survey of the Rocky Mountain Region. At this time the study of the problem for the utilization of the arid regions of the West through irrigation attracted his attention, and under his direction a special investigation was made of the water-supply of Utah. Meanwhile surveys of the West were in progress under the auspices of Ferdinand V. Hayden, Clarence King, and George M. Wheeler, and their ambition to include the exploration and survey of all of that region led to rivalry, in consequence of which, after much controversy, in 1879, the National Academy of Sciences, to which the matter had been referred, recommended the establishment under the Department of the Interior of an organization to be known as the United States Geological Survey. This at once went into effect, abolishing the Hayden, Powell, and Wheeler surveys, and Clarence King became by presidential appointment the first director of the new survey. In 1881 Mr. King resigned the directorship of the Geological Survey, and Mr. Powell became his successor, continuing at the head of that important work until 1894, when he resigned. During his administration of the survey he abandoned the geographic subdivisions of the work and substituted a classification based upon function, creating divisions of topography, general geography, and economic geology, coordinate with the divisions of paleontology, physics, and chemistry, and carried the work forward until it became recognized as one of the greatest scientific bureaus ever organized. Meanwhile, in 1880, he became interested in ethnology and brought about the founding of the Bureau of American Ethnology, which is regarded as his creation. Work in this branch of science had previously been largely discursive and unorganized, but under his direction definite purposes conformable to high scientific standards were adopted, and he attracted to its corps of investigators men of the highest standing. During the years that he was director of the Geological Survey he continued as the nominal chief of the Bureau of American Ethnology, and in 1892 he returned to the active charge of that bureau, at the head of which he continued until his death. He made important contributions to geology, especially concerning the stratigraphic structure and areal geology of the Colorado plateaus and the Uinta mountains. The scientific study of the arid lands of the West in relation to human industries is due chiefly to Mr. Powell, and his plan for the recovery of the Western arid regions by the impounding of the waters is now universally accepted. Of his work in ethnology the twenty annual reports of the bureau while under his supervision are sufficient testimony. In 1892 the French Academy awarded him the Cuvier annual prize of 1,500 francs.

for the greatest scientific service to the world during the year. This money he promptly returned, with a letter saying that such prizes ought to go to meritorious individuals rather than to governments or government institutions. Many honorary degrees were conferred upon him, including that of Ph. D. from the University of Heidelberg, and that of LL. D. from Illinois Wesleyan, Columbian, and Harvard Universities. In 1880 he was elected to the National Academy of Sciences, and he was president of the Anthropological Society of Washington from its organization in 1879 to 1888; also of the American Association for the Advancement of Science in 1888. He was one of the founders of the Cosmos Club of Washington, and was its first president in 1878. His publications include many scientific papers and addresses, and besides the many Government reports that bear his name, including those of the various geological surveys and the Bureau of American Ethnology, of which he was chief, he was the author of *Exploration of the Colorado River of the West and its Tributaries, Explored in 1869-'72* (Washington, 1875); *Report on the Geology of the Eastern Portion of the Uinta Mountains and a Region of Country Adjacent Thereto* (1876); *Report on the Lands of the Arid Region of the United States* (1879); *Introduction to the Study of Indian Languages, with Words, Phrases, and Sentences to be collected* (1880); *Cañons of the Colorado* (1895); *Truth and Error* (1899); and *Good and Evil*. A meeting in his memory was held in the National Museum, Sept. 26, 1902, when his colleagues expressed their grief at their loss of "a loyal friend and devoted public servant, a daring explorer, and an original contributor to the sum of human knowledge."

Power, Maurice J., jurist and art founder, born in County Cork, Ireland, Oct. 18, 1838; died in New York city, Sept. 8, 1902. He came to the United States with his parents in 1841; learned the trade of stone-cutting; and in 1868 established the National Fine-Art Foundry, which subsequently cast many notable pieces of bronze sculpture, including the battle monuments at Trenton and Monmouth, N. J., Newburg, Albany, and Buffalo, N. Y., Manchester, N. H., and in many other cities in the Middle, Southern, and Western States. Among his other works were the statue of Patriotism in Kingston, N. Y., and the memorial of the capture of Major André at Tarrytown, N. Y. Mr. Power assisted in the formation of the Democratic organization that elected Edward Cooper mayor of New York in 1878, and was a police-court justice in 1880-'90. He was one of the founders of the County Democracy in opposition to Tammany, and was its leader from 1886 till 1890. In 1893 he was appointed United States shipping commissioner for the port of New York, which post he held till 1897, when he was appointed an aqueduct commissioner. He held the latter post till his death.

Pratt, Charles, musician and composer, born in Hartford, Conn., in 1841; died in New York city, Aug. 11, 1902. He was a successful composer of music in Hartford while a very young man, and after some experience there as organist, teacher, and leader of an orchestra, he went to New York and soon made a name for himself as a pianist, conductor, and composer. After a time he became an organizer and manager of concert companies, and was very successful. In this field he was associated at various times with Emma Abbott, Clara Louise Kellogg, Emma Thursby, Ilma di Murska, and other favorite singers. At one time he was chief assistant of Patrick Sars-

field Gilmore in the management of the celebrated Gilmore's Band, and during one season he was musical director for Col. Henry Mapleson, the grand-opera impresario.

Queen, John, actor and minstrel performer, born in New Orleans in 1860; died in New York, Feb. 23, 1902. His first appearance was early in the eighties, when he was the senior member of The World's Trio—Queen, Stowe, and Randall—originators of many new short acts suitable for the variety stage. His ability as a "black-face" comedian was so marked that soon he had no difficulty in finding a place in Haverly's Minstrels, Thatcher, Primrose and West's Company, and all the best of the old-time negro minstrel entertainments. He traveled with one or another of these organizations for many seasons, and was considered one of the best "end-men" in the business. He also composed numerous negro melodies and what are known as "coon songs," some of which gained great popularity. He had a fine voice, and sang with taste and expression.

Rafferty, William A., military officer, born in New Jersey, Feb. 16, 1842; died in San Felipe, Philippine Islands, Sept. 13, 1902. He was graduated at West Point and commissioned a 2d lieutenant in the 6th Cavalry, June 23, 1865; was promoted 1st lieutenant, May 1, 1866; captain, May 14, 1868; major, 2d Cavalry, Nov. 20, 1889; lieutenant-colonel, May 31, 1898; and colonel of the 5th Cavalry, Oct. 18, 1899. He served with distinction in the Indian wars on the frontier, and was brevetted major, United States army, Feb. 27, 1890. He was assistant instructor of cavalry tactics at West Point in 1873-'74.

Randall, Silas Goodyear, inventor, born in Cornwall, Vt., in 1819; died in Providence, R. I., Nov. 21, 1902. He was graduated at Middlebury College and at Andover Theological Seminary; and preached in the Congregational Church in Vermont and in Green, N. Y., till his health failed him, when he gave his attention to inventions, his chief production being the disk harrow.

Rawson, Albert Leighton, author and artist, born in Chester, Vt., Oct. 15, 1829; died in New York city in November, 1902. After studying law, theology, and art, he visited the Orient four times, and in 1851-'52 made a pilgrimage from Cairo to Mecca. He traveled extensively in the United States and Central America. His publications, illustrated by himself, include a Bible Dictionary; History of all Religions; Statistics of Protestantism; Antiquities of the Orient; Vocabulary of the Bedouin Languages of Syria and Egypt; Dictionaries of Arabic, German, and English; Vocabulary of Persian and Turkish Languages; Chorography of Palestine; Historical and Archeological Introduction to the Holy Bible; The Unseen World; Stella, and Other Novels; Bible Handbook; History of the Quakers; History of Mysticism; The Archaic Library; and a translation of The Symposium of Basra. He also executed more than 3,000 engravings.

Reed, Thomas Brackett, statesman; born in Portland, Me., Oct. 18, 1839; died in Washington, D. C., Dec. 7, 1902. He was graduated at Bowdoin College in 1860, taking the prize for English composition, and for the next four years was a teacher, at the same time studying law. On April 19, 1864, he was appointed acting assistant paymaster in the United States navy and assigned to duty on the Sybil gunboat, which patrolled the Western rivers. He was honorably discharged Nov. 4, 1865, and was then admitted to the bar and began practise in Portland. In 1868 he was elected as a Republican to the Maine Legislature, where he almost immediately became

active and influential. He was reelected in 1869, and the next year was elected to the State Senate. That same year he was elected Attorney-General of the State, and in 1874-'78 he was city solicitor of Portland. In 1876 he was elected to Congress, and he retained his seat in that body continuously till he resigned it in the autumn of 1899 and entered upon law practise in New York city. He first attracted special attention in Congress by his speech in April, 1878, against a bill to reimburse William and Mary College for damages sustained in the civil war. He was soon known as a brilliant and powerful debater and a stalwart Republican. When Congress assembled in December, 1889, he was chosen Speaker of the House of Representatives. The Republican majority in the House was small, and the minority attempted to prevent the transaction of business by refusing to answer to their names. Speaker Reed promptly decided that a member who was actually present must be recorded as present, and could not be permitted to prevent a quorum by refusing to vote or answer to his name. This raised an issue that was very fiercely discussed; but the Speaker was sustained in every instance, and future inquiry revealed the fact that the same view was taken by every presiding officer of the parliaments of Europe, with the exception of Portugal; and subsequently, when the Democrats had control of the House of Representatives, the rule established by Speaker Reed was virtually adopted and repeated by them. In his conduct of the business Mr. Reed displayed executive ability of the highest order, and always had command of the House. He was elected to the speakership again in 1895 and 1897. In 1896 he was an aspirant to the Republican nomination for the presidency, and received 84½ votes. Mr. McKinley received 681½, Mr. Quay 60½, Mr. Morton 58, and Mr. Allison 35½. Mr. Reed contributed numerous articles to periodicals and wrote an essay on the art of oratory as an introduction to the volume of Great Orations in the series of the World's Great Books. He was a strong Protectionist, but opposed the expansion policy of the Government in Mr. McKinley's administration. He was a good story-teller and a brilliant after-dinner speaker, and edited a series of volumes of oratory.

Reed, Walter, born in Gloucester County, Virginia, in 1851; died in Washington, D. C., Nov. 23, 1902. He was graduated at the medical department of the University of Virginia, and became an assistant surgeon in the United States army. He was a bacteriologist of the first rank, was Professor of Bacteriology and Pathology in the Army Medical School, and lecturer on these subjects in Columbian Medical College of Washington. In 1893 he was appointed curator of the Army Medical Museum, in Washington.

Renshaw, Joseph Beresford, inventor, born in Dodge Hill, Heaton Norris, England, July 31, 1822; died in Hartford, Conn., May 4, 1902. He settled in New York in 1847, and later removed to Detroit, and became connected with the Michigan Central Railroad as master mechanic. Still later he removed to Cleveland. He patented a new method of doweling for wood and iron patterns, and a low-heat hardening method for increasing the strength of low-grade iron. Among his inventions are the draftsman's divider, a machinist's micrometer depth gage, and a stay-bolt cutter for use in locomotive shops.

Rice, William Henry (William H. Pearl), actor and minstrel performer, familiarly known as "Billy" Rice, died in Hot Springs, Ark., March 1, 1902. He was one of the most famous and popular

of the old-time minstrel performers, and had been before the public more than forty years. He made his first professional appearance in the Varieties Theater, New York, and soon afterward joined Hooley's Minstrels, with which company he remained several years. In 1874 he assumed an interest in Great Adelphi Theater, Chicago, but it was burned the next year, and he returned to traveling companies, appearing again with Hooley's Minstrels, and with Kelly and Leon's Minstrels, the San Francisco Minstrels, Thatcher, Primrose and West's Minstrels, Cleveland's Minstrels, and Haverly's Minstrels. In some of these companies he owned an interest. Mr. Rice's humor was of a peculiarly unctuous kind, and he never failed to win applause and laughter wherever he appeared. He was one of the highest paid performers in his particular kind of work.

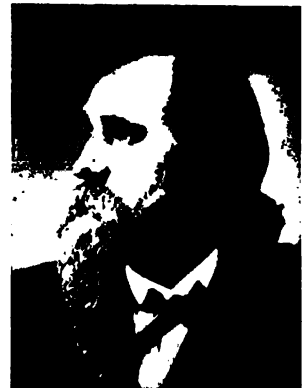
Riddle, Albert Gallatin, lawyer, born in Monson, Mass., May 28, 1816; died in Washington, D. C., May 15, 1902. His father removed to Geauga, Ohio, in 1817, where the son studied law, was admitted to the bar in 1840, and practised till 1846. He served in the Legislature in 1848-'49; removed to Cleveland in 1850; was elected prosecuting attorney in 1856; defended the Oberlin slave rescuers in 1859; and was a Representative in Congress in 1861-'63. In the latter year he was appointed consul at Matanzas. He resumed practise in Washington, D. C., in 1864; was elected law officer of the District of Columbia in 1877; and for seven years was head of the law department of Howard University. He wrote *Students and Lawyers*; *Bart Ridgely*, a story of Northern Ohio; *The Portrait: A Romance of Cuyahoga Valley*; *Alice Brand*; *Life of James A. Garfield*; *The House of Ross*; *Castle Gregory*; *Hart and His Bear*; *Sugar-Makers of the West Woods*; *Mark Loan*; *Life of Benjamin F. Wade*; *Recollections of the War Times, 1860-'65*.

Roach, William Nathaniel, legislator, born in Washington, D. C., Sept. 25, 1840; died in New York city, Sept. 7, 1902. He was graduated at Georgetown University; was a clerk in the United States Quartermaster's Department during the civil war; and removed to the site of Laramie, N. Dak., in 1879. He was a Democratic United States Senator in 1893-'99.

Rood, Ogden Nicholas, physicist, born in Danbury, Conn., Feb. 3, 1831; died in New York city, Nov. 12, 1902. He was the son of the Rev. Anson Rood and Aleida Gouverneur Ogden, and was graduated at Princeton in 1852.

He entered the Sheffield Scientific School, then recently organized, where a year later he took his master's degree. In 1854-'58 he studied at the universities of Munich and Berlin, paying special attention to scientific branches. On returning to the United States he was appointed to the chair of Chemistry and Physics

in Troy University, where he remained until 1863, when he accepted the chair of Physics in Columbia, with which institution he continued until his death, becoming in the mean-



while head of the department, and also one of the organizers and a member of the faculty of the School of Mines, now the School of Applied Science, in the university. His original investigations were in the direction of experimental physics, and in that domain he showed great originality and skill. His special studies pertained largely to matters in mechanics, optics, acoustics, and electricity. He was one of the first to apply photography to the microscope, and the first to take binocular pictures with that instrument. His researches on the nature of the electric spark and the duration of the flashes are particularly interesting, involving the determination of much more minute intervals of time than were ever measured before. In 1880 he devised a mercurial air-pump, giving an exhaustion of 10^{-6} of an atmosphere, a degree more nearly perfect than had been secured before. The methods of photometry that he originated and his investigations of phenomena that depend on the physiology of vision are very ingenious; and he was the first to make quantitative experiments on color contrasts. His brilliant work on colors led to his recognition as the first authority on that subject, and in recent years his studies in physiological optics led to his describing a new color system and a photometric method that is independent of color. His last published research was concerning regular or specular reflection of Röntgen rays from polished metallic surfaces. His experiments appear to show that a small percentage of these rays may be reflected from polished surfaces, and that they consist probably of transverse waves, like those of ordinary light, but of shorter length. Prof. Rood painted in water-colors, was frequently represented in the annual exhibitions, and was a member of the American Water-Color Society from its foundation in 1866. He was elected to the National Academy of Sciences in 1865, and in 1867 was a vice-president of the American Association for the Advancement of Science. The degree of LL. D. was conferred upon him both by Princeton and Yale. The results of his many researches are included in about 100 papers that were published in scientific journals both in the United States and abroad, and especially in the *American Journal of Science*. He was the author of *Modern Chromatics* (New York, 1881), a work that, besides presenting the fundamental facts connected with our perception of color, contains the results of numerous original investigations on the subject, and has been accepted as a standard. It is said of him that "he paid little attention to dress and personal adornment, but without any adventitious aid his appearance was striking and drew attention to him as a man of mark. He was absolutely truthful himself, and despised any lack of truthfulness in others; he had the courage of his convictions; he was frank, very frank sometimes, in expressing his opinion of men and things. He made few advances in the way of acquaintance or friendship, and was apt to receive them with reserve. He had warm and devoted friends, and he had acquaintances who had no personal attachment to him; but every one who knew him, or knew of him, respected him and admired his rugged character, his scientific attainments and accomplishments, and his versatility."

Rouss, Charles Broadway, merchant, born in Woodsboro, Md., Feb. 11, 1836; died in New York city, March 3, 1902. He removed with his father to Winchester, Va., where he was in mercantile business till the civil war broke out, when he entered the Confederate army and served through

the war. He then removed to New York city, and in 1875 began business in a small way for himself, and greatly prospered. He made many gifts to Winchester, Va., for public purposes; founded the Confederate Memorial Hall in Richmond and the Physical Laboratory for the University of Virginia; presented to New York city a bronze group representing Washington greeting Lafayette, by Bartholdi; and erected in Mount Hope Cemetery, New York, a monument to the Confederate soldiers there.

Bunkle, John Daniel, educator, born in Root, N. Y., Oct. 11, 1822; died in Southwest Harbor, Me., July 8, 1902. He was graduated at Lawrence Scientific School in 1851; appointed to the staff of *The American Ephemeris and Nautical Almanac*, with which he remained till 1884; and was editor of *The Mathematical Monthly* several years. About 1860, when the Massachusetts Institute of Technology was projected, he was active in interesting the public in the enterprise. He was a member of its first faculty, and, excepting the period 1870-'78, when he was president, was head of the Mathematical Department till his retirement in 1902, when he was made professor emeritus.

Russell, Sol Smith, actor, born in Brunswick, Me., June 15, 1848; died in Washington, D. C., April 28, 1902. At the beginning of the civil war he ran away from home and tried to join the National army at Cairo, Ill., but was rejected because of his youth. After the departure of the troops, whom he had amused with his songs, jokes, and dances, the manager of the Defiance Theater, of Cairo, offered him an engagement, which he accepted, singing and playing in small rôles. After leaving this company he traveled through the smaller Western towns, singing, giving monologues, and playing on various instruments. Later he appeared in larger towns and cities, and after a time he joined the Peake Family of Bellringers, with whom he made extended tours through the United States. He left them to travel with the Berger Company, a similar organization, with which he remained several years. In 1866 he was engaged as low comedian with Ben de Bar's stock company in St. Louis. Here he supported many of the traveling stars of the time and gained his knowledge of dramatic art. He made his first appearance in New York in 1871 at Lina Edwin's Theater, and in 1874 he became a member of Augustin Daly's company. His first appearance as a star in New York was in 1880, in Edgewood Folks, at the Park Theater. He soon became, in his own peculiar style of acting, one of the most popular players in the United States. His favorite rôles were those requiring the utmost simplicity and gentleness, and he acted them with an apparent naturalness that was really the result of an exceedingly artistic and finished method. He was shrewd enough to realize that his talent was confined to this rather limited style, and he adhered closely to it. Although he never became a popular favorite in New York city, he had an immense following in the country, and accumulated a large fortune. His most notable characters were the leading rôles in *Edgewood Folks*, *A Poor Relation*, *The Tale of a Coat*, *Peaceful Valley*, and *A Bachelor's Romance*. In the season of 1899 he produced *The Honorable John Grigsby*, at the Grand Opera-House in Chicago, but he was obliged to close his engagement Dec. 18 on account of illness, and he never acted again. In later years he was a resident of Minneapolis, Minn. His first wife was Louise Berger, and after her death he married a daughter of William T. Adams, the writer known as Oliver Optic.

Ryer, George W., playwright, born in New York about 1845; died in Brooklyn, N. Y., Nov. 20, 1902. He was joint author with his partner, Denman Thompson, of *The Old Homestead*, and afterward wrote *The Sunshine of Paradise Alley*, *Our New Minister*, and *The Two Sisters*.

Sabin, Dwight May, Senator, born in Manlius, Ill., April 25, 1845; died in Chicago, Ill., Dec. 23, 1902. He was brought up on a farm; accompanied his parents to Connecticut in 1857; entered Phillips Andover Academy, but left in 1863 to enter the National army; and resigned after three months' service, owing to impaired health; and received a clerkship in Washington, D. C. In 1869 he settled in Stillwater, Minn., where he became identified with the lumber and railroad interests of that section. He was a member of the State Legislature in 1871-'83; of the United States Senate in 1883-'89; of the National Republican Committee in 1878-'84, serving as chairman in 1882-'84; and was a delegate to the National Republican conventions of 1872, 1876, and 1880.

Salsbury, Nathan, actor and manager, born in Rockport, Ill., in 1845; died in Long Branch, N. J., Dec. 24, 1902. He joined the 15th Illinois Regiment in 1861, and served throughout the war. He then returned to the West, and, having a fine voice and pleasing presence, he decided to become an actor. His first appearance was at Grand Rapids, Mich., in the old burlesque *Pocahontas*. After further experience with small companies, he joined the Boston Museum stock company, with which he remained four years. He then became a member of Hooley's stock company in Chicago, and while there, in partnership with the late John Webster, he devised the plan that brought him prominently before the public and gained him a fortune. This was the organizing of the company known as Salsbury's Troubadours, playing a musical farce-comedy called *Patchwork*, the first production of its kind in this country. He afterward produced several similar plays, and traveled for fifteen years, visiting nearly every English-speaking country in the world. After the disbanding of this company, Mr. Salsbury became a manager of the Barnum and Bailey Circus, and later of the Forepaugh and Sells Circus. In 1883 he met William F. Cody (Buffalo Bill), and with him organized the unique and successful entertainment known as Buffalo Bill's Wild West Show, with which he was thereafter associated as manager until his death.

Sampson, William Thomas, naval officer, born in Palmyra, N. Y., Feb. 9, 1840; died in Washington, D. C., May 6, 1902. He was the eldest son of James Sampson and Hannah Walker, who came to this country from the north of Ireland and settled in Palmyra, where they met and were married. It was from his mother that young Sampson inherited his beauty of face, and from her he first learned to spell out the words in the few books that the humble home afforded. As he grew older he attended the district school whenever he had opportunity, and during vacations aided his father in his daily labor—digging ditches, making drains, spading gardens, and doing odd chores for the more prosperous villagers. During one summer, it is said, he earned a dollar and a half a week by working in a brickyard from six o'clock in the morning until six at night. Meanwhile, his evenings were occupied in reading, and he borrowed as many books as he could, especially those relating to natural science, history, mechanics, and mathematics. While at school he was distinguished by his intense ap-

plication, a trait that followed him throughout life. Through the interest of William H. Southwick, of Palmyra, Congressman Edwin B. Morgan appointed the young man to the Naval Academy, which he entered in 1857. Among his contemporaries at that institution were George Dewey, who was three classes ahead of him, Alfred T. Mahan, who was two classes ahead, and Winfield S. Schley, who was one class ahead; and among his own classmates were Bartlett J. Cromwell, John W. Philip, Henry F. Pickens, and Frederick Rogers. At the academy he devoted

his attention exclusively to routine duties and studies, and became adjutant of the battalion in his senior year, the highest honor possible for a cadet. Admiral Philip is quoted as saying, "No matter what the subject of study was—mathematics, French, moral science, or seamanship—Sampson, with invariable regularity, had the perfect marking in his class standing. I remember well the struggle of the three S's—Sampson, Stewart, and Snell. They fought for first place throughout the course, but Sampson came in ahead. He was graduated number one." Mahan describes his personal appearance at that time as follows: "I should not call him handsome, as I remember him then, though the elements of the singular good looks that he possessed in early manhood were all there—an unusually fine complexion, delicate, regular features, and brown eyes remarkable both in shape and color. The smooth, round face struck me as oversmall, and the beauty which in his prime was thoroughly masculine seemed then wanting in strength—a singular misreading. He had just about as much—or as little—carriage and bearing as the ordinary country lad of his age, emphasized by a loose mixed suit, ready-made and ill-fitting. He owed, therefore, nothing to adventitious external circumstances. The figure, which soon afterward broadened and gathered erectness and firmness, gave then an impression of slowness amounting to fragility. I remember also that his manner in questioning was not only interested, but eager, affecting the play of the face; in this differing from the impression usually conveyed by him in mature life, which was one of too great quiescence." On graduating he was assigned as midshipman to the frigate *Potomac*, and in July, 1862, he was made lieutenant, after which he was appointed to the sailing ship *John Adams*, then used as a practise vessel for cadets. An officer who was then a cadet says of him at that time: "He was never excited and never hurried, and he never seemed to raise his voice, and yet his orders could be heard distinctly by the men at the weather-earring when reefing topsails." In 1864 he returned to the Naval Academy, where he became instructor, but in June of that year was assigned to the ironclad *Patapsco* and ordered to Charleston to join Dupont's fleet, blockading that city. He participated in the attack on Sumter, and later, with the rest of Dupont's fleet, was driven out of the harbor by the fire



of the forts. He had the watch on the turret roof on the night of Jan. 15, 1865, when the *Patapasco* ran into a torpedo that hurled her into the air, and a moment later she sank to the bottom of the harbor with most of her officers and men. Sampson, in jumping to the boarding-netting, was caught by his foot in a mesh, and was dragged down by the sinking ship. Instead of struggling frantically, and thereby tying himself more tightly, he coolly waited his chances, carefully slipped his foot from its entanglement, and was saved. "The day afterward," says Mahan, "he was as unaffectedly, and without effort imperturbed, as though nothing remarkable had occurred." His next assignment was to the Colorado, the flagship on the European station, on which he remained until 1867, meanwhile becoming lieutenant-commander in July, 1866. He then returned to the Naval Academy, where he was made assistant in the department of physics, and in 1869, during the temporary absence of his chief, was head of the department. In 1871 he had special duty on the Congress, and later he served on that vessel on the European station. He was promoted commander in August, 1874, and for a time had the Alert. In the autumn of 1874, for a third time he was sent to the academy, and for four years he was at the head of the department of physics. At the close of his term he went to Separation, Wyo., with the party under Simon Newcomb, to observe the total eclipse of the sun, July 29, 1878. From 1879 to 1882 he commanded the *Swatara* on the Asiatic station, and then returned to Washington, where he was made assistant superintendent of the Naval Observatory. His interest in astronomy was considerable, and his associates say that he spent night after night at the telescope. In 1884 he represented the United States in the International Prime-Meridian Council, held in Washington, which had for its object the fixing upon a common prime meridian and a common system of time. From 1885 to 1886 he was superintendent of the torpedo station at Newport, and he there became familiar with the practical manufacture of high explosives. During this time he was also a member of the Board of Fortifications and Other Defenses for the Coast. In 1886 he was one of the representatives of the United States at the International Marine Conference in Washington. In September, 1886, he returned to the Naval Academy as superintendent, and for four years he had entire charge of its work. His conspicuous fitness for that place was recognized, especially following the incumbency of Admiral Francis M. Ramsey, who had introduced radical and much needed reforms; but he brought to bear upon his work there "the same calm certainty of plan and action which afterward disposed of the Spaniards at Santiago." Prof. Ira N. Hollis has written: "His services in improving the state of training at the Naval Academy can not be overestimated. There were few officers in his squadron (in 1898) who had not met him or served with him in some capacity. It would be difficult to fix the great value of this association during a period when the navy was stripping off its sails and putting on its armor." In his first report as superintendent, he maintained that a practise-ship should be a steam-vessel fitted with the very latest appliances, and not an obsolete sailing vessel or antiquated steam craft. He had long insisted that the studies of the line and engineer corps should be specialized at the end of the third academic year, and in 1889 Congress acted upon his recommendations. The senior class was separated into divisions every year,

and appropriate courses of study were assigned. The work in the succeeding two years of sea duty was also made distinct for line and engineer officers. Target-practise and trials in naval and torpedo tactics were introduced. A better state of discipline was reached, for he would never unbend in matters of discipline, and work at the academy began to move with the machine-like precision and regularity for which Sampson was always known. In his history of the Naval Academy, Park Benjamin says: "When Commander Sampson's tour of duty at the Naval Academy ended there remained little for any one else to do, save to keep the standard of efficiency unimpaired." He was promoted captain in March, 1889, and received command of the *San Francisco*, the first modern steel cruiser, pioneer of the new navy when it was placed in commission, which he then had for two years on the Pacific station. In 1892 he returned to Washington, and was made superintendent of the naval gun factory, and a year later was made chief of the Bureau of Ordnance, which place he held until 1897. Although the building of the gun factory was begun while Sampson was at sea, it was still incomplete when he was placed in charge of it, and under his supervision important improvements were made. Every gun built for the navy from 1893 until the beginning of the Spanish War was designed and constructed under his supervision. When made chief of the Bureau of Ordnance he continued the policy of keeping large reserve supplies of ammunition, for the reason, as he wrote in one of his reports, "not only because at any moment an emergency may arise, making them urgently necessary, but also to prevent the scattering of the skilled labor which has developed this manufacture, and keep occupied plants which were established solely to meet the Government demands." The general adoption of hard-faced armor by naval vessels occurred during his administration of the Bureau of Ordnance; and he introduced the soft cap for armor-piercing projectiles; the use of electric power for operating turrets and ammunition hoists; telescopic sights, and many other important details. It was also during his administration that the smokeless powder was perfected by experiments at the torpedo station in Newport and in the naval proving-grounds, where in rapid-fire guns its ballistic effects and keeping qualities proved equal to powder accepted abroad as satisfactory. In 1895 smokeless powder for 6-pounder rapid-fire guns was by his direction put on board ship. As chief of the Bureau of Ordnance he was also a member of the Advisory Board, and the Board of Construction for Building Vessels from 1892 to 1897, and according to Mr. Stayton, "while he had much to do with the general design of all the ships constructed in that period, he had absolute individual charge of the distribution of the battery armor, the turrets, and the barbettes, which enabled him to carry out his idea of giving to our ships an all-round fire, enabling them to be almost as strong when fighting bows-on as when fighting broadside-on, and in this connection the design and arrangement of the batteries of absolutely every vessel engaged at Santiago (except the *Gloucester*) was Sampson's personal work. He is also entitled to the credit for the preparation of a new drill book and the establishment of a system of target-practise, which included not only drilling of crews, but also the drill and training necessary for bringing individual vessels together. In substance, therefore, it was Sampson who designed and built the guns; designed and built the projec-

tiles; designed and built the armor; placed the batteries upon the ships and superintended their construction; aided in the preparation of the drill book; drilled the crews and the officers; and finally took command of the fleet and fought it through a successful war. When he had completed his term as chief of the Bureau of Ordnance, Secretary Long, who has said of him that at that time "no other man then on the active list of the navy had a higher reputation as an accomplished, efficient, competent, all-round naval officer," offered him the post of chief of the Bureau of Navigation. This appointment he declined, preferring outdoor life and duty, and accordingly was assigned to the battle-ship *Iowa*, which had been placed in commission in June, 1897, and with which he joined the North Atlantic squadron. He continued as senior captain in that squadron, although two days after the destruction of the *Maine*, on Feb. 15, 1898, he was appointed president of a board of inquiry charged with the duty of investigating that disaster. This work included taking testimony at Key West of the survivors of the accident, examining the wreck at Havana, taking testimony there, and carefully investigating all circumstances preceding and succeeding the disaster. (See Message from the President of the United States, transmitting the Report of the Naval Court of Inquiry upon the Destruction of the United States Battle-ship *Maine* in Havana, being Senate Document No. 207, Washington, 1898.) This service was concluded on March 22, and Sampson was about to return to his command, when Admiral Sicard was found by a medical survey to be physically incapacitated for further duty, and as the next ranking officer in the North Atlantic squadron, Sampson was promptly appointed to its command, with the war rank of acting rear-admiral. According to Capt. Chadwick, who commanded the flagship, "no one was more surprised at this than Sampson himself; this I know to be a fact. The captains of the squadron were unanimously wishing that he might be selected, hoping—rather against hope—that the few months intervening until his promotion to the rank of commodore might not stand in the way. Whatever was said in favor of the appointment was not said by Sampson or with Sampson's knowledge." Secretary Long wrote: "Sampson had been senior captain of the squadron during all its evolutions and practise of the previous year. He possessed the confidence of its officers to a very high degree, and was undoubtedly their preference. He was familiar with its details, and he had special experience in training in ordnance. To retain him in command was therefore the best thing to do." Mr. Stayton wrote, referring in all probability to the possible war with England in 1894: "If war must come, and all hoped that it would be averted, our ships must be got in order, and there must be a man to command whatever of battle-front our navy could make. According to very high authority, the President [Cleveland] went slowly down the naval list until his finger rested on a name. 'There is the man,' he said. 'He should be the commander-in-chief of our provisional battle squadron.' The man thus honored was William Thomas Sampson. His name was far down the list. 'I will make him a rear-admiral if it ever comes to the point,' said the President." War was declared by the United States on April 21, and at daybreak the morning following the North Atlantic squadron—the largest ever commanded by an officer of the United States navy—under Sampson, with the *New York* as his flag-

ship, sailed from Key West to blockade the northern coast of Cuba, from Cardenas on the east to Bahia Honda on the west—a coast-line of nearly 120 miles. As the sun rose, the first prize of the war, the *Buenaventura*, appeared in sight and was captured. The blockade had been in operation for a few days only when the Navy Department learned that a Spanish fleet, under Admiral Cervera, consisting of the *Infanta Maria Teresa*, *Almirante Oquendo*, *Vizcaya*, *Cristóbal Colon*, and the torpedo-boat destroyers *Terror*, *Furor*, and *Pluton*, had sailed, April 29, from the Cape Verde Islands, presumably for the relief of Havana. The necessity of discovering and engaging the Spanish fleet as soon as it should appear in American waters became Sampson's principal object. On May 4 he sailed from Key West eastward, and thinking it possible that Cervera had made the harbor of San Juan de Porto Rico, he reached that port on May 12, but not finding the Spanish fleet there, he bombarded the forts, and then returned westward, so as better to intercept the enemy's fleet should Havana be its destination. The information that Cervera was in American waters was received by Sampson on May 14, but it was not until May 20, while at Key West, according to his own account, that he "learned by cable from Havana that Cervera had reached Santiago on the 19th." Admiral Schley, who had command of the Flying Squadron, with the *Brooklyn* as his flag-ship, was at that time on the south of Cuba at Cienfuegos, and Sampson immediately informed him of the reported arrival of Cervera in Santiago, and ordered him to proceed thither if he was satisfied that the enemy was not at Cienfuegos. On May 29 Schley reported that Cervera's fleet was at Santiago, and on June 1 Sampson arrived off that port, and assumed command of the combined fleet, which numbered more than 125 vessels. He established a close and efficient blockade, ordering the harbor to be guarded day and night by the squadrons arranged in a semicircle, 6 miles from the harbor mouth by day and 4 miles by night, and directed that search-lights be thrown upon the entrance at night. His first order was: "If the enemy tries to escape, the ships must close and engage as soon as possible, and endeavor to sink his vessels or force them to run ashore in the channel. It is not considered that the shore batteries are of sufficient power to do any material injury to battle-ships." On June 3 Hobson made his famous attempt to sink the *Merrimac* in the channel at the entrance of Santiago harbor, and thus shut in the enemy, a plan that had been contemplated by Sampson as early as May 27, when he prepared orders to be sent to Schley to obstruct the channel by the sinking of a collier. According to Secretary Long: "His sinking of the *Merrimac* in the channel has been criticized, and yet, had it blocked the channel as intended, the Spanish fleet could never have emerged, and would have become ours without destruction by us." Meanwhile, the blockade continued, with bombardments on the fortifications, June 6 and 16, and on June 21 the troops, under Gen. Shafter, arrived off Santiago, and on the day following were landed at Daiquiri. The actions by the land forces at El Caney and San Juan had driven the Spaniards under Gens. Linares and Toral into the city of Santiago. The time for positive action was rapidly approaching, and Shafter desired the active cooperation of the naval forces for the purpose of making an assault on Santiago. The works at Aguadores were bombarded on July 1, and on July 2 the batteries at the entrance of

the harbor of Santiago were similarly treated. At this time Sampson informed Shafter that it would not be possible to force an entrance into the harbor until the channel should be cleared of mines, a task impossible until the forts guarding the entrance to the harbor could be captured. A meeting had been arranged between the two commanders at Siboney for the morning of July 3, and Sampson, having hoisted the signals "Disregard the action of the commander-in-chief," was on his way to the conference. This order simply meant that the other vessels of the fleet were not to follow him, and did not signify a yielding of the command. Had that been his intention a signal "Second in command take charge," would have been displayed. His own account of the subsequent movements of the New York is: "Shortly before half-past nine we reached a point between 7 and 8 miles east of the Morro. The men were at quarters, and the customary Sunday-morning inspection was proceeding, when I suddenly saw from the quarter-deck a puff of white smoke—not black smoke, as a good many have said—rising above the bluff inside the Morro, as if from the Socapa battery. As I heard no report, I was convinced that the shot was not from the eastern battery, which was directly in the line of vision, for that would have made a loud reverberation. The impression was immediate that Cervera's fleet was coming out. I at once sent to the bridge the order: 'Put the helm aport and turn back immediately,' giving it directly to the officer of the deck, without waiting to send it through the commander, as was the custom. Capt. Chadwick hurried on deck, and, without stopping to consult me, went instantly to the bridge. Before the flag-ship had turned, a Spanish vessel appeared at the entrance, coming out under full steam. I at once sent for the chief engineer and directed him to light all the furnace fires, which he assured me had already been done by order of the commanding officer. At the same time I distinctly saw that all the blockading ships, which a moment before had been at Sunday inspection, were on the move and had opened fire on the enemy." The return was quickly made. Chadwick, who commanded the flag-ship, writes: "We were rapidly coming to the fray. We were close under the batteries, but paid no attention to the shots which came over us. One of the torpedo-boats had now turned, and was evidently heading toward the port. We stood in a little closer to head her off. The farther one at this time got a shot in her boilers from one of our ships, and I shall never forget the wonderful, swift jet of silvery steam, like an ostrich-feather, that leaped 500 feet into the air. Knowing that the Vizcaya and the Colon were still going to the westward, we rushed past the Gloucester and the destroyers, both of which were now clearly out of action. In a few moments we passed the Maria Teresa and the Oquendo. Both showed lurid masses of flame and smoke from the mainmast aft, and the men were dropping over the bows into the water. But we could not stop with an enemy yet unsundered ahead, and quickly coming up with the Indiana, between 10 and 11 miles beyond the port, we signaled her to go back and resume the blockade, lest another Spanish ship might come out of the harbor to annoy the transport fleet." With the Brooklyn, Oregon, and Texas, the New York participated in the chase and surrender of the Colon, which brought to an end the long, tedious, and anxious campaign, and the result was announced to the world in Sampson's message to the department as follows: "The fleet under my command offers

the nation as a Fourth-of-July present the whole of Cervera's fleet." According to Philip: "It was the blockade that made the battle possible. The battle was a direct consequence of the blockade, and upon the method and effectiveness of the blockade was very largely dependent the issue of the battle. It was necessary to have always before the entrance to Santiago harbor a force of ships amply sufficient to cope with the Spanish squadron should it come out to do battle, and it was necessary to have this force so disposed that none of the Spaniards could escape, if that were their object, no matter which direction they should take. Unremitting vigilance by night and by day was an absolute necessity." Says Mahan: "The methods of the Santiago blockade are now commonly understood, but their precise military merit has scarcely been adequately appreciated." It was the genius of Sampson that "compelled the enemy to accept battle on the terms they considered most disadvantageous." Secretary Long is equally emphatic. He writes: "He had been, from the first till after the victory was won, commander-in-chief in command. He was never out of signal distance of his blockading fleet. He was on duty at the eastern end of the fighting line; and had Cervera gone that way, then by that chance he would have been universally acclaimed the foremost figure. Yet, as it was, the plan of battle was not changed; it was fought under his standing order unbroken. Before its smoke was over he had steamed along the whole battle line, firing as he went. He has been censured for the despatch announcing the victory. He did not write it; but he assumed it, for he never shirked a responsibility which he had permitted. If you will read it you will note that the pronoun 'I' is not in it, and also that it is not unlike Gen. Sherman's announcement of the capture of Savannah. It assumes no credit for Sampson, but gives it to the fleet under his command." It seems to be conceded that Sampson's campaign has "come to be regarded as establishing a standard of efficiency in the handling of a squadron in war. There is no question among these experts as to who earned the credit for the victory at Santiago, and there never has been. The man who won the victory was the man whose tireless energy during thirty-nine days and nights of the most daring and successful blockade in naval history had kept the fleet in such a state of preparation that victory was assured at any hour, day or night, of that long period when the Spaniards cared to take the chances of battle." The omission of the name of Schley, who was second in command, from Sampson's official report of the battle, led to an effort by the friends of the former officer to claim for him the actual command of the squadron during the fight, and a bitter controversy ensued, which continued for three years, when Schley asked for a court of inquiry, the verdict of which was against that officer. Schley, in a despatch to Secretary Long, sent a week after the battle, wrote: "Feel some mortification that the newspaper accounts of July 6 have attributed victory of July 3 almost wholly to me. Victory was secured by force under commander-in-chief of North Atlantic station, and to him the honor is due." Concerning this controversy, Secretary Long said: "I can think of nothing more cruel than a depreciation of the merits of the faithful, devoted, patriotic commander-in-chief, physically frail, worn with sleepless vigilance, weighed with measureless responsibilities and details, letting no duty go undone; for weeks, with ceaseless precautions blockading the Spanish squad-

ron; at last, by the unerring fulfilment of his plans, crushing it under the fleet which executed his commands; yet now compelled in dignified silence to be assailed as vindictively as if he were an enemy to his country." Capt. French E. Chadwick, of the United States navy, who was chief of staff to Admiral Sampson, writes as follows and furnishes the accompanying diagram:

appointment as vice-admiral; but for similar reasons this action never was taken, so that Sampson's success at Santiago failed to receive any official recognition from Congress. He received the thanks of the Legislature of New Jersey for his services during the war with Spain, and was presented with a jeweled sword, in honor of his victory at Santiago, by the citizens of his adopted

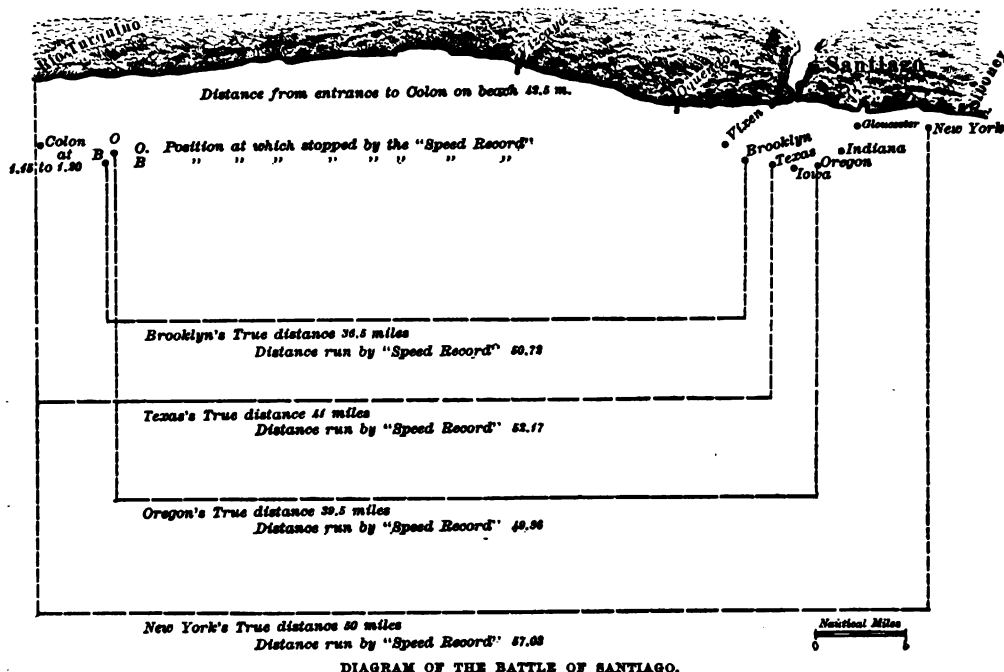


DIAGRAM OF THE BATTLE OF SANTIAGO.

"There is a very curious misconception about the distance of the New York from the squadron when the enemy came out of Santiago July 3d, which ought to be rectified. This, I think, is very important. It should be remembered that the blockading ships were not less than 4 miles from the entrance and ranged approximately in a semicircle, which was from 6 to 8 miles long, as the ships were drifting about and were frequently considerably farther out than this from their appointed stations. When the New York turned, which was at the instant the smoke of the gun which was fired from Socapa battery at the same time the enemy's flag-ship emerged, she was, as near as can be reckoned, 7½ miles from the entrance. The Gloucester was thus but half the distance from the New York that she was from the Brooklyn. The Indiana was nearer to the New York than to the Brooklyn; the Oregon was a trifle nearer to the Brooklyn than to the New York. To say that the New York was absent from the squadron under these circumstances is, of course, absurd." At the close of the war with Spain Admiral Sampson served as one of the commissioners from the United States to arrange the details of the evacuation of Cuba by the Spaniards, and on the completion of this service he resumed command of the North Atlantic squadron. On Aug. 10, 1898, President McKinley recommended that Admiral Sampson be advanced eight numbers for eminent and conspicuous conduct in battle; but, owing to a popular excitement in favor of Schley, Congress failed to confirm this recommendation. It was the intention of the President to present his name for

State. In October, 1899, he was assigned to the command of the Boston Navy-Yard, and he continued in that duty two years. Meanwhile his health, never strong, and probably impaired by the strain of the campaign during the war with Spain, began to fail, and in October, 1901, he was placed on waiting orders. The presidency of the Massachusetts Institute of Technology was offered to him in 1900, but he declined it. Harvard and Yale gave him the degree of LL. D. Sampson was retired from active service Feb. 9, 1902, and thereafter remained in Washington, where he made his home until the end, steadily failing from softening of the brain, which terminated in a cerebral hemorrhage. His death was announced in an order issued by the Secretary of the Navy, in which, after reviewing the principal events in his career and quoting "Let me assure you that I have the highest appreciation of your service as a commander-in-chief of the Atlantic naval forces during the Spanish war, in blockading Cuba, cooperating with the army, directing the movements of the great number of vessels under your orders, and at last, after the most effective preparation, consummating, with the gallant officers and men under your command, the destruction of the Spanish fleet," from President McKinley's letter of March 13, 1899, he closed with the following encomium: "This record of lifelong devotion to duty, with its fruitage of splendid achievement, renders his name illustrious in the annals of the navy and places it high on the roll of those who have deserved well of the republic." His funeral surpassed in pomp and ceremony any similar naval service. At the church every de-

partment of the national Government was represented—the executive by the President and his Cabinet and many officials of the civil service, the legislative by Senators and Representatives, the judiciary by the United States Supreme Court, and the military and naval services by officers of all ranks. Then his comrades, led by Admiral Dewey, laid him to rest at Arlington. In personal appearance Admiral Sampson was slender but straight as a column, and, until illness bent him down, he looked much taller than he was. He never seemed strong, but his constitution was equal to almost any demand upon it. It has been said of him that “he was always dignified and reserved, never pompous or severe. He never cringed to his seniors, and never was familiar with his juniors, though he always recognized their abilities in a quiet way. He never lost his temper or said or did a mean thing in his official life. Sampson was always perfectly cool and imperturbable in a tight place, master of every situation in which he found himself. He was a good disciplinarian; but no naval officer, while maintaining proper discipline, ever said or did fewer harsh things than Sampson. He talked little, and when he spoke it was always in few words and directly to the point. A clearer, more logical mind than his could not be imagined.” Admiral Sampson's first wife was Margaret, daughter of David S. Aldrich, of Palmyra, N. Y. Their children were five daughters: Margaret, who married Lieut. Roy C. Smith of the navy; Catharine, who married Lieut. Richard H. Jackson of the navy; Susan Aldrich, who died in childhood; Hannah, who married Lieut. W. T. Cluverius of the navy; and Olive, who married Lieut. Henry H. Scott of the army. His second wife was Miss Elizabeth Burling, of Rochester, N. Y., by whom he had three sons: William, who died in infancy, Ralph Earle, and Harold Burling.

Saunders, Frederick, librarian, born in London, England, Aug. 14, 1807; died in New York, Dec. 12, 1902. He came to the United States in 1837, and established a branch of his father's London publishing house, for the purpose of issuing American editions of their own publications and to seek the protection of an international copyright law, which failed. Mr. Saunders was for some time city editor of the *Evening Post*. He was widely known in connection with the Astor Library, having been assistant librarian in 1859-'76, and librarian in 1876-'96. He was a frequent contributor to magazines and reviews. His separate publications include *Memoirs of the Great Metropolis*, or London from the Tower to the Crystal Palace (1852); *New York in a Nutshell* (1853); *Salad for the Solitary* by an Epicure (1853); *Salad for the Social* (1856); *Pearls of Thought, Religious and Philosophical*, Gathered from Old Authors (1858); *Mosaics* (1859); *Festival of Song* (1866); *About Women, Love, and Marriage* (1868); *Evenings with the Sacred Poets* (1869); *Pastime Papers* (1885); *Story of Some Famous Books* (1887); *Stray Leaves of Literature*; *Memoirs of the Great Metropolis*; *Character Studies*; *Stories of the Discovery of the New World by Columbus*, etc. He was also editor of *Homes of American Authors* (1853), and, with Henry T. Tuckerman, *Our National Centennial Jubilee* (1877).

Schoeborn, August, architect, born in Germany about 1827; died in Washington, D. C., Jan. 25, 1902. He settled in Wisconsin in 1849, later he removed to Washington, D. C., and entered the office of the architect of the Capitol, where he remained until his death. During the civil war he prepared maps and plans for Gen. McDowell, as

well as plans for forts, barracks, hospitals, etc., for the quartermaster-general's office.

Schuetze, William Henry, naval officer, born in Missouri; died in Washington, D. C., April 4, 1902. He was graduated at the Naval Academy in 1867; entered the navy as cadet midshipman, June 21, 1869; promoted to midshipman, May 31, 1873; ensign, July 16, 1874; master, Nov. 30, 1878; junior lieutenant, March 3, 1883; lieutenant, Oct. 2, 1885; and lieutenant-commander, March 3, 1899. He went on an expedition to the Lena delta, and brought back the bodies of those who perished in the De Long expedition. In 1882 he was sent again to Northern Siberia by the State Department to distribute presents among the natives in return for their kindness to the De Long party. He was on duty at the Navy Department in 1886-'87; and was superintendent of compasses in 1888-'89. During the war against Spain in 1898 he was navigator of the battle-ship *Iowa*, and in 1902 he was on duty at the Bureau of Equipment.

Scott, George Robert White, clergyman, born in Pittsburg, Pa., about 1842; died in Berlin, Germany, Sept. 14, 1902. He studied at Middlebury College and at Andover Theological Seminary, and held pastorates in Congregational churches in Boston, Mass., Newport, N. H., and Fitchburg, Mass. Later he went to Europe to study, and settled in Berlin, where he remained seven years. On his return he became pastor of the First Congregational Church in Leominster, Mass., where he remained till 1896, when he removed to Newton. He was author of *The Italian Renaissance of To-day* and a memoir of Prof. Park, and a contributor to religious periodicals.

Scribner, William Marshall, penman, born in Waterboro, Me., in 1824; died in Chicago, Ill., Jan. 15, 1902. He lived many years in Boston; took an active part in educational work in the West; and became widely known as the author of a system of penmanship copy-books bearing his name.

Scudder, Horace Elisha, author, born in Boston, Mass., Oct. 16, 1838; died in Cambridge, Mass., Jan. 11, 1902. He was graduated at Williams College in 1858; for three years he taught a school in Brooklyn, N. Y., and later edited the *Riverside Magazine for Young People*. On the discontinuance of the magazine he became a member of the publishing house of Hurd & Houghton, but presently retired from the business department to devote himself to literary pursuits. He remained connected with the house after it became the Boston establishment of Houghton & Mifflin, and from 1890 to 1898 was editor of the *Atlantic Monthly*. He wrote much for younger readers, with whom his books were popular, but was also known in the wider field of general literature. His works include *Seven Little People and their Friends* (1862); *Dream Children* (1863); *Life and Letters of David Coit Scudder, Missionary in India* (1864); *The Game of Croquet: Its Appointment and Laws* (1866); *Stories from my Attic* (1869); *Doings of the Bodley Family in Town and Country* (1875); *The Dwellers in Five-Sisters Court*, a novel (1876); *Recollections of Samuel Breck* (edited) (1877); *The Bodleys Telling Stories* (1877); *The Bodleys on Wheels* (1878); *The Bodleys Afoot* (1879); *Stories and Romances* (1880); *Mr. Bodley Abroad* (1880); *Boston Town* (1881); *The Bodley Grandchildren and their Journey in Holland* (1882); *Noah Webster, a biography* (1882); *The English Bodley Family* (1883); *The Viking Bodleys: An Excursion into Norway and Denmark* (1884); *A History of the United States of America*

(1884); *Men and Letters: Essays in Characterization* (1887); *The Book of Folk Stories Rewritten* (1887); *George Washington: An Historical Biography* (1889); *Childhood in Literature and Art* (1894); *The Book of Legends told over Again* (1899); and *James Russell Lowell: A Biography*. He was a frequent contributor to the *Atlantic Monthly*, but the larger part of his work there appeared anonymously.

Seibert, George C., clergyman, born in Wetter Hessa, Germany, Feb. 25, 1828; died at sea, Sept. 9, 1902. He studied in Germany; became a private instructor at Wiesbaden; and for two years was professor at a gymnasium in Bakmen. He then became an instructor in Hagerstown, Md. When the civil war broke out this school was closed, and he became pastor of the Third German Presbyterian Church, in Newark, N. J. In 1868, when the German Theological Seminary was established in Bloomfield, Dr. Seibert became Professor of Systematic Theology and New Testament Exegesis. He was editor of the German *Volksfreund* and of an edition of Schleiermacher's *Doctrine of Sin*, and was author of *Hellenism and Christianity*.

Selfridge, Thomas Oliver, naval officer, born in Boston Mass., April 24, 1804; died in Waverly, Mass., Oct. 15, 1902. He entered the navy as a midshipman Jan. 1, 1818; was promoted lieutenant, March 3, 1827; commander, April 11, 1844; captain, Sept. 14, 1855; and commodore, July 16, 1862; was retired July 25, 1866; and was promoted rear-admiral on the retired list, July 26, 1870. He served in the West Indies, Brazil, and the Mediterranean; was assigned to the *Columbus*, the flag-ship of the East Indian squadron, in 1846; and subsequently to the *Dale*, of the Pacific squadron. He took part in the capture of Matanzas and Guaymas, and at the latter place was wounded so severely as to be unfitted for sea service, and was appointed commandant of the Boston Navy-Yard. In 1861 he received command of the steam frigate *Mississippi*, of the Gulf squadron, but his wound again disabled him for sea service, and he was made commandant of the navy-yard at Mare Island, California. He continued in active duty for several years after his retirement, as commandant at the Philadelphia Navy-Yard in 1867-'68; president of the Examining Board in 1869-'70; lighthouse inspector in Boston; and a member of the Examining Board in 1871. At the time of his death he was the oldest officer on the retired list. His son, Thomas Oliver Selfridge, Jr., also reached the grade of rear-admiral and was placed on the retired list in 1898.

Seward, Theodore Frelinghuysen, musician, born in Florida, N. Y., Jan. 25, 1835; died in Orange, N. J., Aug. 30, 1902. He studied music under Lowell Mason and Thomas Hastings, and became an organist in New London, Conn., in 1856; and in Rochester, N. Y., in 1859. He removed to New York in 1867, where he conducted the *Musical Pioneer* and afterward the *Musical Gazette*. He introduced the Tonic Sol-fa system of musical notation and instruction in the United States and prepared a series of text-books for it; and founded the Tonic Sol-fa Association. He took charge of the concerts of the "Jubilee" singers, and made the tour of Europe with them in 1875-'76. Besides writing on the Tonic Sol-fa system and lecturing before gatherings of teachers, he edited the *Tonic Sol-fa Advocate* and the *Musical Reform*. He was the founder of the American Vocal Music Association; the Brotherhood of Christian Unity (in 1891); the *World's Neighbor-Chain* (in 1898); and the *Don't Worry*

clubs; and was the author of *The School of Life* (1894); *Heaven every Day* (1896); *Don't Worry* (1897); and *Spiritual Knowing* (1900).

Shepherd, Alexander Robey, administrator, born in Washington, D. C., Jan. 30, 1835; died in Batopilas, Mexico, Sept. 12, 1902. He became a clerk in a store in 1848; later was apprenticed to a carpenter; and in 1852 entered a plumbing and gas-fitting concern, of which he subsequently became a partner and the principal. In 1861 he enlisted in the Washington National Rifles, which opened the road by way of Annapolis and brought to Washington the first troops after the Baltimore riots. After his term of enlistment he gave his attention to beautifying Washington. In 1861 he was elected to the Common Council; in the following year was reelected; later became president of the Board of Councilmen; and in 1867 was appointed a member of the Levy Court. In 1870 he was elected president of the Citizens' Reform Association, which organized the forces that defeated the regular Republican nominee for mayor and secured the legislation establishing the Territorial form of government for the District of Columbia, and in 1873 was appointed Governor of the District. He planned and carried out the extensive improvements, especially in the construction of avenues and streets, which transformed the city into a wholesome, beautiful district. Charges of corruption were made against him, and he was derisively spoken of as "Boss" Shepherd. An investigation failed to sustain the charges, but in 1874 Congress was led to pass an act changing the form of government for the Federal District from that of a Territory to one under the direct management of a commission. President Grant nominated Mr. Shepherd for one of the three commissioners, but the Senate refused to confirm him. In 1880 Mr. Shepherd went to Batopilas, Mexico, where he passed the remainder of his life as general manager of a corporation that developed a great silver-mine.

Sigel, Franz, military officer, born in Sinsheim, Baden, Nov. 18, 1824; died in New York city, Aug. 21, 1902. He was graduated at the Military School of Karlsruhe in 1843; served as lieutenant in the German army in 1843-'47; then resigned and studied law. In February, 1848, he joined the Baden revolutionists, and raised a corps of volunteers. He led more than 4,000 volunteers against Freiburg, was defeated twice, and fled to Switzerland. He returned to Baden in May, 1849, fought in several engagements, and rose to the rank of commander-in-chief of the revolution. In 1851 he was arrested by the Swiss authorities, but escaped, first to France and later to England. He settled in New York in May, 1852, where he conducted *Die Revue*, a military magazine, and later in St. Louis, where he edited a similar paper. When the civil war broke out he organized a regiment of infantry and a battery of artillery, which rendered efficient service at the occupation of the arsenal and the capture of Camp Jackson, St. Louis. With this regiment and two batteries he was sent to Rolla, and soon afterward forced the Confederates under Gen. Price to retreat into Arkansas. He was conspicuous in the battles of Carthage, Dug Springs, and Pea Ridge; was commissioned a brigadier-



general of volunteers in May, 1861, and major-general in March, 1862; commanded the 1st Corps of the Army of Virginia in the line of operations beginning with Cedar Creek and ending with Manassas; and in June, 1863, received command of the Pennsylvania Reserves and organized a corps of 10,000 men to aid in repelling Lee's invasion. He fitted out an expedition that operated under Gen. George Crook in the Kanawha valley, and led a smaller one of 7,000 men through the Shenandoah valley against Lynchburg and Staunton, but was defeated by Gen. John C. Breckinridge at Newmarket. He was thereupon relieved of his command, and in June, 1864, was put in charge of the division guarding Harper's Ferry. In May, 1865, he resigned his commission and returned to journalism in Baltimore, where he remained two years, when he removed to New York city, where he resided till his death. He was appointed collector of internal revenue in May, 1871, and elected register of New York city in October following. After the expiration of his term of office as register he lectured, and he was for a time pension agent in New York city. He was the author of essays on military subjects; and during the latter years of his life was engaged in the advertising business and was publisher and editor of the *New York Monthly*, a German-American publication.

Skinner, William, manufacturer, born in London, England, in 1824; died in Holyoke, Mass., Feb. 28, 1902. In 1845 he engaged in the silk business in Northampton, Mass. He became a partner in the firm of Warner & Skinner in 1848; and began business for himself in Williamsburg, Mass., in 1851. His works here were entirely swept away by the great Mill river flood in 1874. In October of the same year he began again in Holyoke. He built a gymnasium for Dwight L. Moody's school in Northfield, Mass.; was a frequent benefactor of Vassar, Smith, and Mount Holyoke Colleges; and was president of the Manufacturers' Association of Holyoke and of the local city hospital.

Smith, Charles Henry, military officer, born in Hollis, Me., Nov. 1, 1827; died in Washington, D. C., July 17, 1902. He was graduated at Waterville College (now Colby University) in 1856; taught for a short time; and then studied law. He entered the volunteer service in the civil war as captain in the 1st Maine Cavalry Oct. 19, 1861; was promoted major, Feb. 16, 1863; lieutenant-colonel March 1 following; and colonel June 18; and was brevetted major-general of volunteers March 13, 1865. After the war he entered the regular army as colonel of the 28th Infantry; was transferred to the 19th Infantry March 15, 1869; and was retired from active service Nov. 1, 1891. During the civil war he took part in 63 engagements, and was wounded three times. He received his brevet of major-general of volunteers for gallant and meritorious services during the war; that of brigadier-general, United States army, March 2, 1867, for similar services at Sailor's Creek, Virginia, and that of major-general, United States army, the same day for gallant services during the war.

Smith, James B., actor and theatrical manager, born in Schenectady, N. Y., in 1846; died in New York, Jan. 28, 1902. He made his first appearance when he was twenty-one years old, and for many years played humorous rustic characters with great success. He originated and acted numerous roles of this kind, and took a prominent part in the first production of *The County Fair*. In the days of the old stock companies he often appeared as Ezekiel Homespun in *The Heir*

at Law, and for several seasons he acted in Hoyt's *A Milk-White Flag*, besides playing leading eccentric comedy characters in many other companies. But although he achieved distinction as an actor, it was as a manager that he became most prominent in the theatrical world. In 1882 he took Barton Hill and Josephine Cameron on an extended tour of the West Indies with great pecuniary success. Returning to New York from this trip, he engaged the late John E. Owens for a starring tour of thirty-six weeks, at a salary of \$350 a week, in a play called *Cook's Corners*, written by Mr. Smith himself. This play was not successful, and as soon as the enterprising manager realized that it was a failure, he promptly revived several of Mr. Owens's famous old plays—*Solon Shingle*, etc.—and through their popularity and his own good management he closed the season with a profit. Mr. Smith was the discoverer of Sissieretta Jones, the negro soprano known as the *Black Patti*. He met her shortly after the conclusion of his tour with John E. Owens, while he was organizing a company of negro singers for a West Indian tour. Miss Jones applied for an engagement, and when he heard her remarkable voice he realized that he had made a valuable discovery and immediately engaged her. He gave a private concert at Wallack's Theater, New York, that the best critics of music might hear her sing. The concert was a great success, as was also the tour in the West Indies.

Spalding, John Franklin, clergyman, born in Belgrade, Me., Aug. 25, 1828; died in Erie, Pa., March 9, 1902. He was educated at Bowdoin College, and after studying for the Episcopal ministry in the General Theological Seminary in New York city was admitted to the priesthood in 1858. He served as missionary at Oldtown, Me., in 1857-'59, and was rector of St. George's parish, Lee, Mass., in 1859-'60. He was an assistant at Grace Church, Providence, R. I., in 1860-'61, and for a short time at St. John's Church in the same city. From 1862 to 1873 he was rector of St. Paul's Church, Erie, Pa., and in December, 1873, was consecrated bishop of what was then the missionary diocese of Colorado. On the organization of the diocese, in 1887, he continued in office as bishop. He was a forceful, active man, with great abilities as an organizer, and under his administration the diocese of Colorado has prospered greatly. Bishop Spalding's writings include *Modern Infidelity* (1862); *A Manual for Mothers' Meetings* (1871); *The Cathedral System* (1880); *The Higher Education of Women* (1886); *The Catholic Church and its Apostolic Ministry* (1887); *The Threefold Ministry of the Church of Christ* (1889); *The Pastoral Office* (1889); *The Best Mode of Working a Parish* (1889); and *Jesus Christ the Proof of Christianity* (1890).

Spear, James, manufacturer, born in Mauch Chunk, Pa., Feb. 17, 1827; died in Wallingford, Pa., Jan. 30, 1902. He removed to Philadelphia in 1848, and engaged in the manufacture of stoves. He patented many inventions, among them the anticlinker grate, which is now in general use; and also made the first successful car-heater, which is used on the principal railroads in the United States. He took an active interest in the Blind Men's Home; was one of the incorporators of the Hayes Mechanics' Home; and aided many institutions, especially the University of Pennsylvania.

Spencer, Lily Martin(e), painter, born in southern France, Dec. 10, 1811; died in New York city, May 22, 1902. She was of French parentage,

came to the United States when five years old, and settled in Marietta, Ohio. While still a young girl she showed such a marked talent for art that Nicholas Longworth, of Cincinnati, offered to send her abroad to study, but her parents

refused the proposition because Mr. Longworth insisted that she should study from the old masters and abstain from all original work for a period of years. On her marriage to the late Benjamin Spencer she removed to New York city, where, under the patronage of Mr. Longworth, she opened her first studio. For many years she had a studio in Newark, N. J.,

and after the Centennial Exposition she removed to a beautiful spot overlooking the Hudson, with the foothills of the Catskill mountains in the distance. Her early painting included the Height of Fashion and The Height of Might, both of which were engraved by Schaus and had a large circulation. Other works were Old-Time Music and The Greek Slave. Her most ambitious completed painting was an allegory entitled Truth Unveiling Falsehood, which won a gold medal at the Centennial Exposition in 1876. She painted portraits of Martin Van Buren, Stephen A. Douglas, and Gen. Grant, McClellan, and Sherman, and a few minutes before her death she was putting the finishing touches on a portrait of the late Robert G. Ingersoll. Notwithstanding her advanced age, Mrs. Spencer had sketched out a work designed to be the largest and most striking of all her artistic efforts. It was to symbolize the Nineteenth Century, and was planned to show about 200 life-size portraits of the most distinguished persons of that period. She spent the greater part of her later years in her beautiful home on the Hudson. The accompanying portrait is from a photograph of a clay bust made by her daughter, the only likeness of the venerable painter in existence.

Sprague, Amasa, manufacturer, born in Cranston, R. I., about 1823; died in Coneset Heights, R. I., Aug. 4, 1902. He was employed in his father's calico-print factory till 1845, when, with his brother William, he assumed the management of the business, and in a short time the brothers had three plants in Rhode Island, one in Baltic, Conn., and another in Kennebunk, Me. The elder Sprague was the first to manufacture calico prints in the United States. The Sprague brothers also organized the Rhode Island Frear Stone Company for the manufacture of artificial sandstone. In 1873 business reverses occurred, and the great calico plants passed into other hands.

Stanley, David Sloane, soldier, born in Cedar Valley, Wayne County, Ohio, June 1, 1828; died in Washington, D. C., March 13, 1902. He was descended on his father's side from Nathaniel Stanley, who served as a private in the Lexington Alarm, and on his mother's side from Conrad Peterson, who was a private in the Virginia Continental line. In 1848 he was appointed from Ohio to the United States Military Academy,

where he was graduated in 1852, entering the army as 2d lieutenant in the 2d Dragoons and serving in the cavalry on the Western frontier until 1861, when he was made captain. Owning to his Virginia ancestry, he was offered a high commission in the Confederate army, but this he promptly declined. His first service was in Missouri, where he gained the appointment of brigadier-general of volunteers on Sept. 28, 1861. Gen. Stanley took part in the successful operations against Island No. 10 and New Madrid, was in the siege of Corinth, the battle of Farmington, and the battle of Iuka, and became chief of cavalry of the Army of the Cumberland in November, 1862. He participated in the battle of Stone River, receiving the brevet of lieutenant-colonel, U. S. A., for his services on that occasion, and was promoted to major-general of volunteers. He also participated in the Middle Tennessee campaign, and was active throughout the Atlanta campaign, being in all the principal battles of that movement, including Kenesaw Mountain, the siege of Atlanta, and the attack on Jonesboro, where he commanded the 4th Army Corps. On Oct. 6, 1864, during the absence of Gen. Thomas, he was assigned to the command of the Army of the Cumberland, and by his energy and skill did much for the successful defense of Nashville, also participating in the engagement at Spring Hill, where he repelled three desperate assaults of the Confederate cavalry and infantry, and in the battle of Franklin, where, after the Union line had been broken and defeat was threatened, he led a charge that resulted in the recovery of the ground that had been lost. Although severely wounded, he refused to leave the field until the battle was won, and for his services on that occasion he received the medal of honor and the brevet of major-general in the regular army. During the remainder of the civil war he was incapacitated for further services by his injuries, and on Feb. 1, 1866, was mustered out of the volunteer service, and made, on July 28, colonel of the 22d Infantry. His subsequent service was in the West, where he participated in campaigns against the Indians. On March 24, 1884, he was promoted brigadier-general, and soon afterward was made commander of the Department of Texas, where he remained until June 1, 1892, when he was retired. Subsequently, from 1893 to 1898, he was governor of the Soldiers' Home in Washington. Gen. Stanley was president of the Society of the Army of the Cumberland, and of the Army and Navy Club of Washington, and a member of the Society of the Sons of the American Revolution.

Stanton, Elizabeth Cady, reformer, born in Johnstown, N. Y., Nov. 12, 1815; died in New York city, Oct. 26, 1902. She was the daughter of Daniel Cady and widow of Henry B. Stanton. (For a sketch of Mr. Stanton's life, see Annual Cyclopædia for 1887, page 613.) She was graduated at Johnstown Academy and at Emma Wil-

lard's Seminary in 1832, and was married in 1840. In 1846 she removed to Seneca Falls, N. Y., and two years later she issued a call for the first woman's congress and began the woman-suffrage movement. She addressed the New York Legislature on the rights of married women in 1854, and in advocacy of divorce for drunkenness in 1860. In 1866, believing women to be eligible for public office, she offered herself as a candidate for Congress. For twenty-five years she annually addressed a congressional committee in favor of an amendment to the Federal Constitution granting enlarged privileges to women. Mrs. Stanton was president of the National Woman



Suffrage Association in 1865-'93, and honorary president of the Woman's Loyal League in 1861. In 1868, with Susan B. Anthony and Parker Pillsbury, she established a periodical entitled *The Revolution*, which was discontinued a few years later. Among her publications were *The History of Woman Suffrage* (with Susan B. Anthony and Matilda Jos-

lyn Gage); *Eighty Years and More* (1895); and (with others) *The Woman's Bible* (1895).

Steele, George McKendree, clergyman, born about 1815; died in Kenilworth, Ill., Jan. 14, 1902. He held pastorates in the Methodist Episcopal Church in Fitchburg, Lowell, Lynn, and Boston; joined the New England Conference of that Church in 1853; became president of Lawrence University, Appleton, Wis., in 1865, with which he remained till 1879, when he went as principal to Wesleyan Academy, Wilbraham, Mass. He held the latter post till 1892, when he resigned and retired.

Stevens, Benjamin Franklin, bibliographer, born in Barnet, Vt., Feb. 19, 1833; died in London, England, March 5, 1902. He went to London in 1860 to join his brother Henry in the bookselling business, in which he was engaged till his death. He was occupied thirty years in making a chronological index of American documents in England, France, Holland, and Spain from 1763 to 1784; also securing facsimiles of many rare and important manuscripts relating to American history. He, too, devoted much time to the compilation of unpublished manuscripts pertaining to the American Revolution. He was purchasing agent for many American libraries; United States despatch agent in London; fellow of the Society of Antiquaries; a member of the Société d'Histoire Diplomatique; honorary member of the Connecticut, New Hampshire, Maryland, Minnesota, and Vermont Historical Societies; and was intimately associated with other similar organizations.

Still, William, abolitionist, born in Shamong, N. J., Oct. 7, 1821; died in Philadelphia, Pa., July 14, 1902. He was of African descent; removed to Philadelphia in 1844; and became a clerk in the office of the Pennsylvania Antislavery Society in 1847. He sheltered the wife, daughter, and sons of John Brown while the latter was awaiting execution. He was chairman and corre-

sponding secretary of the Philadelphia branch of the underground railroad in 1851-'61; and after the civil war wrote the narratives of escaped slaves, which constitute the only full account of this organization. He was appointed post sutler at Camp William Penn for colored troops during the civil war, and in 1885 was sent by the Presbytery of Philadelphia as a commissioner to the General Assembly at Cincinnati. He was one of the original stockholders of the Nation, a member of the Board of Trade of Philadelphia, a member of the Freedmen's Aid Union and Commission, vice-president and chairman of the Board of Managers of the Home for Aged and Infirm Colored Persons; and author of *The Underground Railroad*; *Voting and Laboring*; and *Struggle for the Rights of the Colored People of Philadelphia*.

Stockton, Francis Richard, author, born in Philadelphia, Pa., April 5, 1834; died in Washington, D. C., April 20, 1902. He was graduated at the Central High School, Philadelphia, in 1852, and became a draftsman and engraver. In 1866 he invented and patented a double graver. Turning from his first profession to journalism, he joined the staff of the Philadelphia Post, and in 1870 that of the newly established *Hearth and Home* in New York. A little later he was on the staff of *Scribner's Monthly*; and when *St. Nicholas* was established, in 1874, he became its assistant editor, in which chair he remained for several years. His earliest writings were fanciful stories for children, contributed to the *Riverside Magazine* and other periodicals, and his first publication in book form was a collection of these with the title *Ting-a-Ling Stories* (1870). He soon made a reputation as a writer of humorous stories, his first success for older readers being the *Rudder Grange Stories* (1879). The complete list of his published books is as follows: *The Ting-a-Ling Stories* (1870); *Roundabout Rambles* (1872); *What Might Have Been Expected* (1874); *Tales out of School* (1875); *Rudder Grange* (1879); *A Jolly Fellowship* (1880); *The Floating Prince* (1881); *The Story of Viteau* (1884); *The Lady or the Tiger, and Other Stories* (1884); *The Late Mrs. Null* (1886); *The Christmas Wreck, and Other Stories* (1886); *The Casting away of Mrs. Lecks and Mrs. Aleshine* (1886); *The Hundredth Man* (1887); *The Bee Man of Orn, and Other Fanciful Tales* (1887); *The Dusanter* (1888); *Amos Kilbright, and Other Stories* (1888); *Ardis Claverden* (1889); *The Great War Syndicate* (1889); *The Stories of the Three Burglars* (1889); *The Merry Chanter* (1890); *The Squirrel Inn* (1891); *The House of Martha* (1891); *The Rudder Grangers Abroad, and Other Stories* (1891); *Kobel Land* (1891); *The Clocks of Rondaine* (1892); *The Watchmaker's Wife, and Other Stories* (1893); *Fanciful Tales* (1894); *Pomona's Travels* (1894); *The Adventures of Captain Horn* (1895); *A Chosen Few* (1895); *Stories of New Jersey* (1896); *Mrs. Cliff's Yacht* (1896); *Captain Chap or the Rolling Stones* (1896); *A Story-Teller's Pack* (1897); *The Great Stone of Sardis* (1897); *The Girl at Cobhurst* (1897); *The Associate Hermits* (1898); *The Vizier of the Two-Horned Alexander* (1899); *The Young Master of Hyson Hall* (1899); *Afield and Afloat* (1900); *A Bicycle of Cathay* (1900); *Kate Bonnet* (1902); and *John Gayther's Garden, and the Stories Told Therein* (1902). He left an unpublished novel entitled *The Captain's Tollgate*. His most original creation is *The Lady or the Tiger*, the title of which has become almost proverbial. This story was dramatized as a comic opera and produced with success on the New

York stage in 1888. All Stockton's stories are marked by a quaint humor that is peculiarly

CLAYMONT.

his own. He was a skilful and accomplished editor and a most genial companion. His every impulse was kindly, every opinion or criticism appreciative; and his conversation abounded in the same humor that secured popularity for his published work. He lived several years near Morristown, N. J., but a few years ago bought a fine old place, Claymont, in Jefferson County, West Virginia, and made it his home. For portrait, see frontispiece.

Stoetzer, Wilhelm, soldier, born in Allstedt, Germany, about 1843; died on Governor's island, New York, April 20, 1902. He was educated at Leipzig; joined the Prussian army for service in the war against France, and participated in numerous engagements, including Metz, Worth, Sedan, and the siege of Paris. After the war he came to the United States and enlisted in the regular army; and was assigned to the 12th Infantry. He remained in the army till his death. He was also a distinguished linguist and musician, and was the official interpreter of every command to which he was attached while in the American army.

Stromberg, John, musician, composer, and orchestra leader, born in Prince Edward Island in 1860; died in Freeport, Long Island, July 5, 1902. At a very early age he showed marked talent for composing music, and received a thorough musical education. He traveled several seasons in Canada with various theatrical companies, and then came to the United States, leading orchestras in theaters in different cities and composing many songs that caught the public fancy. In 1896, after finishing a long engagement as orchestra leader for Andrew Mack, the singing Irish comedian, he became the musical director at the famous vaudeville theater of Weber and Fields in New York city. Here, with an extraordinarily fine company to bring his songs before the public, he composed all the music for the brilliant burlesques given at that theater. None of his compositions failed to achieve success, and soon after they were heard in New York they were played, sung, and whistled all over the country, so great was their peculiar charm.

Swayne, Wager, military officer, born in Columbus, Ohio, Nov. 10, 1834; died in New York city, Dec. 18, 1902. He was graduated at Yale University in 1856; studied at the Cincinnati Law School; was admitted to the bar in Ohio and began practice in Columbus. At the outbreak of the civil war he raised the 43d Ohio

Infantry and was made its major; was promoted lieutenant-colonel, Dec. 14, 1861; colonel, Oct. 18, 1862; brigadier-general, March 8, 1865; major-general, June 20, 1865; and was mustered out Sept. 1, 1867. After the war he was transferred to the regular army, and was commissioned colonel of the 45th Infantry, July 11, 1870. He served under Gen. Sherman in the Atlanta campaign, and at Salkahatchie, S. C., he received a wound that caused the amputation of his leg. Shortly after the war he was made Military Governor of Alabama. He established the first school for negroes in the South at Talladega. After his retirement from the regular army he returned to Ohio and practised law in Toledo till 1880, when he removed to New York city, where he formed the firm of Dillon & Swayne, which later became Swayne & Swayne. He was for many years general counsel for the Western Union Telegraph Company, the Wabash Railway Company, the Associated Press, and other corporations.

Thompson, Hugh Miller, Episcopal clergyman, born in County Londonderry, Ireland, June 5, 1830; died in Jackson, Miss., Nov. 18, 1902. He removed with his parents to the United States in 1836, received a common-school education obtained in Caldwell, N. J., and was graduated at Nashotah Theological Seminary in 1852, and was ordered priest in 1856. He was successively in charge of Grace Church, Madison, Wis., and Church of the Nativity, Maysville, Ky., and after his ordination to the priesthood was rector of St. James's Church, Portage, Wis., 1858-'59; St. Matthew's, Kenosha, Wis., 1858-'59; Grace Church, Galena, Ill., 1859-'66; assistant rector of St. Paul's Church, Milwaukee, 1866-'70; rector of St. James's Church, Chicago, 1870-'71; Christ Church, New York city, 1871-'75; Trinity, New Orleans, 1875-'83. In addition to the duties of his profession he was Professor of Church History at Nashotah Seminary, 1860-'70, and for seven years editor of the Church Journal, in New York, continuing his editorial labors after removing to New Orleans. In 1883 he was consecrated bishop-coadjutor of Mississippi, and he became bishop of that diocese on the death of Bishop Green in 1887. He attended the Lambeth Conference in 1888, and preached in St. Paul's Cathedral, Westminster Abbey, and before Oxford University. His published books include *Unity and its Restoration* (1860); *Sin and its Penalties* (1862); *First Principles* (1868); *Absolution* (1872); *Copy*, a very popular collection of editorial papers (1872); *Is Romanism the Best Religion of the Republic* (1873)?; *The World and the Logos* (1886); *The World and the Kingdom* (1888); *The World and the Wrestlers* (1895); *The World and the Man*; *More Copy* (1897). Many sermons by him were issued separately, and he often contributed to pamphlet controversy.

Torrey, Henry Augustus Pearson, educator, born in Beverly, Mass., Jan. 8, 1837; died there, Sept. 20, 1902. He removed to Burlington, Vt., in boyhood, and was graduated at the university there in 1858. He was graduated at Union Theological Seminary, New York, in 1864, ordained in 1865, and became pastor of the Congregational church in Vergennes, Vt. In 1868 he was made Professor of Intellectual and Moral Philosophy in the University of Vermont, and he occupied that chair continuously thirty-four years, being at the time of his death, in point of service, the oldest member of the faculty. From 1888 to 1893 he had charge of the university library. He received the degree of LL. D. in 1896. He contributed to the *Andover Review* a series of articles on *The Theodicee of Leibnitz* (1885) and

published *The Philosophy of Descartes* (1892). He was a fine English scholar, a graceful public speaker, had a gift of quiet humor, and invariably won the love of his pupils by his serene temper and sympathetic instruction. The periodical published by the undergraduates of the university says of him: "He wore his learning and his honors so modestly; he was so gracious and cordial, without losing the dignity which was natural to him; his personality in all ways was so attractive and inspiring, that his going from among us begets no ordinary sense of loss. His ripe and accurate scholarship, his power of logical analy-



sis and construction, his courtesy in discussion, his wisdom in counsel, the serene poise of his whole character, mental and moral, gave him a standing among us which would be claimed for no other member of the teaching staff, and made us all—faculty and students—proud of our ranking professor, and glad to work with and under him. Everybody

appreciated the transparent and strong, yet always graceful, English in which his thoughts were clothed, and not less the quiet humor whose lambent gleams were seldom intermitted for long."

Urso, Camilla, violinist, born in Nantes, France, June 13, 1842; died in New York, Jan. 20, 1902. She was the daughter of Salvatore Urso, a Sicilian flautist and organist of considerable renown, and early showed her inherited love of music. When she was six years old she expressed a wish to learn to play the violin, and a year later she made her first appearance as a soloist at a concert. Her success was instantaneous, and she was hailed as a prodigy. She entered the Paris Conservatoire, where she studied three years, practising ten hours a day. After leaving the Conservatoire, she played in concerts in Paris at the Salle Herz, and before the Société Polytechnique and the Association of Musical Artists. She was then eleven years old, and her remarkable performances aroused the greatest admiration and curiosity among musicians and critics and the public in general. In 1852 the young virtuosa came to this country and appeared under the auspices of the Germania Society, creating a great sensation in musical circles. The next season she played in six of Mme. Alboni's concerts, and in December, 1853, she became the violin soloist of Mme. Sontag's concert company. Camilla Urso married Frederic Luere before she was twenty years old, and for several years did not appear in public. In 1863 she played at a Philharmonic concert in New York, and so enthusiastic was the greeting she received that she decided to continue her professional career. She made a tour of the world, winning admiration and exciting wonder wherever she appeared, and was considered the most wonderful woman violinist that ever had been heard. At her funeral the famous violin of the great artist was placed upon the coffin.

Victor, Mrs. Frances Auretta (Fuller) (Barrett), poet and historical writer, born in Rome,

N. Y., May 23, 1826; died in Portland, Ore., in November, 1902. She began to write for the newspapers at the age of fourteen, and her latest publication, a volume of poems, was issued in 1900. She was educated at a seminary in Wooster, Ohio, and with her younger sister, Metta Victoria, published in 1851 *Poems of Sentiment and Imagination*, with *Dramatic and Descriptive Pieces*. She married Judson Barrett, of Michigan, in 1853, who died a few years later, and in 1862 she married Henry Victor, an engineer in the United States navy, a brother of her sister's husband. After this second marriage Mrs. Victor removed to the Pacific coast. Her pen had been laid aside for several years prior to this event, but she now resumed it, contributing to the newspapers of San Francisco and Sacramento, as well as to the *Overland Monthly* from its start. Mrs. Victor was the author of *The River of the West* (1865); *Life and Adventures in the Rocky Mountains and Oregon* (1870); *All over Oregon and Washington* (1870); *The New Penelope and Other Stories* (1877); and chapters on Oregon and other States to Bancroft's *Pacific Coast Histories*.

Wallace, Martin Reuben Merritt, jurist, born in Urbana, Ohio, Sept. 29, 1829; died in Chicago, Ill., March 6, 1902. He was graduated at Rock River Seminary, studied law, and was admitted to the bar in Ohio in 1859, when he removed to Chicago to practise. In 1861 he was commissioned major of the 4th Illinois Cavalry, was promoted lieutenant-colonel and colonel, served at Forts Henry and Donelson and at Shiloh and Corinth, and at the close of the war was brevetted brigadier-general of volunteers. In the war he was offered a bribe of \$100,000 "to take his men on a scout," which meant permitting the bringing into the Union lines of a quantity of cotton for speculators. The suggestion was denounced with characteristic vehemence. After the war he returned to Chicago and was appointed assessor of internal revenue. While he held this office the whisky men offered him \$20,000 a month, to be paid privately to his wife, "as long as he would keep his eyes shut." When his most intimate friend was made acquainted with the intended corruption and asked him what course he intended to take, he replied, "I am going to look." In 1868 he was elected county judge, and he held that post eight years; later he became attorney for the county board, and was United States jury commissioner forty years, and police magistrate thirteen years.

Ward, John Elliott, diplomatist, born in Sunbury, Ga., Oct. 2, 1814; died in Dorchester, Ga., Nov. 30, 1902. He entered Amherst College in 1831, but left on account of the indignation there manifested against Virginians after the imprisonment of two Cherokee missionaries. He then studied law and was admitted to the bar in Savannah. He was solicitor-general of the Eastern District of Georgia in 1836-'38; United States district attorney for Georgia in 1838; member of the Georgia Legislature in 1839, 1845, and 1853, being speaker in the latter year; mayor of Savannah in 1854; president of the National Democratic Convention that met in Cincinnati in 1856; Lieutenant-Governor of the State and president of the State Senate in 1857; and United States minister to China in 1858-'61. In the latter year he resigned in consequence of the adoption by Georgia of the ordinance of secession, although he was strongly opposed to that measure. In January, 1866, he removed to New York city.

Warden, David Adams, musician, born in the Tower of London, England, in 1815; died in Philadelphia, Pa., Feb. 4, 1902. In his early years

he was organist in several Protestant Episcopal churches. He composed a book of chants which attained considerable popularity, and also the music for many patriotic songs that were sung by both armies during the civil war, among them *The Flag's come back to Tennessee*. He also wrote the words and music of *Mother, Don't Weep for your Boy*, and music for *Tell me, ye Winged Winds*.

Warren, George William, organist and composer, born in Racine, Wis., in 1829; died in New York, March 16, 1902. He showed great ability in music from an early age, and when he was twenty-three years old he obtained the place of organist at St. Peter's Protestant Episcopal Church in Albany, N. Y. Later he became the organist at St. Paul's Church, in the same city. He went to New York in 1870, and soon entered St. Thomas's Protestant Episcopal Church as organist, remaining there until 1900. He was a composer of hymns and anthems that came into wide use in churches of many denominations, besides considerable secular music that also won popularity. In 1887 he received the degree of doctor of music from the University of Leipsic. A special commemorative service was held in his honor at St. Thomas's on the completion of his twenty-fifth year as organist of that church, and in 1900, after thirty years' service, he retired as "organist emeritus" from the place he had held so long. He was also Professor of Music at Columbia University, New York, for many years.

Wenckebach, Carla, educator, born in Hildesheim, Germany, Feb. 14, 1853; died in Boston, Mass., Dec. 29, 1902. She was educated at the Girls' High School in Hildesheim, the Normal School at Hanover, and the universities of Zurich and Leipsic; taught in England, Belgium, Russia, and New York; and became Professor of German in Wellesley College in 1883, which post she held till her death. She was one of the most distinguished German instructors in the United States, and had won a high reputation as teacher, editor, and author. With her sister, the late Helen W. Wenckebach, she was author of several educational books on the German language, and was editor of German literary works, including a collection of the best German songs. Among her works were *Deutsche Grammatik* (with Josepha Schrakamp, 1884); *Deutscher Anschauungs-Unterricht* (with her sister, 1886); *Deutsches Lesebuch* (with her sister, 1887); *Deutsche Literaturgeschichte* (1890); *Deutsche Sprachlehre* (1896); *German Composition* (1899); etc. She was editor of *Die schönsten deutschen Lieder* (with her sister, 1885); *Meissner's Aus meiner Welt* (1889); *Die Meisterwerke des Mittelalters* (1893); *Scheffel's Ekkehard* (1893); *Scheffel's Trompeter von Sakkingen* (1895); *Dahn's Ein Kampf um Rom* (1900); and *Schiller's Maria Stuart* (with Margarethe Muller, 1900).

Wernle, Henry, inventor, born in Germany about 1831; died in Philadelphia, Pa., May 20, 1902. He was educated in Germany; came to the United States in 1852; and entered the Government service at the Frankford arsenal as an inventor and maker of delicate mathematical instruments. During the civil war his services were of great value on account of the many inventions of gun-sights that he perfected. The manner of tempering his instruments was a secret that Mr. Wernle carefully guarded. Although often urged to impart the information to others, he never did so, and the secret died with him.

West, William H., actor and minstrel performer, born in Syracuse, N. Y., June 18, 1853;

died in Chicago, Feb. 15, 1902. He made his first appearance when a boy as a singer and dancer in a Buffalo concert-hall. His cleverness attracted attention, and he was soon engaged to travel with P. T. Barnum's circus, and after that with Skiff and Gaylord's Minstrels. In 1869 he formed a partnership with George H. Primrose, another well-known minstrel performer, whom he had known as a boy, and this business contract lasted thirty years. Together they appeared in Simmons and Slocum's Minstrels in Philadelphia, and in 1873 the partners went to New York, and first appeared there at the old Olympic Theater, Broadway, near Houston Street. In the season of 1874-'75 they became members of J. H. Haverly's Minstrels, and traveled with that company three seasons. At the end of this engagement they organized a minstrel company of their own, calling it Barlow, Wilson, Primrose, and West's Minstrels. In 1882 the personnel of the management changed, and the company took the name of Thatcher, Primrose, and West, appearing under that title for seven years, after which Mr. Thatcher left the company, which was thereafter managed by the two original partners under the name of Primrose and West's Minstrels. The organization was for a long time the finest and most popular in the business, and drew immense audiences all over the country. In 1898 the long partnership was dissolved. Mr. West desired to have his company appear without blackened faces, and to add many accessories and stage settings before unknown in minstrel performances; while Mr. Primrose clung to "black-face" minstrelsy, with all its old traditions. They parted amicably, and Mr. West organized another company, calling it West's Big Minstrel Jubilee, and to it devoted the later years of his life, with great success. He usually appeared on the stage as "middleman" or interlocutor, but occasionally acted as "end-man." His voice was remarkably sweet, and he was tall, well-built, and a graceful dancer. He accumulated a handsome fortune and owned a fine property at Bensonhurst, Long Island. Mr. West was married three times, his first wife being Fay Templeton, the popular actress, from whom he was divorced; his second wife was Lizette Morris, who died soon after their marriage; and his third was Emma Hanley, also an actress.

Whipple, William Denison, military officer, born in Nelson, N. Y., Aug. 2, 1826; died in New York, April 1, 1902. He was graduated at West Point and commissioned brevet 2d lieutenant in the 3d Infantry, July, 1851; was promoted 1st lieutenant, Dec. 31, 1856; captain and assistant adjutant-general, Aug. 3, 1861; major, July 17, 1862; lieutenant-colonel, March 3, 1875; and colonel, Feb. 28, 1887; and was retired Aug. 2, 1890. In 1851 he was assigned to duty on the Indian frontier, and took part in the Navajo and Gila expeditions, and also in the defense of Fort Defiance, New Mexico. On Feb. 10, 1862, he was commissioned a lieutenant-colonel in the volunteer service; on Sept. 6, 1864, was promoted brigadier-general; and on Jan. 15, 1866, was honorably mustered out of that service. He took part in the battles of Bull Run, Chattanooga, Missionary Ridge, Resaca, Kenesaw Mountain, and Nashville and the siege of Atlanta; and was brevetted brigadier-general and major-general, U. S. A., for gallant and meritorious services during the war. After the war he was on duty as assistant adjutant-general at the headquarters of the principal military divisions, and in 1873-'81 as aide-de-camp on the staff of the general commanding the army.

Whitehead, William Biddick, physician, born in Virginia about 1832; died in Denver, Col., Oct. 13, 1902. He was graduated at the Virginia Military Institute in 1851, and studied medicine at the Universities of Virginia and Pennsylvania, and subsequently in Paris and Vienna. While in Vienna he was appointed a surgeon in the Russian army, was ordered to the Crimea, and was stationed at Sebastopol during the siege of that city. For his services he was made a knight of the Imperial Order of St. Stanislaus. He resigned his post of staff surgeon in the Russian army after five months' service; returned to Paris to resume study in the hospitals; and settled in New York, where he became Professor of Clinical Medicine in New York Medical College. In 1861 he entered the Confederate army, and was commissioned chief division surgeon. After the war he returned to New York city to practise, and later removed to Denver, Col. He established the department of medicine in the Universities of Colorado and Denver.

Whittle, Francis McNeece, clergyman, born in Mecklenburg County, Virginia, July 7, 1823; died in Richmond, Va., June 18, 1902. He was graduated at the Theological Seminary at Alexandria in 1847, and in 1848 was ordained priest. He was rector of Kanawha Parish in what is now West Virginia in 1847-'49; of St. James's Northam Parish, Goochland County, Virginia, in 1849-'52; of Grace Church, Berryville, Va., in 1852-'57; and of St. Paul's, Louisville, Ky., in 1857-'68. In 1868 he was consecrated Assistant Bishop of Virginia, and he became bishop of the diocese in 1876, on the death of Bishop Johns. When the diocese of Western Virginia was set off from Virginia in 1877, Bishop Whittle chose to remain in charge of the eastern diocese, which in 1892 was still further reduced by the organization of the diocese of Southern Virginia. At his death, however, the diocese, even with the loss of two-thirds of its former territory, was far stronger than at the time of his consecration. Bishop Whittle received the degree of D. D. from the Theological Seminary of Ohio in 1867, and LL. D. from William and Mary College in 1878. In his theology the bishop was strongly evangelical.

Williamson, James A., lawyer, born in Adair County, Kentucky, Feb. 8, 1829; died in Jamestown, R. I., Sept. 7, 1902. He was educated at Knox College, Illinois, studied law, and was admitted to the bar. In 1861 he enlisted in the 4th Iowa Infantry as 1st lieutenant and adjutant; was promoted lieutenant-colonel, March 9, 1862; colonel, March 18, 1862; and brigadier-general, Jan. 13, 1865; and was brevetted major-general of volunteers, March 13, 1865. He participated in the battles of Pea Ridge and Chickasaw Bayou, the siege of Vicksburg, and the capture of Savannah. After the capture of Savannah he received command of the military district of Missouri, where he remained till the surrender of Gen. Lee's army. After the war he resumed law practise; was commissioner of the United States General Land Office from 1876 till 1881; and afterward land commissioner and general solicitor of the Atlantic and Pacific Railroad Company and its president.

Wilson, Joseph Miller, engineer, born in Phoenixville, Pa., June 20, 1838; died in Philadelphia, Pa., Nov. 24, 1902. He was graduated at Rensselaer Polytechnic Institute in 1858, was appointed an assistant engineer of the Pennsylvania Railroad in 1860, and was connected with that road till 1886, during which time he served as resident engineer and as engineer of bridges and buildings. In 1876 he was associate engineer

and architect on the designing and construction of the Main Exposition Building and Machinery Hall for the Centennial Exposition. He served on the commission that condemned the Washington Aqueduct, and on the one that recommended the underground-railroad system now under construction in New York city. He was president of Franklin Institute several years and author of many technical and scientific papers and reports.

Wilton, Ellie (Mrs. Thomas C. Doremus), actress, born in Albany, N. Y., in 1852; died in Whitestone, Long Island, July 20, 1902. Her father, John Leonard, moved to San Francisco while she was very young, and when she was only fourteen years old she joined a traveling theatrical company, where her talent and personal beauty soon won her advancement to important rôles. She made an extended tour through the West, playing principal parts in mining-camp theaters long before she was twenty years old, and after a few seasons of that hard experience she was engaged as leading lady in the California Theater, San Francisco, where she remained seven years, winning great popularity and appearing in support of most of the celebrated actors of that time who visited the West. At the end of this long engagement she went to Europe to study, remaining there two years; on her return to the United States she was engaged by Manager A. M. Palmer for his Union Square Theater Company, and she made her first New York appearance in that theater in the comedy called French Flats. She was a member of this company several seasons, and left it to play leading support to the Italian tragedian Tommaso Salvini, with whom she traveled two seasons. She appeared in Charley's Aunt during its long run at the Standard Theater, New York city, and after that she joined the Frohman forces and played in one or another of their companies till 1900, when she originated the rôle of Queen Margaret in A Royal Family, with Annie Russell as the star, at the Lyceum Theater. During that season she injured her foot and was compelled to leave the company. She never again appeared on the stage, but lived at her Long Island home until her death.

Winner, Septimus, composer and publisher of music, born in Philadelphia, May 11, 1827; died there, Nov. 23, 1902. He composed the famous song Listen to the Mocking-Bird, which was a great favorite for many years, and also What is Home without a Mother? which was almost equally popular. He wrote a song entitled Give us back our Old Commander, which made a great sensation when it appeared, and very nearly involved the author in trouble with the Government, as it referred directly to the removal of Gen. George B. McClellan from his command of the Army of the Potomac in 1862. The War Department issued an order forbidding actors or any other persons to sing it in public, on pain of imprisonment; and Mr. Winner, who asserted his innocence of intending anything treasonable in writing the song, was notified that his further publication of it would result in his confinement in Fort Lafayette. Besides his songs, he wrote and published numerous books of technical instruction for various musical instruments. In his earlier years he was a frequent contributor of verse to the American literary magazines, and he was also the founder of the Musical Fund Society of Philadelphia. His last work was The Cogitations of a Crank.

Yeoman, George F., jurist, born in Andes, N. Y., Oct. 29, 1846; died in Rochester, N. Y.,

June 1, 1902. He removed in 1871 to Rochester, where he studied law and was admitted to the bar in 1875. He then became associated with Eugene H. Satterlee. This firm continued in practise till November, 1893, when Mr. Yeoman was appointed an associate justice of the Supreme Court of New York, which post he held till Jan. 1, 1895. He then resumed practise with his former associate and Joseph W. Taylor, and that relation continued till Mr. Yeoman's death. He was for many years a member of the Board of Managers of the State Industrial School and a trustee of the Rochester Orphan Asylum.

Young, Eliza Bland, actress, born in London, England, May 31, 1812; died in the Actors' Home, West New Brighton, Staten Island, N. Y., Aug. 10, 1902, being then the oldest actress in the United States. She made her first appearance in 1822, at the Adelphi Theater, London, in a play called *Scotch Valley*. After a brief experience on the stage she returned to school for five years, and then reentered theatrical life. She traveled through England and other countries, playing soubrette and juvenile rôles for several seasons, supporting at various times Gustavus Brooke, Mr. and Mrs. Charles Kean, Ira Aldridge, and other stars. She was a member of the Robertson stock company for five years. In 1844 she married William Watkins Young, an English actor-manager, and in 1856 she came to the United States. She made her first appearance in this country June 4, 1857, at Providence, R. I., as Mrs. Lilywhite in a comedy entitled *The Forties and Fifties*. During the thirty years following she appeared in many stock companies of this country, and at one time or another supported nearly every prominent theatrical star of the American stage. She was the original Tabitha Stork in Lester Wallack's *Rosedale*, and acted in the first American productions of *The Ticket-of-Leave Man*, *The Serious Family*, *East Lynne*, and the *New Magdalen*. Her last appearance was in the season of 1899, at the age of eighty-seven, when she appeared as the Third Witch in *Macbeth* at the Fifth Avenue Theater, New York city, supporting Mrs. Langtry.

Zimmermann, Adolph, actor, born in Germany in 1870; died in New York, Feb. 22, 1902. He received his early dramatic training in the court theaters of his native country, and became a favorite in leading rôles. In 1900 he came to the United States, and entered the Irving Place Theater company as its leading man. He soon won the same popularity with German-American audiences that he had enjoyed in his own country. He was a highly accomplished and versatile actor, and aside from his professional work, he became very well known in some of the best German clubs and societies in New York.

OBITUARIES, FOREIGN. Abel, Sir Frederick Augustus, English chemist, born in 1827; died in London, Sept. 26, 1902. The family, of Swedish origin, had produced men notable in science, music, and painting. He entered the Royal College of Chemistry as one of Hofmann's first pupils, and was soon promoted to be an assistant. In 1851 he became Professor of Chemistry at the Royal Military Academy, Woolwich. In 1854 he was appointed chemist to the War Office, which post he held until 1888, when he was retired by the civil-service regulations. In these thirty-four years he made his most important contributions to the chemistry of explosives. His work on the use of guncotton as an explosive, which was summarized in a paper printed in the *Philosophical Transactions* of 1866 and in the *Bakerian Lecture* printed in the same

journal for the succeeding year, was perhaps his most important contribution to science. He showed how guncotton, previously regarded as dangerous and inefficient, could be safely handled and prepared of constant composition, and indicated its great value as an explosive agent. He also did important work, in conjunction with Sir Andrew Noble, on the chemical changes that result from firing gunpowder. In 1888 he was appointed chairman of the Government Committee on Explosives. As the result of a series of experiments conducted under its auspices, "cordite," an explosive containing both guncotton and nitro-glycerin, was patented by Abel and Dewar, and soon became the standard explosive of the country. In connection with the petroleum acts of 1868 and 1879 he devised an apparatus for determining the temperature at which petroleum gives off inflammable vapor which is still in general use. He took a leading part in establishing the Imperial Institute. He was elected a fellow of the Royal Society in 1860, and received a royal medal in 1887 for his researches on explosives. He was knighted in 1883, and the K. C. B. was conferred on him in 1891. He was president of the British Association for the Advancement of Science in 1890, and of the Iron and Steel Institute in 1891.

Acton, John Emerich Edward Dalberg-Acton, Baron, English historian, born in Naples, Italy, Jan. 1, 1834; died at Tegernsee, Bavaria, June 19, 1902. He was the son of Sir Richard Acton, inherited his large English property, and remained with his mother until he was sent when not yet ten years of age to the Catholic school at Oscott, of which Dr. Wiseman was the president. After completing the course of four years at Oscott, then a center of Catholic influence, visited often by the Oxford converts, he read with Dr. Logan, a priest in Edinburgh who had been a Protestant, and when prepared for admission to Cambridge, Dr. Logan's university, he applied successively at 3 colleges, and was each time refused because he was a Roman Catholic. Consequently he went to study at Munich, where he lived in the house of Dr. Doellinger, with whom he visited Rome in 1857, having in the previous year attended the coronation of the Emperor Alexander II with his stepfather, Lord Granville. He traveled in the United States and became acquainted with Prescott and Dr. Brownson, just as in Europe he came to know every eminent historian and every leader of Catholic thought. German, French, and Italian to him were household tongues as well as English, and from his youth up he impressed scholars and statesmen alike with the vast range of his knowledge and the brilliancy of his conversation. When Newman had displeased the authorities of his Church by enunciating some original views of doctrine and polity in the *Rambler* and had resigned the editorship in consequence, Sir John Acton succeeded him, and soon afterward transformed the periodical into the *Home and Foreign Review*, to which some of the foremost writers of Europe contributed until he stopped the publication because the authorities



of the Church frowned upon him on account of his opposition to ultramontanism. While the Council of the Vatican was sitting in 1870 he learned from leading bishops who took part and revealed in letters to the *Münch Allgemeine Zeitung* the phases and vicissitudes of the contest and the moves and combinations of parties. After the Vatican decree was issued he still maintained his opposition to ultramontanism and adduced historical reasons in the public press. From 1859 till 1865 he sat in Parliament for Carlisle. Although he made no mark as a speaker, he influenced Gladstone and helped to shape the policy that rent the Liberal party asunder. He was returned for Bridgnorth in 1865, but was unseated on a scrutiny. In that year he married a daughter of Count Arco Valley, by whom he had a son, Richard, now Lord Acton. In 1869 he was raised to the peerage as Baron Acton of Aldenham. He sold the castle of Herrnsham and crippled his English estate to gather together 60,000 volumes that are documents of the religious, political, economic, and popular history of Europe. Although he had notes and references by the boxful, covering every phase and movement of modern history, some rare articles in reviews were his only published writings. He could discourse in conversation lucidly, with profound conviction and astonishing accuracy of memory, on the whole political and social evolution of modern times, yet when he took the pen to write historical and literary allusions clogged his style and a striving for exactness of statement obscured it with strange phrases. Although he produced no work he was recognized as the most learned and scientific of British historians, and in 1895, having just previously held a place at court for three years, he was appointed Regius Professor of History at Cambridge, where he put into practise methods of investigation and study more thorough and conscientious than had before been introduced in England. Andrew Carnegie purchased Lord Acton's library some years before the latter's death and left it for his use in its fireproof building at Aldenham. After Lord Acton's death Mr. Carnegie gave it to John Morley to keep or to bestow where he saw fit, and Mr. Morley presented it to the University of Cambridge.

Adamson, Robert, Scottish philosopher, born in Edinburgh in 1852; died in Glasgow, Feb. 6, 1902. He won the highest honors at Edinburgh University, and after continuing his studies at Heidelberg he returned to become assistant professor, leaving the university again in 1876 to succeed Stanley Jevons as Professor of Logic and Philosophy in Owens College, Manchester, where he remained till in 1893 he was elected Professor of Logic at Aberdeen University, whence he went to Glasgow in 1895 to fill the chair of Logic and Rhetoric. He wrote a treatise on the Philosophy of Kant, and the article on him in the *Encyclopædia Britannica*, also articles on English philosophers and on logic and the mind, and had in preparation when he died a book on Kant and the Modern Naturalists, and one on the History of Psychology. He was an active promoter when at Manchester of the Victoria University and at Glasgow in obtaining the extension of the session and the fuller educational equipment of the university.

Albert, King of Saxony, born in Dresden, April 23, 1828; died in Sibyllenort, June 19, 1902. He was the son of Crown-Prince Johann and Princess Amalia of Bavaria. He entered the Saxon army as a lieutenant in 1843 and studied in the university of Bonn, which he left to join

his regiment when the revolution broke out in 1848. As captain of artillery he distinguished himself at the storming of the redoubts of Düppel in the Schleswig-Holstein campaign of 1849. After his father became King in 1854 he took a prominent part in civil and military affairs, and in the Austro-Prussian War of 1866 he was commander-in-chief of the Saxon army, which left Saxony undefended to concentrate in Bohemia with the Austrian force of Gen. Clam Gallas, whose unsuccessful stand at Gitschin enabled the Prussians to bring the campaign to a quick termination four days later at Königgratz, where Crown-Prince Albert with his Saxons stubbornly held the left of the Austrian position against Gen. Herwarth von Bittenfeld's Army of the Elbe until after Gen. Benedek's Austrian army was defeated and rendered helpless by the capture of the key of the position at Chlum by the Prussian Crown Prince. When Saxony was absorbed in the North German Federation Prince Albert remained in command of the Saxon troops, henceforth known as the Saxon corps and officially designated as the 12th North German Corps. He led them in the Franco-German War, and so distinguished himself by turning St. Privat and bringing up his troops through the Bois des Rognons to turn the tide at Gravelotte that he was placed in command of the army of the Meuse, composed of the united Prussian guard corps, with 2 cavalry divisions. While advancing from Metz upon Châlons, he was suddenly ordered to take part in the flanking movement by which the German columns hemmed Marshal MacMahon's army and encircled it with an iron ring at Sedan, where the Saxon Crown Prince's column, after defeating Gen. Douay's corps at Nouart and Gen. Faily's at Beaumont, formed the right wing. He was active in the bombardment of Mont Arron in the siege of Paris, and after the war was made a field-marshal and inspector-general. He succeeded to the throne on the death of his father, Oct. 29, 1873. He was the confidential friend of the three successive German Emperors and a loyal upholder of the empire in which Saxony was overshadowed and his own powers effaced by the importance of Prussia. He promoted music and art, like his forefathers, and welcomed Americans and English at court festivities. His Queen, whom he married in 1853, was Princess Carola, daughter of Prince Gustavus Vasa of the old Swedish dynasty. The marriage was without issue, and the succession fell to Prince Georg, his brother, born in 1832, whose son by Princess Maria Anna of Portugal, Prince Friedrich August, born May 25, 1865, the present Crown Prince, married, on Nov. 21, 1891, the Archduchess Louise Antoinette, born Sept. 2, 1870, Princess Imperial of Austria and daughter of the Archduke Leopold Ferdinand, son and heir of the former Grand Duke of Tuscany, by the Princess Alice of Bourbon and Parma. The Crown Princess in December, 1902, eloped and left her children, Prince Friedrich Christian, born Dec. 31, 1893, Prince Ernst Heinrich, and three daughters, the youngest born in September, 1901.

Ali, Bey of Tunis, born Oct. 5, 1817; died June 11, 1902. Sidi Ali succeeded his brother, Sidi Mohammed es Sadok, Oct. 28, 1882, the year after the latter's recognition of a French protectorate in the treaty of Kasr es Said, signed May 12, 1881. The reigning family of Tunis was established by Ben Ali Turki, a native of Crete, who seized the throne in 1691. Sidi Ahsin, the father of Sidi Mohammed and Sidi Ali, obtained a firman from the Sultan of Turkey liberating him from the payment of tribute, but not re-

nouncing the suzerainty of Turkey over Tunis, which had been in existence since 1575, though not effectively exercised in recent times. When the French invaded Tunis Ali Bey, who was then commander-in-chief of his brother's troops, offered no serious resistance, and was one of the first to accept the protectorate, using all his influence to obtain the willing submission of the tribes and employing his troops to force the rebellious to submission. Coming to the throne at the beginning of the French *régime*, he loyally yielded up all political and financial control and used his great influence and royal authority to prevent any check to the innovations of civilization and foreign government. The French on their part left the relations between Mussulmans entirely in his hands, so that he was still a Mohammedan monarch, dispensing justice and charity and governing the people in their social and religious life according to the laws of Islam. In his palace he fed over 700 persons. His physical and mental vigor declined in his later years. Sidi Mohammed, his son and successor, who was forty-six years of age when his father died, has often sojourned in Paris, and is the first Bey able to speak French.

Angus, Joseph, English clergyman, born in Bolan, Northumberland, England, Jan. 16, 1816; died in Hampstead, England, Aug. 28, 1902. He was educated at King's College and Stepney College, London, and at Edinburgh University, and studied for the Baptist ministry. At the age of twenty-four he became secretary of the Baptist Missionary Society, and in 1849 president of Stepney College for the education of non-conformist ministers, and in 1866 of the College of Regent's Park, to which the Stepney institute was then removed. For more than forty years he continued in this office, and under his management the usefulness of the institution was greatly extended. He was a man of extremely broad sympathies, and his interests were manifested in many directions. He served on the London School Board ten years, and he was one of the revisers of the New Testament. His published works comprise *Essay on the Voluntary System* (1839); *Bible Handbook* (1854); *Bishop Butler's Analogy*, also *Fifteen Sermons, with Life, Analysis, and Notes*, usually considered the best edition of the *Analogy* (1855); *Christ our Life* (1855); *Handbook of the English Tongue* (1861); *Christian Churches and Christian History* (1862); *Handbook of English Literature* (1865); and *Handbook of Specimens of English Literature* (1866).

Arnold, Sir Arthur, English author, born in Framfield, Sussex, England, May 28, 1833; died in London, May 20, 1902. He was the son of Robert Coles Arnold, and a younger brother of Sir Edwin Arnold. He was educated privately, and was assistant commissioner of public works in Lancashire in 1863-'64. Later he became known as a traveler, and from 1880 to 1883 he represented Salford in the House of Commons. He was an ardent Liberal and took an active interest in politics, and was for some time president of the Free Land League. He was also chairman of the London County Council, 1895-'97. His writings include *History of the Cotton Famine* (1865); *From the Levant* (1868); *Through Persia by Caravan* (1876); *Free Land* (1880); and *Social Politics* (1881).

Arnold, George Benjamin, English organist and composer, born in Petworth, Sussex, England, Dec. 22, 1822; died in Winchester, Jan. 31, 1902. In 1849 he became assistant organist at Winchester Cathedral. He was subsequently organist at St. Columba's College, near Dublin,

Ireland; of St. Mary's Church, Torquay; and from 1860 to 1865 was organist of New College, Oxford. In the year last named he was appointed organist of Winchester Cathedral. He ranked among the first English players of his time, and he won distinction also as a composer. His oratorio *Ahab* was brought out in 1864, and his cantata *Sennacherib* was produced at the Gloucester Festival of 1883. In 1893 he composed the cantata *The Song of the Redeemed*, for St. James's Church, New York city; and for the King Alfred Milenary in 1901 he wrote an orchestral introduction and a chorus of praise. He also composed works for the piano and a large number of anthems, the best known of which is the familiar *The Lord is my Shepherd*.

Ashmead-Bartlett, Sir Ellis, English politician, born in Brooklyn, N. Y., in 1849; died in London, Jan. 19, 1902. His education was received at Torquay, Devonshire, and at Oxford. He was called to the bar of the Inner Temple in 1876, was examiner in the Education Department in 1874-'80, and sat in the House of Commons from 1880 till his death. He was a civil lord of the Admiralty in 1885-'92, and was knighted in the latter year. He was a favorite with the Sultan of Turkey, who bestowed upon him the "Grand Cordon of the Medijeh." In 1900 he served in the English army in South Africa. He was a brilliant orator, his chosen theme being the imperial strength and majesty of England, and he was accounted the most outspoken exponent of what is termed "jingo sentiment" in Parliament. His only published book was *The Battle-Fields of Thessaly* (1897).

Bailey, Philip James, English poet, born in Nottingham, England, April 22, 1816; died there Sept. 6, 1902. He was educated at Glasgow University, and after studying law at Lincoln's Inn was admitted to the bar in 1840, but did not practise. In his twentieth year he began to write *Festus*, a lyric drama on the Faust legend, which appeared in 1839 and speedily made its author famous, 11 editions of the work being published in England and 30 in the United States. The poem was extravagantly praised at the time of its appearance, but has long been neglected by the general reader, though still prized by a few. While by no means worthy of the laudations it first received, it does not deserve the neglect into which it has fallen, for it exhibits a wealth of noble and sustained imagery, and the blank verse, though wanting in the sonorous quality, and not especially sweet, is well suited to the subject and is often genuinely poetic. It was the theme rather than the form that gained the poet the attention he received, and certain lines from *Festus* are still quoted. None of his other works attracted much notice, and the poet's later life was passed in strict retirement. He was married twice, the first time very unhappily, and was a resident of Jersey from 1864 to 1876, but afterward lived in Nottingham. His income from his writings was but slender, and he not only applied several times for relief from the Royal Literary fund, but was for many years in receipt of a pension from the Civil List of £100. Be-



sides *Festus* (1839), he published *The Angel World, and Other Poems* (1850); *The Mystic, and Other Poems* (1855); *The Age, a Colloquial Satire* (1858); *The International Policy of the Great Powers* (1861); and *The Universal Hymn* (1868).

Barail, Gen. du, French soldier, born in 1820; died in Neuilly, Jan. 24, 1902. He took part as a lieutenant in the capture of Abdul Kader, served several years in Algeria and performed distinguished services as commandant of Laghouat, served in the Mexican campaign as colonel, commanded a division of cavalry in the war of 1870, and fought at Mars-la-Tour and St. Privat, and was taken to Germany a prisoner at the surrender of Metz. On returning to France after the peace he was placed in command of a division in the Versailles cavalry army corps, and took an active part in suppressing the Paris Commune. On May 29, 1873, when the Thiers Cabinet was overturned, Marshal MacMahon made him Minister of War, and when the Reactionary ministry was driven out he was assigned to the command of the engineer corps and retired shortly afterward.

Barlow, William Henry, English civil engineer, born May 10, 1812; died Nov. 14, 1902. He was a brother of the eminent engineer Peter William Barlow. He was educated for the engineering profession at the Royal Dockyard, Woolwich, England, and at the age of twenty was sent to Constantinople to superintend the erection of buildings and machinery for the Turkish Government. He was resident engineer to the Midland Railway in 1842-'57, and as consulting engineer of that system designed the St. Pancras terminal station in London, with a roof of 240 feet span. The new Tay Bridge was constructed by him, 1880-'87. He went to the United States in 1876 as one of the judges of the Centennial Commission, was a fellow of the Royal Society, was admitted a member of the Institute of Civil Engineers in 1845, and was its president in 1880. He published *Illumination of Lighthouses* (1837); *Diurnal Electric Tides and Storms* (1848); *Resistance of Flexure in Beams* (1865); and *The Logograph* (1874).

Baxter, Mrs. Lucy E. (Barnes), English author, born in Mere, Wiltshire, England, about 1835; died in Florence, Italy, Nov. 10, 1902. She was a daughter of the Rev. William Barnes, the Dorsetshire poet, and was educated at home. She began at eighteen to contribute stories to ladies' annuals, and throughout her life she clung to the pen name her father had suggested, of "Leader Scott." In 1867 she married S. T. Baxter, and thenceforward resided in Italy. She was popular in Italian literary and artistic circles, and was an honorary member of the Accademia delle Belle Arti. Her published books include *The Painter's Ordeal*; *A Nook in the Apennines* (1879); *Fra Bartolommeo and Andrea del Sarto, in the Great Artists Series* (1889); *Fra Angelico, in the same series* (1881); *The Renaissance of Art in Italy* (1882); *Messer Agnolo's Household: A Cinque Cento Florentine Story* (1882); *Ghiberti and Donatello, with Other Early Italian Sculptors* (1882); *Luca della Robbia, in Great Artists Series* (1883); *A Bunch of Berries and the Diversions Thereof* (1883); *Sculpture: Renaissance and Modern* (1886); *Tuscan Studies and Sketches* (1887); *The Life of William Barnes, Poet and Philologist* (1887); *Vincigliata and Mariano* (1891); *The Orti Oricellari* (1893); *Echoes of Old Florence* (1894); *The Castle of Vincigliata* (1897); *The Cathedral Builders* (1899); and *Filippo di Ser Brunellesco* (1901). The *Cathedral Builders*, her most important work, is a scholarly and ingenious attempt to refer the medieval

architecture of Europe to the labors of a great masonic guild, the *Magistri Comacini*, but her theory has not met with much support from competent authorities.

Beckles, Edward Hyndman, English colonial prelate, born in Barbados in 1816; died Dec. 5, 1902. He was the son of the president of the island, and after obtaining an education at Codrington College, Barbados, he was admitted to the priesthood of the Anglican Church in 1844. A short curacy at Holy Trinity Church, Port of Spain, Trinidad, 1843-'44, was succeeded by the incumbency of several years of St. Michael's parish, Diego Martin, in the same island, and for six years of this period he was chaplain to the English forces there. He then passed a short time in England, holding brief curacies in London, but in 1853 became rector of St. Peter's, in the island of St. Kitts. In 1860 he was made Bishop of Sierra Leone, but he resigned his see in 1869, and, going to England, was successively minister of Berkely Chapel, London, 1869-'70; rector of Wootton, Kent, 1870-'73, and vicar of St. Peter's, Bethnal Green, London, 1873-1902. He had been incapacitated for active parish duty for several years preceding his death. In 1877-'82 he was supervising bishop of the Episcopal churches in Scotland.

Belcredi, Count Richard, Austrian statesman, born in 1823; died in Gmünden, Dec. 3, 1902. His family had been prominent in Austrian politics for several generations, and he had a brilliant administrative career, becoming Statthalter of Bohemia in 1864. In the following year he was made Prime Minister of Austria. He was the leader of the Feudal Conservative element, which promoted the federal system in Austria, and was placed at the head of the Government appointed to carry out this plan, but the defeat of the Austrian army brought the centralistic German party once more into power. His ministry was signalized by the suspension of the Constitution. The disastrous war with Prussia had for its result the return to a constitutional régime and the compromise with Hungary. Belcredi retired in 1867. In 1881 he was recalled from obscurity to the post of president of the Court of Administrative Justice and made a member of the House of Lords.

Bennett, Alfred William, English botanist, born in London, England, in 1833; died Jan. 23, 1902. He received his education at University College, London, and for many years was a lecturer on botany at St. Thomas's Hospital, London. He published (with G. Murray) a *Handbook of Cryptogamic Botany* (1889) and a valuable *Flora of the Alps* (1896).

Bennigsen, Rudolf von, German politician, born in Lüneburg, July 10, 1822; died Aug. 8, 1902. He studied law and entered the Hanoverian civil service in 1846, resigning his office in 1857 to take a seat in the lower chamber of the Diet, where he joined with Dr. von Miquel in founding the German National Union with the object of realizing the federation of the German states under the headship of Prussia with a strong constitutional Central Government. He endeavored to avert the annexation of Hanover to Prussia in 1866 by a declaration of neutrality, and after the incorporation was accomplished he strove all the harder to bring about German unity with popular parliamentary institutions, and the National Liberal party of which he was the leader extended its activity and organization to all parts of Germany. When the North German Federation was constituted in 1867 he was elected to the North German Reichstag and to the Prus-

sian House of Deputies, of which he was president from 1873 till 1879. The National Liberals supported Prince Bismarck's policy in all matters tending to strengthen and consolidate the empire, while defending the parliamentary system for Prussia as well as for the German Empire. In December, 1877, Bismarck invited Bennigsen to take a portfolio in the Prussian ministry, but he would not unless other Liberals were included and the policy of the Government modified. In 1886 he was appointed president of the province of Hanover. This office he resigned in 1897, and a year later he retired from the Reichstag, in which he had been a conspicuous and honored leader from the beginning.

Bentley, John Francis, English architect, born in Doncaster, England, in 1839; died in Clapham Common, March 2, 1902. At the age of fifteen he made a beautiful model of the old parish church of his native town. This church was soon afterward destroyed by fire, and on the occasion of its rebuilding young Bentley was placed in the office of the clerk of the works, his architectural education, in effect, beginning at this time. He began architectural practise on his own account in 1862, and the greater part of his work thereafter was executed for Roman Catholic patrons. His most notable design is the Roman Catholic cathedral at Westminster, on the site of the former Milbank Prison, an edifice of colossal proportions, its nave being the widest of any in England. It is a strikingly original conception, the treatment, according to the requirements of his commission, being Byzantine. Its exterior was left practically complete at the architect's death, save for the carving intended and the contemplated octagonal lantern of the lofty tower. The interior was very incomplete. Other works by this architect include the church and convent of the Immaculate Conception, at Bocking, Essex, in early middle pointed style, opened in 1899; the churches of the Holy Rood, at Watford; Corpus Christi, Brixton; and St. Mary, Kensal Green; Beaumont College, near Windsor; and the great Roman Catholic cathedral in Brooklyn, Long Island, N. Y. He also decorated the London Church of St. Botolph, Aldgate, and restored that of St. Botolph, Bishopsgate within. The Royal Institute of British Architects had decided to give him the royal gold medal, but his death occurred before it was received. Bentley was most emphatically an all-round architect; in all his commissions he designed and directed everything from foundation to smallest detail of decoration.

Bloch, Jean de, Russian reformer, born in Warsaw in 1832; died there, Jan. 7, 1902. He was a Polish Jew who became one of the largest builders of railroads in Russia, and a prosperous banker. In his leisure time he studied the modern works on political economy and evolved theories of his own in support of which he gathered a mass of historical and statistical evidence. The economic waste and the demoralization and deterioration of society caused by war attracted his attention, and then the scarcely less injurious effect of modern armaments in hindering progress and crippling the productive energy of European peoples, and he concluded that the armies and navies which were prepared for great wars, and which the great powers were still increasing, had already reached such a magnitude and the death-dealing weapons such a development that no Government would venture to break the armed peace for fear that destruction might befall its army, involving the fate of the whole nation, and that if a great war did result it

would wipe out the fruits of centuries of civilization. Hence he pleaded for the arrest and reduction of the costly armaments which hem back progress in the peaceful arts and general well-being, and argued in favor of total disarmament and the abolition of the system of the nation in arms. His theories and the evidence on which they are based were published in six large volumes entitled *La Guerre*. The Emperor was impressed with this work, in the preparation of which M. de Bloch spent eight industrious years, and he called the author into consultation before he made the proposals, prefaced by a suggestion of the limitation of armaments, which resulted in the Peace Conference in the summer of 1899. M. de Bloch was present at The Hague, and, although he was not a delegate, he had no little influence in bringing the conference to a successful issue by stimulating and encouraging with his enthusiasm the members who were in favor of arbitration. His work in abridged compass was published in English in 1900 under the title of *Modern Weapons and Modern War*.

Bonehill, Bessie (Mrs. William Seeley), English actress and singer, born in England in 1857; died in Portsea, Aug. 21, 1902. Her first appearance was in her own country when she was a child, and she was a favorite there for many years. In 1891 she came to the United States, appearing in vaudeville performances in New York city under the management of Tony Pastor. Her success was immediate, and she soon became as popular here as in England. After her engagement with Mr. Pastor she went back to London for two seasons, returning to the United States in 1893, under the management of J. J. Rosenthal, in a piece called *Playmates*. After this she appeared for several seasons throughout the States in musical comedy, burlesque, and vaudeville. She made a specialty of singing songs that told a romantic or pathetic story, and she nearly always sang them in picturesque male costume, illustrating the story in a dramatic and effective way. Her voice was a wonderfully rich and powerful mezzo soprano, and her face and figure were strikingly handsome. She was a brilliant impromptu speaker, and as an actress she had a charm that was as peculiar and original as it was potent. Her last appearance in this country was at Hyde and Behman's Theater, Brooklyn, N. Y., Nov. 26, 1900. After this engagement she purchased a country place, Deer Hill Farm, at Sayville, N. Y., intending to live there permanently, but she died while on a visit to her native land.

Booth, Sallie, English actress, born in London in 1839; died in Sydney, Australia, in March, 1902. Miss Booth was a lineal descendant of Barton Booth, the famous tragedian of Addison's day. She made her first appearance in 1843 at the benefit of her aunt (also Sallie Booth), at Drury Lane Theater, London. She appeared as *Rosalind* in *As You Like It* at the Haymarket Theater before she was twenty, and received high praise from Douglas Jerrold and other celebrated critics. At various periods she played as the support of Charles Kean, Charles Mathews, and other distinguished actors. In 1891 Miss Booth left Great Britain for the first time, to play in Jamaica, and finding traveling to her taste, she afterward made many tours to all parts of the world where English is spoken. In 1893 she played in Calcutta and Hong-Kong, and in numerous other Eastern cities. She traveled in the Orient four years, going as far inland as the Khyber pass. In 1898 she went to South Africa with George Edwardes's *The Little Minister* company, and later she made a second South African trip, playing in *What Happened*.

to Jones, in which play she also appeared in New York in 1900. Later in that year she went with Charles Arnold's company to Australia, where she was playing at the time of her death from the bubonic plague, which swept that country.

Botha, Christian, Boer soldier, born in the Transvaal; died in Kokstad, Griqualand West, Oct. 8, 1902. He led a commando into Natal at the beginning of the Transvaal war, and bore a prominent part in the investment of Ladysmith and the defense of the Tugela crossing. When the line was forced at last and Ladysmith relieved, he helped to hold the Biggarsburg, and retreated afterward with the rest of the Transvaalers to Laing's Nek, where his brother Louis Botha, the commandant-general, left him in command of the Boer forces on the Natal border on departing to defend the approaches of Pretoria against Lord Roberts. Chris Botha delayed Gen. Buller's advance several days by opening negotiations with him. After the fall of Pretoria he was assigned to the command of all the Boer forces in the southeastern part of the Transvaal, and by his raids into Zululand he created a diversion that enabled his brother and De Wet to prolong the conflict.

Bousfield, Henry Brougham, English prelate, born in 1832; died in South Africa, Feb. 10, 1902. He studied at Cambridge, and after taking orders in the Church of England in 1855 was curate of All Saints' Parish, Braishfield, Hampshire, 1855-'61; rector of St. Maurice's, Winchester, 1861-'70; and vicar of Andover, Hampshire, 1870-'78. In February of the last-named year he was consecrated Bishop of Pretoria, South Africa. During all the troublous years of his episcopate Bishop Bousfield kept aloof from politics, and after the outbreak of the South African War in 1899 he rendered many timely services to the English refugees. He published *Six Years in the Transvaal* (1886).

Brames, John, English philologist, died in Clevedon, Somerset, England, May 25, 1902, at the age of sixty-five. He was educated for the Indian colonial service at Haileybury College, and after being employed many years in the Punjab and Bengal, was appointed magistrate in the latter in 1867. In 1881 he became commissioner of the Bardwan division, and subsequently he had charge of the Bhagalpur and presidency divisions. He was president of the Police Revision Committee in 1890, and in 1893 he retired from the colonial service and returned to England. He was the author of *Outlines of Indian Philology* (1867); *Comparative Grammar of the Modern Aryan Languages of India* (1872-'79); and *Grammar of the Bengali Language* (1891).

Brandt, Kaethe, German actress, born in Berlin in 1878; died in New York, Jan. 12, 1902. She was connected with the stage from childhood, as her father was for many years stage director of the Hof Theater, Berlin. In the season of 1900-'01 she was a member of the stock company at the Hof Theater, Wiesbaden, where she achieved such success in emotional rôles that she was engaged to come to the United States for the season of 1901-'02. She made her American *début* at Irving Place Theater, New York (devoted to the German drama), Oct. 1, 1901, in *The Veiled Image of Saïs*, and immediately became a popular favorite. During the season she appeared in *Magda*, *The Night of St. Bartholomew*, *Dolly*, and *The Clemenceau Case*. She appeared for the last time in *The Marriage Market*, on the evening of Dec. 31, 1901, when she was suddenly taken ill. Miss Brandt was a grandniece of Richard Wagner, and at the time of her death

was betrothed to Albert Reiss, a German tenor of the Maurice Grau Grand Opera Company.

Brown, George Douglas, English novelist, born in Ochiltree, Ayrshire, Scotland, in 1869; died in London, Aug. 28, 1902. He was educated at the Universities of Glasgow and Oxford, and was first employed as a reporter for a London paper, and subsequently secured a place as literary adviser to a publishing house. His novel of *Scottish Life*, *The House with the Green Shutters*, published in 1902, attracted attention both in England and the United States, and displayed much ability.

Burton, Edmond Francis, English soldier, born in 1820; died near Cheltenham, England, May 23, 1902. He entered the East Indian army as ensign in the Madras native infantry, becoming lieutenant in 1842, captain in 1848, and major in 1861. He subsequently commanded in succession the Northern District of the Madras army, the Malabar and Canara Brigade (1878), the ceded districts (1880), and the British Banim Division (1882). In 1865 he was promoted to lieutenant-colonel, becoming colonel in 1870, and major-general in 1881. He retired in 1882, and after being placed on the unemployed supernumerary list, was appointed lieutenant-general in 1887 and general in 1891. Gen. Burton was the author of *Reminiscences of Sport in India* (1885); *An Indian Olio* (1888); and *Trouting in Norway* (1891).

Butler, Samuel, English author and composer, born in Langar, England, Dec. 4, 1835; died in London, June 19, 1902. His education was obtained at Shrewsbury School and at Cambridge. With Henry Festing Jones, Butler composed the cantata of *Narcissus* and many gavottes, fugues, and pianoforte numbers; but to the world in general he is better known as a brilliant and original writer in several fields. His published books include *A First Year in Canterbury Settlement* (1863); *Erewhon, or Over the Range* (1872); *The Fair Haven*, a purported defense of Christianity (1873); *Life and Habit* (1877); *Evolution, Old and New* (1879); *Unconscious Memory* (1880); *Alps and Sanctuaries of Piedmont and the Canton Ticino* (1881); *Luck, or Cunning as the Main Means of Organic Modification?* (1886); *Ex Voto: An Account of the Sacro Monto or New Jerusalem at Varello-Sesia* (1888); *Life of Dr. Samuel Butler, of Shrewsbury, and Bishop of Lichfield* (1896); *The Authoress of the Odyssey* (1897); *The Iliad of Homer*, rendered into English Prose (1898); *Shakespeare's Sonnets Reconsidered* (1899); *The Odyssey of Homer*, rendered into English Prose (1900), and *Erewhon Revisited* (1901). Butler was an artist of some merit, and exhibited for several years at the Royal Academy. One of his most noted pictures was entitled *Mr. Heatherley's Holiday*, representing the manager of an art school employing a holiday in repairing the school skeleton. As a master of irony Butler had few superiors, and his *Erewhon* approaches *Gulliver* in this respect more nearly than any other writing since *Swift*. *Erewhon Revisited*, in effect a vigorous attack upon revealed religion, has more coherence in the story than its predecessor, and the satire is much graver. *Fair Haven* is a masterly satire upon religious narrowness, but is accepted by many as an earnest defense of bigotry. Regarding Homeric authorship he held several amazing theories, apparently having intended a hoax in the first place, and ending by becoming converted to his own argument. He was naturally combative, and from the circumstance of his grandfather having had a wordy controversy with Darwin's grandfather, and his father having similarly engaged with the father of Dar-

win, he seems to have thought it incumbent upon him to perpetuate a kind of hereditary feud. His anti-Darwinian books, such as *Evolution*, *Unconscious Memory*, etc., were esteemed by him above his more brilliant works. They are thought-provoking, but hardly convincing.

Cairnes, William Elliot, English author and army officer, died in London, April 19, 1902. He received his lieutenant's commission in 1884, and was promoted to a captaincy in 1890. He was the author of the *Absent-Minded War*; *The Army from Within*; *The Coming Waterloo*; and *Lord Roberts as a Soldier in Peace and War*.

Callan, Philip, Irish politician, born in County Louth in 1837, died in Dublin, June 13, 1902. He was called to the Irish bar in 1865, and was elected to Parliament for the borough of Dundalk in 1868, when Isaac Butt was the Irish leader. Mr. Callan pleaded for the amnesty of Fenian prisoners. Charles Russell contested Dundalk unsuccessfully in 1870, successfully in 1874, whereupon Callan sought and won election as county member. When Charles Stewart Parnell began a policy of obstruction Mr. Callan hesitated only a short time before casting his lot with the new leader. His parliamentary experience and ready knowledge of the forms and his tireless flow of oratory made him the most formidable of the obstructionists. In 1885, when the franchise had been extended, the soundness of his political principles was called in question, and he was rejected by the Nationalist Convention. Nevertheless he determined to stand in opposition to Philip Nolan, whom Mr. Parnell came to support with his authority and eloquence. After the most tumultuous election that had taken place in Ireland, although Parnell was stoned, Callan was badly defeated. He contested North Louth again in 1892, supported by the Parnellite rump, against Timothy Healy, McCarthyite candidate, and was beaten again. In 1896 once more he strove in vain to reenter Parliament.

Casati, Gaetano, Italian explorer, born in Lombardy, in 1838; died at Como, March 7, 1902. He entered the Italian army as lieutenant in 1859, fought through the campaign of 1866, and retired with the rank of captain in 1879 to go to Africa to undertake commercial explorations. He traveled through the Bahr el Gazal into the Niam-niam and Monbuttu countries, returning in 1883 with Dr. Junker to be shut up with Emin Pasha at Lado, whom he helped efficiently to defend that place against the Mahdists until, in 1885, it became untenable, when Capt. Casati went south to Wadelai, where he hoped to open up friendly relations with Kabarega, King of Unyoro, and get letters through to the Europeans in Uganda. Kabarega showed a friendly disposition toward Emin and Casati, and the latter was in Unyoro in December, 1887, when Henry M. Stanley approached with a relief expedition. When the expedition inflicted severe losses on the Mazamboni warriors, subjects of Kabarega, who contested the passage through their country, the black King's feelings changed toward his guest, whom he held responsible for the invasion. Casati was cast into prison and condemned to death, but escaped and wandered about naked and starving until he was rescued by Emin. A few weeks later Stanley's expedition came to their relief. Casati returned to Italy and wrote a book describing his travels and adventures under the title *Dieci anni in Equatoria*.

Chamberlain, Sir Neville Bowles, English soldier, born in 1820; died near Southampton, Feb. 17, 1902. He was a son of Sir Henry Orlando Chamberlain, who sent him to Woolwich, but he

left abruptly to enter the Bengal army at the age of seventeen, and was immediately despatched in command of a troop of irregular cavalry to the Afghan war, in which he was wounded six times and so distinguished himself by his enterprise and valor that he was attached to the Governor-General's body-guard. He gained new laurels by his personal prowess in the campaign against the Sikhs, and subsequently as commandant of the Punjab frontier force. He commanded a mobile column in the Punjab at the beginning of the Indian mutiny, was afterward made adjutant-general of the army before Delhi, and was severely wounded in the siege. Two years later his successful rapid operations against the Waziris won for him the honor of knighthood. In 1863 he conducted another vigorous frontier campaign against the Bunerwals, and in leading the native soldiery in person to a difficult and dangerous assault he was again severely wounded, but the vital position of the enemy was captured by his plan and he was promoted major-general. From 1876 till 1881 he commanded the Madras army. He was sent on a mission to Shere Ali, Ameer of Kabul, and war resulted because the expedition was stopped at Ali Masjid, though the envoy himself, an adherent of Lord Lawrence's policy of masterly inactivity, deprecated any interference in Afghanistan. In 1900 he was made a field-marshal.

Cheyne, John Powles, British naval officer, died in Halifax, Nova Scotia, Feb. 8, 1902. He entered the navy in 1850, became a lieutenant in 1851, and retired with the rank of commander in 1870. He was an arctic explorer of experience, and took part in three expeditions in search of Sir John Franklin.

Chincholle, Charles Henri Hippolyte, French novelist, born at Chauny, France, July 16, 1845; died in Paris, Aug. 21, 1902. In his early years he was secretary to the elder Dumas, and occasionally collaborated with him. In 1872 he joined the staff of *Figaro*, and thenceforth remained in the service of that journal. He was a versatile, sympathetic, and ready writer, but his style was lacking in finish. He was the author of a one-act farce, *Oncle Margottin*, which ran 300 nights in 1870, and of *Le Mari de Jeanne* and other plays, while his published romances and other works include *La Plume au Vent* (1865); *Alexandre Dumas Aujourd'hui* (1867); *Les Pensées de tout le Monde* (1868); *Dans l'Ombre* (1871); *Le Lendemain de l'Amour* (1880); *Le Catalogue de l'Amour* (1881); *Paula, Histoire d'une Névrosée* (1882); *La Ceinture de les Survivants de la Commune* (1884); *Le Vieux Général* (1886); *Femmes et Pois* (1886); *La Grande Prêtresse* (1887), and *Biographe du General Boulanger* (1889).

Christich, Nicola, Servian statesman, died Jan. 25, 1902. He was the chief of the Progressist party and for long periods the most powerful political personage in Servia. He was Prime Minister before the abdication of King Milan in 1889. When the young King Alexander in 1894 suspended the Constitution, suppressed the regency, assumed the Government in person, and proclaimed an amended Constitution, Christich prompted the *coup d'état* and became Prime Minister, resigning in the following year.

Clarke, Sir Andrew, British military engineer and colonial statesman, born in Southsea, England, July 27, 1824; died in London, March 29, 1902. He was the son of Col. Andrew Clarke, who was the first Governor of Western Australia; studied at Woolwich; was commissioned second lieutenant of engineers in 1844; served a short time in

Ireland during the famine; was appointed to a position on his father's staff, but on the way to Perth was persuaded to remain in Van Diemen's Land as military secretary to the Governor, Sir William Denison; left there in 1847 for the Maori war in New Zealand, and served on the staff of Sir George Grey, Governor of that colony, till he was called to Victoria as Surveyor-General. He took a prominent part in framing the Constitution of Victoria, and when it went into force he was elected member for Melbourne in the Legislative Assembly and called into the first Cabinet as Minister of Public Lands in 1855. In 1857, when this ministry resigned, he declined to form a Cabinet and returned to England. In 1863 he was ordered to the west coast of Africa to plan operations against the Ashantis, but soon returned, and for nine years, as director of works for the navy, he was engaged in planning the reconstruction of the naval arsenals at Chatham; Portsmouth, and Plymouth, the fortifications at Malta and Cork, and the naval fortress and floating dock at Bermuda. In 1873 he was appointed Governor of the Straits Settlements, where he concluded in the following year with the Malay chiefs of Perak the treaty of Pangkor, by which they accepted British residents to rescue the country from the impoverishment and disorder that prevailed in consequence of fights among themselves and among the Chinese miners, who were induced to disarm. He next went to Siam and composed the quarrel between Chulalongkorn and the second King, who was persuaded to abandon his claim to rule. In 1875 he went to India as Minister of Public Works, and there, among other improvements, he secured a supply of fresh water for the soldiers that greatly reduced mortality from typhoid and lowered railroad rates so as to enable the Punjab to export wheat. He returned to England in 1881, and as no suitable colonial post was vacant he asked to be assigned to duty, though in the engineer corps he was only a lieutenant-colonel still. He organized a bridge-building company of trained mechanics. He was appointed inspector-general of fortifications in 1882, and completed the plans for imperial naval defense that he had begun nine years earlier, including the fortification of Colombo and Singapore. Retiring from the army as lieutenant-general in 1890, Sir Andrew Clarke, who had received the colonial order of knighthood in 1873, was twice an unsuccessful candidate for Parliament for Chatham as a Gladstonian home ruler, although an Ulster Protestant. The colony of Victoria appointed him agent-general in London, and he discharged the duties of that office till his death.

Clayden, Peter William, English clergyman, born in Wallingford, England, Oct. 20, 1827; died in London, Feb. 19, 1902. He was educated in private schools, and was successively pastor of Unitarian congregations in Boston, 1855-'59; Rochdale, 1860; and Nottingham, 1860-'68. He joined the staff of the London Daily News, and remained with that paper for the larger part of the time till 1896. In 1873 he established the Reading Observer, of which he disposed six years later. He was the author of *The Religious Value of the Doctrine of Continuity* (1866); *Scientific Men and Religious Teachers* (1874); *England under Beaconsfield* (1880); *Samuel Sharpe, Egyptologist* (1883); *The Early Life of Samuel Rogers* (1887); *Rogers and his Contemporaries* (1889); and *England under the Coalition* (1892).

Cluysemaer, Alfrid, Belgian painter, born in Brussels, Sept. 24, 1837; died there, Nov. 23, 1902. He was the son of a noted architect, under whose direction he first studied sculpture. The art of

painting attracted him, and after studying at the Academy of Art in Brussels he became a pupil of Léon Cognet and a student at the Paris Ecole des Beaux-Arts. In 1861 he exhibited a picture called *A Dominican Meditating*. He helped decorate the grand saloon in the Casino at Homburg for his father, and then traveled for five years in Holland, Germany, and Italy. In 1865 he exhibited at Brussels a large canvas representing the four horsemen of the Apocalypse. In 1872 he produced a *Mazeppa*, and next his *Vocation*, now in the Brussels Museum. He executed six large mural paintings for the University of Ghent. He exhibited other decorative designs later, but obtained few commissions.

Constant, Benjamin, French painter, born in Paris in 1847; died there, May 26, 1902. He studied in the Ecole des Beaux-Arts under Cabanel, and began to exhibit in the Salon in 1869. His painting was a scene from Hamlet, which he followed with other similar compositions, turning to dramatic subjects from Oriental life and history, which suited his bent for vivid coloring and for the nude. His mastery in flesh-tints led him into portrait-painting, and the coloring and dramatic treatment and majestic idealization of his subjects made him the fashionable painter of Paris and

London. Some of his Oriental pictures are *Mahomet II*; *Les Chérifas*; *Les Funérailles de l'Emir*; and *La Justice du Chérif*, which last is hung in the Luxembourg. He painted in Morocco *Les Favorites*; *Les Femmes du Caïd*; *Les Prisonniers Marocains*; *Le Roi du Désert*; *Une Danse d'Almée*; *La Tigre Favori*; and many interiors and seraglio views. Of religious subjects he treated the resurrection of Lazarus and the entombment of Christ. A large decorative painting represents the entry of Pope Urban II into Toulouse Cathedral. He painted many small landscapes from sketches made in all places where he studied, small marines, and views of Rome, Venice, New York, London, and other cities, none of which were known until about 80 of these smaller works and 140 large paintings were sold in London after his death. His portraits of Mrs. Walters and Madame Calvé were two of the most notable. A portrait of his son was bought for the Luxembourg. In the Salon of 1902 were hung portraits of Lord Savile and M. de Blowitz. He was commissioned to paint for reproduction in an illustrated journal a portrait of Queen Victoria with emblems and accessories suggestive of majesty and empire. This work was exhibited in the Salon of 1900 and in the exhibition of the British Royal Academy in 1901, where it was given an entire wall. He painted also a portrait of Queen Alexandra. Like some of the older artists, and unlike many of the younger generation, he finished his pictures in minute detail, but regarded most their harmonious effect and decorative value.

Cooper, Thomas Sidney, English artist, born in Canterbury, England, Sept. 26, 1803; died there Feb. 7, 1902. His early education was very slender. After some experience as a scene-painter, he

went to London, where he was admitted to the Royal Academy schools. In 1827 he went to Brussels, and became acquainted with the artist Verboeckhaven, whose style he adopted. He settled in London in 1831, where he exhibited at the Suffolk Galleries in 1833 and at the Royal Academy the next year. By this time he had become known as a painter of cattle and rural scenes, and his pictures, appearing regularly at the Royal Academy exhibitions, attracted much attention. He became an associate royal academician in 1845 and a full member in 1867. In 1882 he presented his native city with the Sidney Cooper Gallery of Art. He continued active in his profession till very shortly before his death, sending four pictures to the Royal Academy in 1901. He remained ever faithful to his earliest conceptions of what a picture should be, and his later paintings differ only in execution from his early ones. His style was neat, but essentially artificial, and was based on seventeenth-century traditions. His art was wholly lacking in the principle of growth; it pleased persons of simple tastes who delighted in highly finished canvases representing sunny meadows dotted over with grazing cattle, but it never displayed either fresh study of Nature or spontaneity, and at its best was but an extremely clever imitation. Cooper exhibited at the Royal Academy sixty-seven years without a break. His autobiography, entitled *My Life*, appeared in 1890.

Cornu, Alfred, French physicist, born in Chateaufort, Loiret, March 6, 1841; died April 11, 1902. He entered the Military School of Paris in 1860, and thence went to the School of Mines, which he left in 1866. One year later he was appointed Professor of Physics at the École Polytechnique, which chair he filled to the end of his life. Optics was his favorite study, and the pages of the *Compte Rendus* record papers of his on this subject as early as 1863. Following the work of Jamin, he investigated the relation between vitreous and metallic reflection, and showed that, while they affect different regions of the spectrum, they are but parts of one and the same phenomenon. Soon after receiving his professorship Cornu began those careful and laborious experiments on the speed of light-waves which have become classical. His method, although fundamentally the same as that of Fizeau, was carried out more carefully and with better apparatus, so that he secured a much greater degree of accuracy than his famous predecessor. He was awarded the *prix Lacaze* in 1878 for this work, and in the same year was admitted to the Académie des Sciences. In 1872 several papers of his on electrostatics, in which he discussed the potential theories of Gauss and Green, then little known in France, attracted wide attention. These researches were printed in Vol. I of the *Journal de Physique*. For the next few years he devoted himself to work on the spectrum. He accurately measured the wave-lengths of the hydrogen rays, and made important observations on atmospheric absorption in the spectrum. He was thus able to fix the inferior limit of the ultra-violet end of the spectrum at low elevations, and found that in the laboratory air is opaque to ultra-violet waves of a lesser length than 0.185μ . He did important and interesting work on meteorological optics. It was he who first pointed out the probable origin of the wonderful twilight glows observed in the sky toward the end of 1883 in the volcanic explosions of Krakatoa. They were due to the diffraction caused by the fine powders thrown up for miles into the atmosphere by the mighty forces of the volcano. He did important work on the optical constants of lenses, devised the optical lever for

the measurement of the curvature of lenses, and perfected the Jellet prism for polarimetric work. In conjunction with M. Baille he redetermined the constant of gravitation. Almost every branch of optics is indebted to him for some valuable research or ingenious instrument. He also did important work in connection with the electrical synchronization of clocks. He took part in the first electrical congress in Paris in 1881. He was twice president of the Académie des Sciences, twice president of the Société de Physique, and was unanimously elected president of the International Congress of Physics in 1900. In 1886 he became a member of the Bureau de Longitudes, and in 1900 of the International Commission of Weights and Measures. In 1878 he received the Rumford medal of the English Royal Society, and in 1899 the honorary degree of doctor of science from the University of Cambridge.

Cornwall, James, English educator, born in 1812; died in Sydenham Hill, England, Dec. 12, 1902. When the famous school established by Joseph Lancaster in the Borough Road, London, was reorganized with a training-school attached, under a Government act of 1846, Dr. Cornwall was its first principal. He resigned this post in 1856, and the rest of his life was passed in retirement. He possessed rare gifts as a teacher and lecturer, and was the author of many schoolbooks and manuals which, though now superseded by later works, were far in advance of their contemporaries. A school geography by him reached its nineteenth edition, and his latest work, *The Science of Arithmetic*, attained more than 20 editions.

Cowper, William Macquarie, Anglican clergyman, born in New South Wales, in 1810; died at Sydney, New South Wales, in June, 1902. He was a son of Archdeacon Cowper, for many years incumbent of St. Philip's, Sydney, and was graduated at Oxford in 1833. He was ordained to the priesthood in 1834, and was for a short period curate of St. Petros's parish, Dartmouth. Returning to Australia in 1836, he was for twenty years chaplain to the Australian Agricultural Company at Port Stephen, and in 1856 became president of Moore Theological College and incumbent of St. John's, Bishopsthorpe. He succeeded his father at St. Philip's on the latter's death, in 1858, and at the same time was appointed Dean of Sydney, and also archdeacon in his father's stead. In 1869 he left St. Philip's for the cathedral parish, of which he remained incumbent till his death. Dean Cowper was an authority on all matters pertaining to the Australian Church.

Cowrie, William Garden, Anglican prelate, born in Auchterless, Scotland, in 1831; died in Wellington, New Zealand, June 25, 1902. He was educated at Cambridge, in 1854 was ordained in the English Church, and served as chaplain to Lord Clyde's army at Lucknow in 1858, to Sir Neville Chamberlain's forces against the Afghans in 1863-'64, and to the camp of the Viceroy of India in 1863. He was rector of Stafford, England, in 1867-'69 and became bishop of New Zealand diocese of Auckland in the last-named year. From 1895 he was metropolitan of New Zealand. Bishop Cowrie published *Notes on the Temples of Cashmere*; *A Visit to Norfolk Island*; and *Our Last Year in New Zealand* (1887). He was active in promoting university education in New Zealand, and as governor of St. John's College was instrumental in making it an efficient training-school for the clergy. To his efforts are due the establishment of the Sailors' Home and the Institution for the Blind.

Cox, Sir George William, English historian, born in Benares, Hindustan, Jan. 10, 1827; died

in Walmer, England, Feb. 9, 1902. He was the son of an English army officer in India, and was educated at Oxford. After studying for the Anglican ministry he was admitted to the priesthood in 1851. After holding the curacy of Salcombe Regis, Devon, 1850-'51, and that of St. Paul's Church, Exeter, 1854-'57, he was an assistant master in Cheltenham College, 1860-'61. He was subsequently literary adviser to the London publishing house of Longmans, 1861-'85; vicar of Bekebourne, Kent, 1881; rector of Scrayingham, in the East Riding of Yorkshire, 1881-'97. For more than twenty years he was a frequent contributor to the *Edinburgh Review*, the *Saturday Review*, and other periodicals, and while joint editor with Prof. Brande of the *Dictionary of Science, Literature, and Art* he made many contributions to that work. On the death of an uncle in 1877 he succeeded to the baronetcy, but there was another claimant of the title. His histories, prepared to meet the needs of special occasions, probably have only ephemeral value, but they served well an immediate purpose and are accurate as well as readable. His life of Bishop Colenso is perhaps his most important piece of literary work. Its avowed purpose is to lay before the world a complete vindication of Colenso's words and acts, and to record that the bishop's method and conclusions find justifications in the series of judgments pronounced in the courts of the Established Church. Personally the biographer was in full sympathy with the opinions of the Bishop of Natal. He resigned the living of Scrayingham on account of failing health. His published books comprise *Poems Legendary and Historical* (with the historian Freeman) (1850); *Life of St. Boniface* (1853); *Tales from Greek Mythology* (1861); *The Tale of the Great Persian War, from Herodotus* (1861); *Tales of the Gods and Heroes* (1862); *Tales of Thebes and Argos* (1864); *A Manual of Mythology* (1867); *Tales of Ancient Greece* (1868); *The Mythology of the Aryan Nations* (1870); *Latin and Teutonic Christendom* (1870); *Popular Romances of the Middle Ages* (with E. H. Jones) (1871); *Tales of the Teutonic Lands* (with E. H. Jones) (1872); *A History of Greece* (1874); *The Crusades* (1874); *The Greeks and Persians* (1876); *The Athenian Empire*, issued in the *Epochs of Modern History* series, as were the two preceding volumes (1876); *A General History of Greece*, an enlargement of the earlier work (1876); *History of the Establishment of British Rule in India* (1881); *The Little Cyclopædia of Common Things* (1881); *An Introduction to the Science of Comparative Mythology and Folk-Lore* (1881); *Short Historical Anecdotes* (1882); *Lives of Greek Statesmen: Solon, Themistokles* (1885); *Concise History of England and the English People* (1886); *Lives of Greek Statesmen, Second Series: Ephialtes, Hermokrates* (1886); *The Life of John William Colenso, Bishop of Natal* (1888); *The Church of England and the Teaching of Bishop Colenso* (1888). His *Little Cyclopædia of Common Things* was simply a bold appropriation, bodily, of the *Young Folks' Cyclopædia of Common Things*, which was devised and written by John D. Champlin, and was published in New York in 1880.

Croke, Thomas William, Irish Roman Catholic prelate, born in Mallow, County Cork, May 19, 1824; died in Thurles, July 22, 1902. He was the son of a prosperous farmer, and although his mother was a Protestant, his uncle, who took charge of his education and destined him for the priesthood, sent him to the Irish College at Paris in 1838, where he remained till he was twenty, after which he spent a year in the seminary at

Menim, in Belgium, and finished his ecclesiastical training with three years of study in the Irish College at Rome, where he took the degree of doctor of divinity in 1848 and was ordained priest. Returning to Ireland, he was Professor of Rhetoric in the diocesan college at Carlow, which he left to take the chair of Theology in the Irish college at Paris, from which he went back to his native diocese as a missionary priest. He was assigned to the presidency of St. Colman's College, at Fermoy, in 1858, and filled that position till 1865, when he resumed pastoral work as parish priest of Doneraile. In 1870 he was appointed Bishop of Auckland, New Zealand, and in 1875 he was recalled to Ireland to be Archbishop of Cashel and Emly. The parish priests of the see, whose own three nominations had all been disregarded by the Holy See by advice of Cardinal Cullen, had no welcome for their cosmopolitan and unknown metropolitan until he won the hearts of the people and the name of the patriot archbishop by a rousing Irish speech at the O'Connell centennial celebration in 1875. Dr. Croke had once taken an interest in Irish politics, while he was a curate in the Cloyne diocese, entering into Gavan Duffy's agitation for fixity of tenure, fair rents, and free sale, and when that brief movement was destroyed by jealousy and chicanery he declared that he would never engage in another agitation for national independence or land reform. In 1879 he was induced by Charles Stewart Parnell to give his support to the Land League, and became the most earnest and active Land Leaguer in the Roman Catholic hierarchy. He condemned the no-rent manifesto, thinking a refusal to pay taxes to the Government, not the refusal to pay rent to landlords, the proper answer to the proscription of the Land League. Still he clung to the cause and advocated a national testimonial to Parnell, unmoved by a papal rebuke. When a scandal in Parnell's private life was disclosed in the courts Dr. Croke drew up an address to the Irish people declaring that Mr. Parnell was unfit to be their leader, and all the members of the hierarchy signed it simultaneously with Mr. Gladstone's demand for the deposition of the head of the home-rule party for his immorality. After that Dr. Croke withdrew from politics and declined every appeal to him to try to settle the differences between Parnellites and anti-Parnellites and between O'Brienites and Healyites. Dr. Croke, a man of great stature and powerful build, who in his young days was a champion jumper and noted in hurling and football, took a keen interest in the national sports and pastimes of the Irish people, and in 1885 accepted the presidency of the Gaelic Association for the revival of old Irish games. Despite his scholastic training, he had a contempt for pedantry and little taste for dry learning. He was a man of action, engrossed in the life of the present and the development of the future, and was exceedingly hospitable and companionable, with a fund of Irish humor.

Dalou, Jules, French sculptor, born in Paris in 1838; died there, April 15, 1902. He studied under Abel de Pujol, Duret, and Carpeaux, having entered the *École des Beaux-Arts* in 1853. In 1861 he exhibited the *Dame Romaine jouant aux Osselets*. He joined the Commune, and was instrumental with Barbet de Jouy in saving the art collections of Paris. When the Versailles Government triumphed he fled to London. In 1873 he returned and exhibited once more at the Salon. One of his famous works is a bas-relief in the *Palais Bourbon* representing Mirabeau replying to M. de Dreux-Brézé. Another is the *Triomphe*

de la République, erected in the Place de la République in 1899. A bronze group entitled *Triomphe de Silène* is placed in the Luxembourg gardens. He made a statue of Victor Noir that was greatly admired, and just before his death he completed one of Gambetta.

Dalziel, George, English wood-engraver, born in Northumberland in 1816; died in Hampstead, Aug. 7, 1902. He was the son of an artist and was a master of his branch when he established himself in London, where he was joined by his two brothers, whom he took into partnership. The Dalziels led in the movement for illustrated books, engaging the ablest artists in England to draw the blocks for them to engrave. These books and pictures exemplifying the highest achievement of the art of illustration and wood-engraving in Great Britain are now sought by art collectors. Birket Foster's *Pictures of English Landscape* they printed in 1863, and in 1864 *Parables of Our Lord*, with drawings by Millais. In 1865 they published the *Arabian Nights* with a multitude of illustrations drawn by Boyd, Houghton, Millais, Tenniel, Pinwell, and Thomas Dalziel. The last of the famous books on which artists and engravers worked in harmonious co-operation was the *Bible Gallery*, printed in 1881, to which Ford Madox Brown, Frederick Leighton, Frederick Sandys, Edward Poynter, Edward Burne-Jones, and Simeon Solomon contributed. Many of their engravings appeared in *Good Words*, *Once a Week*, and other magazines.

Damour, M., French mineralogist, born in Paris, July 19, 1806; died there, Sept. 21, 1902. He early became a director in the Department of Foreign Affairs, but in 1854 resigned his office to devote his time to scientific research. He made many voyages for the purpose of scientific exploration to Central America and to the Antilles. He left an unusually extensive and rich collection of instruments of the stone age. He was named a correspondent of the French Academy of Sciences in 1862, and a *membre libre* in 1878. He had been an officer of the Legion of Honor since 1854. One of his most important memoirs was that on the *Composition des haches en pierre trouvées dans les tombeaux celtiques et chez les tribus sauvages*.

Davidson, Andrew Bruce, Scottish scholar, born in Ellon, Scotland, in 1840; died Jan. 26, 1902. He was educated at Marischal College, Aberdeen, and after studying for the ministry of the Free Church of Scotland, was ordained in 1863. In the same year he became Professor of Hebrew, and he held that office at the time of his death. He had long been accounted in the first rank of Hebrew scholars, and was a member of the Old Testament Revision Committee. He published a *Commentary on the Book of Job* (1862); *Introductory Hebrew Grammar*, a standard authority (1874); and *Hebrew Syntax*.

Dearden, Henry Woodhouse, English clergyman, born about 1829; died in Cambridge, England, Feb. 24, 1902. He was educated at Trinity College, Dublin, and was ordained to the priesthood in 1854. He was curate of Platts, Kent, in 1853-'55, and of Loose, near Maidstone, in the same shire, 1855-'60. From 1860 to 1877 he was vicar of St. Paul's parish, at Maidstone; incumbent of St. John's, Upper Holloway, 1877-'87; and from 1887 to 1893 he held a living in Southborough, Kent. He retired from active duties in the year last named, but in more recent years assisted as curate in the Church of St. Sepulcher, Cambridge. He was a strong evangelical in his sympathies, and his *Church Teaching* (1896) has been widely circulated among Low Church-

men. He was also the author of a book entitled *Modern Romanism*.

Desboutin, Marcellin, French engraver, born in 1823; died in Nice, Feb. 18, 1902. He was educated for the law and obtained his university degree, but instead of following that profession he entered the studio of Couture in 1847, and when he left that master he went to Italy and remained eighteen years. On his return to Paris he painted portraits in a most effective manner, one of himself being in the Luxembourg. His chief fame, however, rests on his engravings, notably dry-paint portraits of many celebrated artists and writers, and his reproduction of the *Fragonards of Grasse*. He was also a dramatic poet, author with Jules Amigues of *Maurice de Saxe*, produced in 1870, a drama in verse. His *Cardinal Dubois* and *Madame Roland* have not yet been acted.

De Vere, Aubrey Thomas, Irish poet, born in Limerick, Ireland, Jan. 10, 1814; died there, Jan. 21, 1902. He was the third son of Sir Aubrey De Vere, a distinguished poet, and received his education at Trinity College, Dublin. He was trained in the Protestant faith, but in 1851 became a Roman Catholic. De Vere's poetry was much admired by the poets of the elder generation who were his contemporaries, and it has also won the praise of the more scholarly and thoughtful poets of to-day; but it makes no strong appeal to the average reader. As a prose writer he was both animated and suggestive, and his essays, whether political or purely literary, are worthy of careful reading. His work in verse includes *The Waldenses* (1842); *The Search after Proserpine*, a classical masque, and *Other Poems* (1843); *Poems: Miscellaneous and Sacred* (1853); *May Carols, or Ancilla Domini* (1857-'81); *The Sisters, Innisfail, and Other Poems* (1861); *The Infant's Bridal, and Other Poems* (1864); *Irish Odes, and Other Poems* (1869); *Legends of St. Patrick* (1872); *Alexander the Great: A Dramatic Poem*, often compared to Henry Taylor's *Philip Van Artevelde* (1874); *St. Thomas of Canterbury: A Dramatic Poem* (1876); *Antar and Zara* (1877); *Legends of the Saxon Saints* (1879); *St. Peter's Chains, or Rome and the Italian Revolution* (1880); *The Foray of Queen Meave and Other Legends of Ireland's Heroic Age* (1882); *Legends and Records of the Church and the Empire* (1887). In prose De Vere published the following volumes: *English Misrule and Irish Misdeeds* (1848); *Pictureque Sketches of Greece and Turkey* (1850); *Ireland's Church Property and the Right Use of It* (1867); *Pleas for Secularization* (1867); *The Church Establishment of Ireland* (1867); *The Church Settlement of Ireland, or Hiberna Pacanda* (1868); *Proteus and Antæus: A Correspondence* (edited) (1878); *Constitutional and Unconstitutional Political Action* (1881); *Ireland and Proportional Representation* (1885); *Essays, Chiefly on Poetry* (1887); *Essays, Chiefly Literary and Ethical* (1889); and *Recollections* (1897).

Doel, James, English actor, born in Maiden Bradley, England, in 1804; died in Plymouth, England, Aug. 29, 1902, being then the oldest actor of the English-speaking stage. He made his theatrical *début* at the Adelphi Theater, London, in 1820, and his last appearance was at a performance for his benefit in London, in 1892. He was a contemporary of Edmund Kean, of Macready, and of Phelps, and in many of the famous old English stock companies he appeared in support of nearly all the celebrated actors of the last century. He acted the *First Gravedigger* to Edmund Kean's *Hamlet*, and was the *First Witch* in

Macready's production of *Macbeth*. His theatrical experience went as far back as a performance of *The Hunchback*, when he acted Fathom to the Master Walter of Sheridan Knowles, author of the play. He also appeared in support of Charlotte Cushman and Fanny Kemble. After he left London he became the manager of a theater in Devonport, and in a few years he owned a circuit of theaters in Torquay, Exeter, and Teignmouth. All the famous actors of the day appeared in those theaters, including Mme. Vestris and Charles Mathews, who played under his management just after their marriage. In his later years Mr. Doel became the idol of the theatrical profession in his own country, and in 1897, at the time of the great jubilee, Queen Victoria showed him special honor, as being the oldest living English actor.

Dunkin, Bryan, English engineer, born in 1835; died March 4, 1902. He was educated at University College, London, and at the *École Centrale des Arts et Métiers*, in Paris. He was then apprenticed in the large paper-making machinery works of his uncle at Bermondsey. In 1868 he became a partner in the firm. His claim to scientific recognition rests on his experimental work in thermodynamics. He carried out extensive researches on the action of the steam-engine and devised the "steam-revealer" that bears his name. In his later years he gave much attention to internal-combustion motors, and wrote a work on the Gas-Engine. He also translated Diesel's book on *The Theory and Construction of the Rational Heat Motor*.

Donnelly, Sir John Fretcheville, English military engineer, born in 1834; died April 5, 1902. He will be best remembered for his promotion of governmental schemes of scientific education. He served in the Crimean War as a lieutenant of engineers, and after it was appointed to the charge of a detachment of the same body quartered at South Kensington Museum, London. About 1869 he succeeded Lord Playfair as inspector of science. He was an indefatigable worker in extending the usefulness of the department of science at the museum, which now has more than 2,000 classes, attended by 160,000 students. He assisted in reorganizing the old Royal College of Chemistry, in Oxford Street and the School of Mines in Jermyn Street, which in 1890 became the Royal College of Science. It was largely through his untiring perseverance that the grant of £200,000 was obtained for the completion of the science and art buildings at South Kensington.

Dosabhoj, Framjee, Indian official and journalist, born in Sairat, May 18, 1830; died in Bombay, March 17, 1902. He was a Parsi, and was educated in the Elphinstone Institution and the College of Bombay, received a Government clerkship, resigned to devote himself to journalism, and in five years became manager of the *Bombay Times*, being the first native to manage an English newspaper. When the gag act was passed in 1857 he was appointed censor of the vernacular press. In 1864 he was made a magistrate. He was the first native chairman of the corporation of Bombay. In 1858 he visited England to publish a book on *The Parsis*.

Duckett, Sir Floyd, English archaeologist, born in 1811; died May 13, 1902. He was widely known for his archaeological researches, and received in 1893 the special gold medal of honor from France in acknowledgment of his services in archaeology. Besides many antiquarian publications, such as the *Record Existence of the Order of Cluni in England*, he was the author of a

Technological Military Dictionary (1848) in German, English, and French, which gained him gold medals from Austria, Prussia, and France, and *Reminiscences* (1894). In 1888 he was appointed an officer of public instruction in France. Sir Floyd was educated at Harrow and at Oxford, and succeeded his father as third baronet in 1856.

Dufferin and Ava, Frederick Temple Hamilton-Temple Blackwood, Marquis of, Irish diplomatist and author, born in Ireland, June 21, 1826; died in Clanboye, County Down, Ireland, Feb. 12, 1902. His mother, Lady Dufferin, was a granddaughter of Richard Brinsley Sheridan, and was well known as a poet. The son was educated at Oxford. He was sent on a Government mission to Vienna in 1855, and to Syria in 1859-'60. He was Under-Secretary of State for India in 1864-'66; and Under-Secretary of War for India in 1866; chancellor of the Duchy of Lancaster in 1868; and Governor-General of Canada in 1872-'79. He was appointed ambassador to Russia in 1879, and to Turkey in 1881, special commissioner to Egypt in 1882, and Governor-General of India in 1884. He served as ambassador to Italy in 1888, to France in 1891, and was lord warden of the Cinque Ports in 1891-'96. Harvard University gave him the degree of LL. D. in 1878, and he was lord rector of St. Andrew's University in 1890-'93. His writings comprise *Letters from High Latitudes* (1856); *Irish Emigration and the Tenure of Land in Ireland* (1867); *Mr. Mill's Plan for the Pacification of Ireland Examined* (1868); *Speeches and Addresses* (1882); and *Speeches delivered in India* (1890).

Durand, Mme. Alice Mary Céleste (Fleury), "Henri Gréville," a French novelist, born in Paris, Oct. 12, 1842; died there, May 26, 1902. She was educated at home, and when at fourteen she accompanied her father, Prof. Fleury, to St. Petersburg, she was familiar with several languages. She began early to write novels and tales of Russian life, and this she continued to do after her marriage with M. Durand, a French Professor of Law. On her return to France in 1872, Mme. Durand began to contribute to the *Revue des Deux Mondes*, *Le Temps*, and other high-class periodicals. In 1886 she visited the United States with her husband, and several of her novels, republished in this country, were widely read here. Her published books, which appeared with the pseudonym Henri Gréville, include *A Travers Champs* (1872); *Dosia* (1876); *L'Expiation de Savelli* (1876); *La Princesse Ogheff* (1876); *Les Koumissassine* (1877); *Suzanne Normis* (1877); *Sonia* (1877); *La Maison de Maurèze* (1877); *Nouvelles Russes* (1877); *Les Épreuves de Raissa* (1877); *L'Amie* (1878); *Le Violon Russe* (1879); *Cité Ménard* (1880); *L'Héritage de Xénie* (1880); *Le Moulin Frappier* (1880); *Les Degrés de l'Échelle* (1881); *Madame de Dreux* (1881); *Perdue* (1881); *Le Fiancé de Sylvie* (1882); *Rose Rozier* (1882); *Une Trahison* (1882); *Manuel d'Instruction Civique et Morale des Jeunes Filles* (1882);

Angèle (1883); *L'Ingénue* (1883); Louis Breuil (1883); *Un Crime* (1884); *Les Ormes* (1884); *Idylles* (1885); *Clairefontaine* (1885); *Le Mors aux Dents* (1885); *Cléopâtre* (1886); *Le Comte Xavier* (1886); *La Fille de Dosia* (1887); *Nicanor* (1887); *Frank* (1887); *Comédies de Paravent* (1888); *Le Seconde Mère* (1888); *L'Avenir d'Aline* (1889); *Chant de Noces* (1889); *Le Passé* (1890); *Un Mystère* (1890); *Aurette* (1891); *Péril* (1891); and *L'Héritière* (1891).

Escobedo, Mariano, Mexican soldier, born in 1827; died in Tacubaya, May 22, 1902. He was originally a muleteer. In the war with the United States he was an active guerrilla chief who attacked small detachments of the American army and fought with his band in the battles of Palo Alto and Resaca. In the war against the Clericals and French he raised a body which fought the troops of Gen. Miramon, was commissioned colonel in 1859, and advanced to brigadier-general in 1861, when the Government of Gen. Juarez was established, and pursued the remnant of the Clerical forces under Gen. Marquez and Gen. Mejia, but was captured by the enemy, and escaped with difficulty when ordered to be shot. He took part in most of the engagements with the invading French forces, fled to Texas when the empire was established, organized and equipped an expedition among the refugee republicans with which he entered Mexico in 1865 and swept all before him, was appointed by President Juarez commander-in-chief of the Army of the North, continued his victories until all the principal cities were in the hands of the Republicans, and finally received the surrender of the Emperor Maximilian at Queretaro on May 15, 1867. He quelled an uprising against the Government of Juarez in 1874, and when a revolution was started by Gen. Diaz he was appointed Secretary of War to organize resistance, in which he was unsuccessful. Taking refuge in Texas, he issued a manifesto calling for volunteers to overthrow the Government of President Diaz. He was arrested and tried when he returned to Mexico later, and though acquitted, he was held in confinement until he obtained his liberty in 1879 by pleading ill health and went to New York. Returning to Mexico later, he was appointed to a Government office, which he resigned in 1883.

Eyre, Charles, Roman Catholic prelate, in Scotland, born in Arkan, Bryan Hill, York, in 1817; died in Glasgow, March 28, 1902. He studied for the Roman Catholic priesthood at Ushaw College, Durham, and at Rome, becoming assistant priest at St. Andrew's, in Newcastle, in 1843, and senior priest of the cathedral in the same city in 1849. In 1857 he was appointed archbishop for the western district of Scotland, receiving the title of Archbishop of Glasgow. In 1874 he founded a diocesan seminary at Glasgow for the study of philosophy and theology. Archbishop Eyre was well known as an antiquary. He was the author of *The History of St. Cuthbert* (1849); *Children of the Bible*; and *Papers on the Old Cathedral of Glasgow*.

Faed, John, Scottish artist, born in Burley Mill, Kirkcudbright, Scotland, in 1820; died in Gatehouse-of-Fleet, Scotland, Oct. 22, 1902. He became a miniature painter when little more than twelve years old. At nineteen he went to Edinburgh, and, establishing himself there as a miniaturist, soon met with great success. In a few years he sent for his brother Thomas to study art, which the younger man did to such good purpose that he became famous as a genre painter. He died in 1901. Another brother presently went to

Edinburgh, to be known later as James Faed, the engraver. John Faed began to exhibit at the Royal Scottish Academy in 1841, and about this time took up oil-painting. In 1848 he was elected an associate of the Scottish Academy, and he became a full member in 1851. His subjects were found in history, the poets, and homely country life, his early training as a miniaturist making itself apparent in his canvases in great precision of outline, and his paintings, while always carefully drawn, are somewhat hard in color. Among noteworthy pictures by him are *Boyhood* (1850); *The Cruel Sisters* (1851); *The Cottar's Saturday Night* (1854); *Reason and Faith* (1855); *Job and his Friends* (1858); *Boaz and Ruth* (1860); *Rosalind and Orlando*; *Olivia and Viola*; and *Shakespeare and his Contemporaries*. In 1862 Faed removed to London, where he resided eighteen years, exhibiting regularly at the Royal Academy. Such works as *John Anderson, my Jo*, *The Morning before Flodden*, *The Old Basket-Maker*, and *Annie's Tryst* belong to the period of his London sojourn. He retired to Gatehouse in 1880, but still continued to paint, several pictures of the scenery along the Fleet being numbered among the works of his latest years.

Faye, Hervé Auguste Étienne, French astronomer and meteorologist, born in Saint-Bénott-du-Sault, Indre, Oct. 5, 1814; died in Passy, July 4, 1902. He entered the Polytechnic School, but soon left his studies to take charge of a large industrial establishment in Holland. He first came prominently before the scientific world in November, 1845, as the discoverer of the comet that bears his name. He was at this time an assistant in the Paris Observatory. In cosmical physics and chemistry he was a pioneer, and if his theories have not always been justified by later research, they are always philosophical and suggestive. Indeed, his philosophic writings are those on which his reputation among his own countrymen chiefly rests. He wrote several volumes, the two best known of which are *Sur l'Origine du Monde* and *Cours d'Astronomie Nautique*. He was called by Marshal MacMahon to fill the office of Minister of Instruction in his Cabinet.

Filhol, Pierre Antoine Henri, French naturalist, born in Toulouse in 1843; died April 28, 1902. He was the son of the famous chemist Édouard Filhol, studied medicine, and obtained his degree at an early age. He soon became a close student of paleontology and comparative anatomy, and in 1863 made his first contribution to science in a paper, *L'Âge de la Pierre dans les Cavernes de la Vallée de Tarascon (Ariège)*, published in the *Compte Rendus*, LVII. He was a member of the French Commission sent out to study the transit of Venus in 1875. In 1876 he received the Lalande-Guerineau prize of the French Academy of Sciences; was awarded the gold medal of the Scientific Congress of the Sorbonne in 1879; the Petit-d'Hormoy prize in 1883; and received the decoration of the Legion of Honor in 1886. He at one time held the chair of Zoology in the Faculty of Sciences of Toulouse. In 1885 he became subdirector, and subsequently director, of the Museum of Natural History in Paris, and was finally appointed to the professorship of Comparative Anatomy, which post he held until his death. Among his most important scientific memoirs are *Recherches sur les Phosphorites du Quercy*; *Études des Mammifères Fossiles de Saint Geraud le Puy (Allier)*; *Étude des Mammifères Fossiles de Ronzon*; *Études sur Mammifères Fossiles de Sausan*; *La Vie au Fond des Mers*; *Faune des Crustacés de la Nouvelle-Zélande*; *Zoologie Descriptive*, and, in conjunction with M.

Grandidier, *Observations Relatives aux Ossements d'Hippopotames trouvés dans le Marais d'Amboliatra à Madagascar*. Also, the catalogue of the Royal Society mentions more than 50 papers of his published before 1883.

Footman, Henry, English clergyman and author, born in Ipswich, England, in 1831; died Dec. 3, 1902. He was educated at Cambridge, prepared for the Anglican ministry, and was admitted to the priesthood in 1871. He was curate at Hungerford, 1871-'73, and at Kensington, 1873-'75; vicar of Lambourn, 1875-'78; curate at St. George's, Camden Hill, London, 1878-'80; vicar of Shoreditch, London, 1880-'81; and vicar of Notten from 1881 till his death. In 1897 he received a canonry in Lincoln Cathedral. Canon Footman was twice select preacher at Cambridge, and was often invited to preach at Westminster Abbey. He was a moderate High Churchman, actively interested in social and economic questions, and was a vigorous preacher. He was the author of *Life: Its Friends and Foes* (1873); *From Home and Back, or Some Aspects of Sin as seen in the Light of the Parable of the Prodigal* (1876); *The Eloquence of the Cross* (1877); *Nature and Prevalence of Modern Unbelief* (1881); *Reasonable Apprehensions and Reassuring Hints* (1883), a work that has been widely circulated; *Ethics and Theology* (1887); and *Aspects and Retrospects* (1897).

Francisco d'Assisi, ex-King of Spain, born May 13, 1822; died April 17, 1902. Don Francisco was the son of the Infante Francisco de Paula, Duke of Cadiz, a brother of King Ferdinand VII, and of the Infanta Luisa, daughter of Francis I, King of the Two Sicilies. He was married on Oct. 10, 1846, to Queen Isabella II, his cousin, who bestowed on him the title of King by courtesy, and appointed him captain-general of the army. His army rank also was merely titular, for he had no gift for either military affairs or for government, but was of a religious bent, and his marriage proved an empty form, for the youthful Queen of Spain could not endure him, and he lived most of the time in retirement in the cloister of Calatrava. He accompanied the Queen in 1868 when she went to San Sebastian to arrange a treaty with the Emperor Napoleon III for the despatch of Spanish troops to Rome for the protection of the Pope in case the French garrison were withdrawn in the event of a war between France and Germany. The revolution which broke out in Cadiz simultaneously with the meeting of the monarchs compelled Queen Isabella to flee the country. She went with her consort to Paris, where in 1870 she formally abdicated in favor of her son Alfonso. At the same time she arranged a separation from her husband, allowing him an income on which he lived in a fine villa at Epinay, while she maintained a large mansion in Paris.

Fuchs, Lazarus, German mathematician, born in Moschin, Posen, May 15, 1833; died April 26, 1902. He early devoted his attention to mathematics, and became extraordinary professor at Berlin in 1866, ordinary professor at Greifswald in 1869, at Göttingen in 1874, at Heidelberg in 1875, and finally at Berlin in 1884. He is chiefly famous for his work in connection with the theory of linear differential equations, to the study of which he attracted attention by his famous memoir published in *Crelles Journal* (vol. lxvi). Among his important contributions to mathematical literature are his researches on linear equations with algebraic integrals, on constructing linear equations the integrals of which have assigned singularities, and on equations the integrals of which have algebraic relations.

Gace, Frederick Aubert, English clergyman, born in 1811; died in Barling, England, Dec. 10, 1902. He was graduated at Oxford in 1837, and was admitted to the priesthood of the Anglican Church in 1838. After serving as curate in several places, was appointed chaplain of the Westminster House of Correction in 1854, and head master of Camberwell Grammar School, London, in 1860. In 1863 he received the living of Barling Magna, Essex, and was rector there until his death. Although holding advanced High-Church opinions, he resembled Dr. Pusey in his indifference to points of ritual, and insisted on preaching in the black gown to the last. In 1870 he published *Some Questions of the Church Catechism and Doctrines Involved*, briefly Explained, a work that excited much attention and was wittily paraphrased in *Punch*. His other published works are *A Complete View of the Holy Eucharist, Doctrinal, Practical, and Controversial* (1871); and *The Arithmetic of Abstract Numbers* (1875).

Gagneur, Mme. Marie Louise (Mignerot), French novelist, born at Domblans, in the Jura, France, about 1831; died in Paris, Feb. 17, 1902. She began to write early, and an essay by her upon trades-unionism, written at eighteen, attracted the notice of Vladimir Gagneur, a member of the Chamber of Deputies, who shortly afterward married her. She was an ardent republican even in the days of the third empire, and her various romances were extremely popular, especially with the socialists and anticlericals. She had an easy, fluent style, and her pages were not lacking in partizan vigor and color. For several years before her death she had been ranked among the most gifted of the Frenchwomen of the last half-century, and in 1901 she received the decoration of the Legion of Honor. Her writings comprise *Une Expiation* (1859); *Un Femme hors Ligne* (1862); *Un Drame Electoral* (1863); *La Croisade Noir* (1865); *Le Calvaire des Femmes* (1867); *Les Réprouvés* (1867); *Les Forçats de Mariage* (1869); *Chair à Canon* (1872); *La Politique au Village* (1874); *Les Droits du Mari* (1876); *Le Roman d'un Prêtre*, which, appearing in weekly instalments in a Paris journal, was seized by the press censors at the nineteenth instalment (1876); *Le Divorce* (1877); *Les Vierges Russes* (1880); *La Fournaise* (1884); *Jean Caboche*; *Les Chevaliers du Sacristie*; and *M. le Baron Pirouette*.

Gardiner, Samuel Rawson, English historian, born in Ropley, Hampshire, England, March 4, 1829; died in Sevenoaks, Kent, Feb. 24, 1902. He was educated at Winchester and Oxford, but resigned his studentship in the university in his junior year upon finding that a degree would not be conferred on him on account of his having become an Irvingite. More than thirty years later he received his degree. He married and settled in London, and soon began the great task he had set himself, the preparation of a history of England from 1603 to 1689. Not being possessed of independent means, he was obliged during the continuance of this undertaking to engage in teaching, and his non-professional hours were all that he was able to devote to research and writing. He was Professor of History at University College, London, in 1871-'85, historical lecturer for the University Extension Society in 1880-'94, Ford lecturer at Oxford in 1896, and examiner in history for London University till 1901, and examiner in the Final History School at Oxford in 1888-'89. The first instalment of his history appeared in 1863, entitled *A History of England from the Accession of James I to the*

Diagnose of Chief-Justice Coke, 1603-'16. It was followed by Prince Charles and the Spanish Marriage, 1616-'24 (1869); A History of England under the Duke of Buckingham and Charles I, 1624-'28 (1875); The Personal Government of Charles I, 1628-'37 (1877); The Fall of the Monarchy of Charles I, 1637-'42 (1881).

Each instalment filled 2 volumes, and a second edition in 10 volumes, bearing the title A History of England from the Accession of James I to the Outbreak of the Civil War, was issued in 1883. The history was at first very coldly received by the public, the successive volumes having scarcely any sale; but, wholly unde-

terred by this circumstance, the author took up the second division of his task, A History of the Great Civil War, 1642-'49, which appeared at intervals from 1896 to 1891. The third and last division, A History of the Commonwealth and the Protectorate, 1649-'60, appeared in 3 volumes, 1884-'91. Two more had been originally contemplated, but Prof. Gardiner decided to conclude with the death of Cromwell, instead of with the Restoration, and thus bring this portion of the book within the limits of 4 volumes. The fourth volume he had arranged with his literary executor, Dr. Firth, to complete. In addition to his great work Prof. Gardiner published The Thirty Years' War (1874), The First Two Stuarts and the Puritan Revolution (1876), both contributions to the Epochs of Modern History Series; Outline of English History (1881-'83); Introduction to English History (with B. Mullingar) (1881); A Student's History of England (1884); Constitutional Documents of the Puritan Revolution (1888); Cromwell's Place in History (1897); What Gunpowder Plot Was (1897); Oliver Cromwell (1899). He edited Letters and Papers Illustrating the Relations between Charles II and Scotland in 1650 (1894); Letters and Papers relating to the Dutch War (1890); and beside contributing very many lengthy articles to the Dictionary of National Biography edited the English Historical Review, 1890-1901, to which he also contributed. In the course of his researches he examined the national archives of France, Spain, Italy, and the Netherlands, and at the Record Office made himself acquainted with the originals of the state papers, and the uncalendared state papers foreign, mastering, in order to accomplish this last task, the Spanish, Dutch, French, Italian, German, and Swedish languages. He never allowed himself to describe a battle without having personally inspected the field or learned all that might be gleaned from local antiquaries. His aim was to view events from the standard of the contemporary observer, and thus to treat history progressively rather than retrospectively. In this he was not entirely successful. As one critic has aptly phrased it, "his work discloses a combination of (1) the most absolutely truthful and sincere process of deduction of fact; (2) broad, luminous, and skilled historical exposition." Prof. Gardiner's

services to historical literature it would not be easy to overestimate. On no occasion was he ever swayed by either sentiment or prejudice. Personally, his political opinions are known to have been Liberal; but in all his writing he is so strictly impartial that from it no one could be certain of the direction of his likings. "History in his eyes," observes one careful student of his writings, "was not a repertory of argument to be used in polemic and debate for the furtherance of any political or religious end. It was the road to truth alone." It may be said in all sincerity that in his native country there never has been a more single-minded or more enthusiastic lover of historic truth than Prof. Gardiner. He cared very little for any display of rhetoric, and troubled himself not at all concerning style, but as his great work progressed he gradually acquired a style both luminous and orderly, and not infrequently impressive. On the death of Froude, Prof. Gardiner was invited to succeed him as Professor of Modern History at Oxford, but the invitation was declined from the fear that the duties of the chair would interfere with the completion of his history. "If there is one man," writes Grant Robertson, "who by the appeal to the inexorable tribunal of truth, without a word that could wound or an epithet imputable to party passion, has taught two generations what Puritan England tried to be, the hopes and dreams, the failures and successes, of its men and women, what it was in all its weakness and all its matchless strength, that man is Samuel Rawson Gardiner."

Garland, George Vallis, English clergyman, born in 1823; died at Boscombe, England, Dec. 24, 1902. He was educated at Cambridge, and after preparing for the Anglican ministry was admitted to the priesthood in 1850. He was curate of Crowle, Lincolnshire, 1850-'52; director of Langton Matravers, 1852-'69; vicar of Aslacton, 1869-'75; and rector of Binestead, Isle of Wight, 1881-'94. He was the author of Plain Possible Solutions of the Objections of Right Rev. J. W. Colenso (1863); Remarks on the Vision of the Four Chariots of Zechariah (1869); Genesis with Notes (1875); The Compatibility of the Eternity of Matter with the Existence of God (1881); and The Practical Teaching of the Apocalypse.

Gall, Frederick, English colonial prelate, born in 1821; died in Cuford, Coonor, India, March 23, 1902. He was educated at Cambridge, and in 1843 was admitted to orders. He held a curacy at Great St. Mary's in the university town, 1844-'45. From 1849 to 1859 he was lecturer, dean, and assistant tutor at Christ Church, Cambridge, and for the two years succeeding was domestic chaplain to the Bishop of London. In 1861 he was consecrated Bishop of Madras, his long and arduous episcopate continuing until his resignation in 1898.

Giani, Demeter, Roumanian statesman, born in 1838; died July 16, 1902. He studied at Berlin and Paris, practised law after his return, was elected Deputy in 1866, but resigned rather than take the oath of allegiance under the statute suspending the Constitution, was elected again in 1868, joined the Liberal party, successfully opposed the design of the ministry of Lascar Catargi to arrest and prosecute the ministry of 1876, was a member of the Constituent Assembly of 1876 and the author of the law of ministerial responsibility, held the portfolio of Justice in the Brătianu Cabinets of 1880 and 1887, and was the author of many important laws. Under the Sturdza administration in 1896 he was president of the Chamber.

Gilbert, Sir Joseph Henry, English agricultural chemist, born in Hull, Aug. 1, 1817; died Dec. 23, 1902. He was the son of a clergyman and studied chemistry in Glasgow University, University College, London, and under Liebig at Giessen. He was assistant to Prof. Anthony Todd Thomson in University College in 1840, went to Manchester to experiment in cotton dyes, and in 1843 became the associate of J. B. Lawes in the experimental farm at Rothamstead. Together they experimented in soils, fertilizers, and selection of seed, and published the results in over a hundred papers. He journeyed in the United States and Canada in 1882 and 1884 to study the conditions of agriculture in America. On the fiftieth anniversary of the Rothamstead experiments he was knighted, and in 1884 he was appointed Professor of Rural Economy at Oxford.

Gladstone, John Hall, English chemist and educator, born in London in 1827; died Oct. 6, 1902. He was educated at University College, London, and at the University of Giessen. In 1850 he became lecturer in chemistry at St. Thomas's Hospital, and three years later was elected a fellow of the Royal Society. He held the Fullerian professorship of Chemistry at the Royal Institution from 1874 to 1877; was first president of the Physical Society from 1874 to 1876; and was president of the Chemical Society from 1877 to 1879. A few years before his death he received the Davy medal from the Royal Society. He was one of the creators of that branch known as physical chemistry. Among his most important chemical works are that on the spectra obtained at varying hours during the day; his researches on the atomic refractions and dispersions of the elements; his investigations regarding voltaic batteries; the chemical history of gun-cotton; and archeological metallurgy. The Proceedings of the Royal Society contain more than 100 papers from his pen. He was for more than twenty years, beginning in 1873, a member of the London School Board. He was especially interested in a more general spread of scientific knowledge among the people, and he strove continuously to modify elementary public instruction to this end. The following paragraph appears in his presidential address before the chemical section of the British Association, delivered in 1872: "The so-called educated classes in England are not only supremely ignorant of science, but they have scarcely yet arrived at the first stage of improvement—the knowledge of their own ignorance."

Gossler, Gustav von, German statesman, born in Naumburg, April 13, 1838; died in Danzig, Sept. 29, 1902. He was the son of a Prussian judge, and studied law in Königsberg, Berlin, and Heidelberg, becoming a local magistrate in West Prussia in 1865 and legal assistant in the Ministry of the Interior to carry out district regulations in 1874. Four years of this work obtained for him the appointment of chief judge of the Administrative Court. A year later he became Under-Secretary in the Ministry of Worship, and was elected to preside over the newly elected Reichstag. On July 16, 1881, he succeeded Herr von Puttkamer in the Prussian Ministry of Worship, with the duty of giving practical effect to the reconciliation of the state and the Church. The repeal of the Falk laws was the most difficult part of his task. This he carried out without prejudice or partizanship in a way to win the confidence of both parties in the bitter controversy. He performed important services in developing higher education along modern lines and promoting scientific investigation. He framed the law

of elementary education. When the vivisection question was raised in the Prussian Chamber in 1883 he took a stand for the freedom of scientific investigation. On March 12, 1891, the minister was defeated on the question of an unimportant remnant of the May laws which he wished to retain as a safeguard for the state control of primary instruction. On June 7, 1891, he was appointed presiding justice of the provincial court of West Prussia.

Grant, George Monro, Canadian educator, born in Nova Scotia, in 1835; died in Kingston, May 10, 1902. He went from school in Nova Scotia to the University of Glasgow in 1853 and won the highest honors in classics, chemistry, and moral philosophy. On his return he engaged in missionary work. At the time that Canada was confederated, in 1867, while he was minister of a large and important congregation, he threw all his influence in favor of federal union and turned the scale in Nova Scotia. When the engineers made their preliminary survey of the Pacific Railroad route he accompanied Sir Sandford Fleming in the journey to British Columbia, and when he returned he published *From Ocean to Ocean*, a book that everybody read, describing the immense productive resources of the Canadian northwest. Nothing had so great an influence in winning wavering and uncertain minds to the idea of federation, which was then on its trial. The statesmen made much of the author and consulted him on public questions. He became in 1877 the principal of Queen's University, Kingston, which expanded under his management from a small denominational college into an important educational center. He wrote and spoke frequently on imperial unity, on the affairs of the Presbyterian Church, and on educational subjects.

Groome, Francis Hinde, English author, born in Monk Soham, Suffolk, England, Aug. 3, 1851; died in January, 1902. He was educated at Oxford, and in 1876 took up literary work in Edinburgh, which was his home thenceforth. He was joint-editor of Chambers's Biographical Dictionary, contributed to the Dictionary of National Biography, as well as to other literary enterprises, and wrote *In Gipsy Tents* (1880); *A Short Border History* (1887); *Two Suffolk Friends*; *Kriegspiel*, a novel (1896); and *Gipsy Folk Tales* (1899).

Hall, Christopher Newman, English clergyman, born in Maidstone, Kent, England, May 22, 1816; died in London, Feb. 18, 1902. He was educated at Highbury College and the University of London. Entering the Congregational ministry, he was pastor of the Albion Congregational Chapel at Hull in 1842-'54. In the latter year he was called to the Surrey Chapel, Blackfriars Road, London, the congregation of which subsequently erected an ornate church in Westminster Bridge Road. From 1893 he was pastor emeritus of this church. He was widely popular as a preacher, and in the course of three visits to the United States had become well known in the United States also. During the American civil war he was active in his efforts to create an English sentiment favorable to the cause of the Union, delivering lectures in many English towns regarding the nature of the struggle and the real issues at stake. His eloquence and his enthusiasm were of great service in this matter, and gained him many friends in the United States. He invariably had the courage of his opinions, and in consequence he opposed the agitation that followed the first appointment of Roman Catholic bishops to sees in England. He was a firm believer in total abstinence, and supported the temperance movement

heartily. As a preacher he was forceful and exceedingly fluent, his theology being dogmatic and evangelical. While he was still a minister at Hull he published a tract in 1846 entitled *Come to Jesus*, which proved extraordinarily popular, being translated into 40 languages and reaching a circulation of 4,000,000 copies. His other works include *The Scriptural Claims of Teetotalism* (1846); *Follow Jesus* (1848); *It is I* (1849); *Divine Socialism* (1851); *The Land of the Forum and the Vatican* (1854); *Seventy Scripture Chants* (1854); *Congregationalism for Christ* (1855); *Hymns and Songs for Bands of Hope* (1855); *Sacrifice* (1856); *Christian Victory* (1856); *The Dignity of Labor* (1856); *The Dangers of Negative Theology* (1857); *Hymns composed at Bolton Abbey, and Other Rhymes* (1857); *Hints on Preaching* (1858); *Now! (1858); Quench not the Spirit* (1858); *The Day of Salvation and Other Tracts* (1859); *Christ for Every One* (1860); *Plain Truths Plainly Put* (1861); *The Holy Catholic Faith* (1862); *The Shadow of the Almighty* (1862); *Watch and Pray* (1863); *Sermons preached in America* (1864); *Summer Rambles under the Shadow of the Matterhorn* (1865); *The Assassination of Lincoln: A Lecture* (1865); *The Cardinal and the Encyclical: A Lecture* (1865); *The Antidote of Fear* (1866); *Homeward Bound and Other Sermons* (1869); *Pilgrim Songs in Cloud and Sunshine* (1870); *Liverpool to St. Louis* (1870); *Conflict and Victory: An Autobiography* (1874); *Prayer* (1875); *The Lord's Prayer, a Practical Meditation* (1883); *The Coming of the Lord* (1884); *The Songs of Heaven and Earth* (1885); *Gethsemane; The Atonement; Lyrics of a Long Life* (1891); *Songs of the Divine Life* (1895); and *Autobiography* (1898).

Hamoud bin Mohammed bin Said, Sultan of Zanzibar, born in 1853; died July 23, 1902. He was a nephew of the Sultans Ali, Khalifa, and Burghash, and cousin of Sultan Hamed bin Thwain, who died suddenly on Aug. 27, 1896, probably of poison. The next heir to the throne, who was unfriendly to the English, seized the Government, but the British naval force interfered and placed Hamoud on the throne, depriving him of the share in the public administration exercised by his predecessor.

Hauser, W., Swiss statesman, born in 1837; died in Zurich, Oct. 22, 1902. He has been Minister of Finance in the Federal Government almost uninterruptedly since 1888, and at the time of his sudden death was completing the budget, having elaborated a tariff law. He was a tanner in early life, and when he entered upon his official life he devoted immense energy to public affairs and was a faithful guardian of the treasury. In 1890 he was President of the Confederation.

Hector, Mrs. Annie (French), "Mrs. Alexander," English novelist, born in Dublin, Ireland, in 1825; died in London, July 10, 1902. She began early to write, but discontinued the practise on her marriage to Alexander Hector, a Scotsman, who accompanied Layard in his explorations at Nineveh. After her husband's death she resumed her pen, and for nearly thirty years was one of the most industrious novelists of her day. She did not possess much originality, but she wrote with ease and fluency, and always entertainingly, and she retained through life a circle of readers who awaited her successive stories with interest. *The Wooing O't* first brought her into general notice, and it remains one of her best books. The tone of all her writing was wholesome, and if she made no striking contribution to literature, she succeeded in giving a great deal of genuine pleasure to very many persons. A nearly complete list

of her books, which are fiction with but few exceptions, includes *Which Shall it Be?* (1866); *Heroes of the Crusades* (1868); *The Legend of the Golden Prayer (verse)* (1872); *The Wooing O't* (1873); *Ralph Wilton's Weird* (1875); *Her Dearest Foe* (1876); *The Heritage of Langdale* (1877); *Maid, Wife, or Widow* (1879); *Moral Songs* (1879); *The Freres* (1882); *Look before you Leap* (new ed., 1882); *The Admiral's Ward* (1883); *The Executor* (1883); *Holiday Songs* (1884); *A Second Life* (1885); *At Bay* (1885); *Valerie's Fate* (1885); *Beaton's Bargain* (1886); *By Woman's Wit* (1886); *Mona's Choice* (1887); *Forging the Fetters* (1887); *A Life Interest* (1888); *The Stepmother* (1889); *A False Scent* (1889); *Blind Fate* (1890); *A Woman's Heart* (1891); *Mammon* (1891); *Well Won* (1891); *The Snare of the Fowler* (1892); *For his Sake* (1892); *Found Wanting* (1893); *A Ward in Chancery* (1894); *A Choice of Evils* (1894); *Broken Links* (1894); *What Gold can not Buy* (1895); *A Winning Hazard* (1896); *A Fight with Fate* (1896); *A Golden Autumn* (1896); *A Crooked Path* (1896); *Miss Crichton's Creditor* (1897); *Barbara: Lady's Maid and Peeress* (1897); *The Cost of her Pride* (1899); *V. C. Brown* (1899); *A Missing Hero* (1900); *Stronger than Love* (1902); *Mrs. Vereker's Courier Maid*; and *the Yellow Fiend*.

Heinrich XXII, Prince of Reuss-Greiz, born in Greiz, March 28, 1846; died there, April 19, 1902. All the princes of the house of Reuss have for nearly eight hundred years borne the name of Heinrich and are distinguished by numbers, which in the elder line begin anew with each hundred and in the younger line after the end of each century. This prince, belonging to the elder line, who was left to rule over one of the most insignificant dominions in Germany, was most jealous of his rights and dignity as a German sovereign, and distinguished himself by the indiscriminate opposition to Prussian policy that his Government invariably offered in the Federal Council. His mother, Princess Caroline, of the house of Hesse-Homburg, acting as regent, had taken the side of Austria in the war of 1866, following Saxony, Hesse, and Hanover, and in consequence Prussian troops occupied the principality and a war indemnity was levied. When Heinrich XXII reached his majority he began his reign by proclaiming representative government of a very restricted kind. With a newspaper for which he wrote and by means of his official and ecclesiastical patronage he endeavored to convert all his subjects to the separatist Guelph party. The militia corps under his orders were not allowed to raise flags or fire salutes for the Emperor. As a German sovereign he would observe treaties, but he would not hoist flags at the command of any prince.

Henty, George Alfred, English author, born in Trumpington, England, Dec. 8, 1832; died in Weymouth, England, Nov. 16, 1902. He was educated at Westminster School and at Cambridge, and went to the Crimea in the purveyor's department. He returned to England at the close of the war, and was successively placed in charge of the Belfast and Portsmouth districts as purveyor. Resigning his commission, he spent some years in mining operations in Wales and Italy, and later became special correspondent of the *London Standard*, in which capacity he went through the Austro-Italian, the Franco-Prussian, and Turco-Servian campaigns, and accompanied the Abyssinian and Ashantee expeditions, and was with Garibaldi in the Tyrol. For many years he edited the *Union Jack*, a popular periodical for boys. He spent, in his later years, six months of every twelve on board his yacht, and his death occurred

there while it was in Weymouth harbor. He was tall and burly in appearance, rather rigid in expression, and dogmatic in manner. His stories for boys are a blend of fact and extravagance, and constitute apparently a history of all the wars, great and small, in which England has been engaged for the past two centuries; but they are more picturesque than accurate. His books were poured forth with astonishing rapidity for an entire generation.

Herbert, William Kirk, Irish Anglican clergyman, died in County Louth, Ireland, Aug. 24, 1902. After studying for the Anglican ministry he was admitted to the priesthood in 1862. He was rector of Kilkenny, Ireland, from 1893 until his death, and was the author of an interesting work on *The Medical Language of Saint Luke* (1883).

Hertslet, Sir Edward, English diplomatist, born in London in 1824; died in Richmond, Aug. 4, 1902. He entered the Foreign Office, where his father, Lewis Hertslet, was librarian and archivist, in 1840, and succeeded his father in 1857. In 1878 he was attached to the mission of Lord Beaconsfield and Lord Salisbury at the Congress of Berlin, and was knighted for his services. He was one of the British delegates in 1889 for the settlement of the boundary between British and Dutch Borneo. He published *The Map of Europe by Treaty*; *The Map of Africa by Treaty*; *Recollections of the Old Foreign Office*; and collections of British commercial treaties with Austria, Turkey, Italy, Spain, Persia, Japan, and China; and he edited Hertslet's *Commercial Treaties and British and Foreign State Papers*, works begun by his father.

Heygate, William Edward, English clergyman, born in 1816; died Dec. 12, 1902. He was educated at Oxford, and after preparing for the Anglican ministry was admitted to the priesthood in 1840. After serving as curate at Great Wakering for some years, he removed to St. Gerrans in 1848, but returning to Essex was curate of Hadleigh, 1853-'57, and of Leigh, 1857-'69. In the last-named year he became rector of Brixton, Isle of Wight, a post which he filled for the rest of his life. From 1887 he was honorary canon of Winchester Cathedral. Canon Heygate was a moderate High Churchman, very active in all parochial duties, and a man of great personal charm. His varied writings comprise *Probatio Clerica* (1846); *The House of Spirits* (1846); *The Church of the Holy Trinity, Ely* (1848); *William Blake, or the English Farmer* (1848); *Godfrey Davenant at School* (1849); *Godfrey Davenant at College* (1850); *Ellen Meyrick, or False Excuses* (1851); *The Care of the Soul* (1851); *Pierre Poussin* (1851); *Speculation, a Tale* (1851); *Catholic Antidotes: Essays* (1858); *Sir Henry Appleton, or Essex during the Great Rebellion* (1858); *The Scholar and the Trooper* (1858); *The Evening of Life* (1860); *The Fugitive, and Other Poems* (1870); *Allegories and Tales* (1873); *Sudden Death, and Other Stories* (1880); *The Brothers, and Other Stories* (1880); *Old Richard, and Other Stories* (1881); *Parish Tales* (1883); and *An Old Parson's Anecdotes*.

Holub, Emil, Austrian explorer, born of Czech descent at Holics, Bohemia, Oct. 7, 1847; died in Vienna, Feb. 21, 1902. In early manhood he practised for a time as an apothecary, but at the age of twenty-five emigrated to South Africa, and practised in Kimberley and elsewhere as a physician, but without a doctor's degree. His love of natural history, and of ornithology in particular, presently led him to explore the region beyond the Zambesi, and his residence of seven

years in Africa was largely devoted to ornithological researches and to zoology in general. He lived for a time in Prague, but afterward settled in Vienna, where he married. He now resumed his medical studies and received his medical degree, and also devoted much time to the study of astronomy and geography. In 1883, accompanied by his wife, he made a second trip to South Africa, his task on this occasion having been made easier by a public subscription as well as a generous gift from the Emperor, Francis Joseph. He returned to Austria in 1887 and resided in Vienna thereafter, engaged in scientific work, and lecturing frequently upon South African affairs. In acknowledgment of his services as an explorer, he received from the Emperor the Order of the Iron Crown. Doctor Holub's published works comprise *Beiträge zur Ornithologie Sudafrika* (*Contributions to the Ornithology of South Africa*); *Sieben Jahre in Sudafrika* (1881); *The Colonization of Africa*; and *From Cape Town to the Country of the Maskukulumbé*.

Hooole, Charles Holland, English classical scholar, died in Richmond, England, at the age of sixty-six. He was educated at Oxford, and was ordained priest in 1863. He was lecturer at Christ Church College, Oxford, in 1862-'63, and tutor in 1863-'68, and from 1861 till his death was senior student of that institution. He was the author of *An Analytical Paraphrase of the Republic of Plato* (1861); *The Church and the Methodists* (1868); *The Shepherd of Hermas in English Verse, a translation* (1870); *The Apostolic Fathers* (1872); *St. Peter's Visit to Rome* (1873); *Poems and Translations* (1875); *Hermione, a Tragedy (verse)* (1877); *The Return of Ulysses, a Tragedy (verse)* (1880); and *The Classical Element in the New Testament considered as a Proof of its Genuineness* (1880).

Horanszky, Ferdinand, Hungarian statesman, born in 1838; died April 19, 1902. When the National party formed the Moderate Opposition he was its president for many years. When it was fused by Szell with the Government majority he was taken into the Cabinet as Minister of Commerce, but in a few weeks he died.

Hörup, V. L. B., Danish statesman, born in 1841; died in Copenhagen, Feb. 15, 1902. He was the editor of the Radical paper *Politiken*, which for twenty-five years combated the Conservative party until at last it gave up the reins of power. When a Radical Cabinet was constituted on July 24, 1901, he was included as the representative of the extreme wing, receiving the portfolio of Public Works. His health was so broken, however, that he was unable to take much part in public business.

Hughes, Hugh Price, English Wesleyan clergyman, born in Caermarthen, Wales, in 1847; died in London, Nov. 17, 1902. After studying at University College, London, he prepared for the ministry in the Wesleyan Theological College at Richmond. His first appointment was at Dover, where he remained three years, subsequently filling pastorates of equal duration at Brighton; Stoke Newington, London; Moslyn Road, London; Oxford; and Brixton Hill. At the close of his ministry at Brixton he was made superintendent of the West London Mission, which sustains the Lincoln House for Social Philanthropy in Soho Square and Katherine House Residence for Fallen Women in Montague Street, Russell Square. He was an eloquent preacher, and active in religious or semireligious undertakings for the past twenty years, being especially prominent in opposition to gambling, state regulation of vice, sweatshops, sacerdotalism, and vivisection. At the

time of his death he was president of the London Methodist Council. He vigorously and successfully opposed the proposal to admit Unitarians to the National Council of Evangelical Free Churches, and combated with equal vehemence the exclusion of religious teaching from the board schools. At the Review of Churches Conference at Grindelwald, Switzerland, in 1894, he spoke on the possible reconciliation between English Dissenters and the Church of England, and was also present at the Lucerne Conference the previous year. He was editor of the *Methodist Times*, and he published *Social Christianity* (1889); *Essential Christianity*; *Ethical Christianity*; *The Philanthropy of God* (1890); and *The Atheist Shoemaker* (1891).

Hughes, Richard, English homeopathist, born in London in 1826; died in April, 1902. He became a member of the Royal College of Surgeons in 1857. He published *Pharmacodynamics* (1867); *A Manual of Therapeutics*; *Hahnemann as a Medical Philosopher*; and *The Cyclopædia of Drug Pathology*.

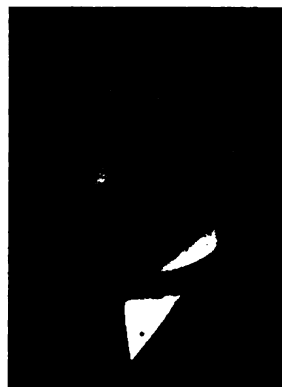
Johnson, Lionel Pigot, English poet, born of Irish parentage, at Broadstairs, Kent, England, March, 1867; died in London, Oct. 4, 1902. He was educated at Winchester College and at Oxford. He was a staunch Roman Catholic, and the influence of his mother Church is frequently apparent, and equally evident is his strong Celtic spirit. He did much in the field of literary criticism, and to the general reader was perhaps better known as a scholarly critic than as a poet, through his contributions to critical periodicals. His work in both directions exhibited much promise, with not a little in the way of fulfilment. His published books include *The Art of Thomas Hardy* (1894); *Poems* (1896); and *Ireland, with Other Poems* (1897).

Kent, William Charles Mark, English author, born in London, Nov. 3, 1823; died there, Feb. 23, 1902. He was of Roman Catholic parentage, and received his education at Oscutt College. He edited *The Sun* in 1845-'70, and the *Weekly Register* in 1874-'81. He also studied law, and was called to the bar of the Middle Temple in 1859. He was a frequent contributor to works of reference, including the *Dictionary of National Biography* and the *Encyclopedia Britannica*, and was the author of the following works: *Catholicity in the Middle Ages* (1847); *The Vision of Cagliostro* (1847); *Alethia, or the Doom of Mythology, with Other Poems*, much praised by Lamartine (1850); *What shall be done with Cardinal Newman?* (1850); *The Derby Ministry* (1858); *The Lives of Eminent Conservative Statesmen* (1866); *The Dickens Dinner* (1867); *The Gladstone Government* (1869); *Poems* (1870); *Mythological Dictionary* (1870); *Charles Dickens as a Reader* (1872); *Corona Catholica ad Petri Successoris Oblata* (1880); and *The Modern Seven Wonders of the World* (1890). Several of his books appeared under the pseudonym of Mark Rochester. He edited the miscellaneous writings of the first Lord Lytton, and also the writings of Father Prout, Burns, and his intimate friend Leigh Hunt.

Kimberley, John Wodehouse, Earl of, British statesman, born Jan. 7, 1826; died in London, April 8, 1902. He was a son of Henry, son of the second Baron Wodehouse, was educated at Christ Church, Oxford, taking a first class in humane letters in 1847, married the daughter of the Earl of Clare, took his seat in the House of Lords, having succeeded his grandfather in 1846, and was appointed Under-Secretary of State for Foreign Affairs in 1852 by Lord Aberdeen, holding

the same post under Lord Palmerston during the Crimean War. In 1863 Lord Wodehouse was despatched by Lord John Russell to Copenhagen to straighten out the Schleswig-Holstein imbroglio, with instructions to uphold the London protocol of 1850, recognizing the unity of Denmark, Schleswig-Holstein, and Lauenburg, and the treaty of 1852, securing the succession of Prince Christian of Glücksburg, without committing England, although Denmark had violated engagements which Germany considered a part of the treaty. Germany and Austria had therefore threatened to annul it and seize the duchies, but were willing

to accept the compromise proposed by England as mediator, and Denmark, relying on the armed intervention of England, had rejected this compromise. The succession of Prince Christian to the Danish throne had brought matters to a focus. The treaty could not be carried out because its terms were contradictory, the duchies being declared to be an integral part of Denmark, and yet the rights of the German Federation over them were reserved. In the confusion the Prince of Augustenburg revived his claim to the throne of Holstein, and the German people were wrought up over the wrongs of their kinsfolk in the duchies, while the Danes grew frantic at the thought of their kinsfolk and a part of their national territory being swallowed up in Germany. It was a question that England could solve only by an arbitrary decision, with the will to back it up by force. His Government supported the Danish contention, but was unwilling to act, and therefore Lord Wodehouse failed. After his return he was appointed Secretary of State for India, but before he could decide with Sir John Lawrence, the new Governor-General, on the course to be followed in regard to the war in Bhutan and the struggles of Shere Ali, England's *protégé*, for the Afghan throne, he was transferred toward the end of 1864 to the post of Viceroy of Ireland, which he filled for nearly two years, where he made no mark, but on the strength of his arresting the early Fenians and in keeping with his official advancement was raised in the peerage to be Earl of Kimberley. The Liberal ministry of Earl Russell was succeeded by that of the Earl of Derby in July, 1866. When Mr. Gladstone formed a Cabinet in December, 1868, he made Lord Kimberley Lord Privy Seal. This office was exchanged in 1870 for that of Secretary of State for the Colonies. Diamonds were discovered in South Africa just then. When a mining-camp sprang up on the spot it took the name of the Colonial Secretary, under whose administration it was discovered that, instead of belonging to the Orange State farmers who had settled there, it belonged to half-breed savages living elsewhere, and was therefore British territory. During his first tenure of the office Rupertsland was created into the Canadian province of Manitoba in 1870, the Dominion was empowered to organize new provinces in 1871 and the last British garrison was withdrawn, Cape Colony received responsible gov-



ernment, and the Australian colonies were rebuked and were restrained from making protective tariffs to suit themselves and were invited to establish intercolonial free trade. In 1874 Mr. Disraeli returned to power, and it was six years before Mr. Gladstone came in again. Lord Kimberley took charge of the administration of the colonies once more. He had to contend with serious difficulties in South Africa. The attempt to disarm the Basutos had failed, and the Cape Colonists and the home Government were both at a loss to know what to do, and each blamed the other. Then the Transvaalers called upon Mr. Gladstone to grant them the independence he had inveighed against the Tories for not granting, and when he refused they drove the British garrisons out of the country, defeated the forces sent to chastise them, and won their independence with their rifles, qualified only by a meaningless suzerainty. Lord Kimberley explained that the Transvaal had been annexed on the supposition that the inhabitants desired British administration, which they had now demonstrated that they did not desire, and hence annexation was not justifiable; but why it was necessary for such a demonstration that the British army must stomach a defeat without a chance to redeem its honor he could not explain to the army and its friends. He became provisionally chancellor of the Duchy of Lancaster when Mr. Bright retired, and in December, 1882, he left the Colonial Office to become Secretary of State for India. He found the difficulties of this office as trying as those in the Colonial Department. The policy of retirement from Afghanistan was denounced by the Conservatives as hotly as withdrawal from the Transvaal. Lord Ripon's promises of representative institutions for India caused such consternation in Indian officialdom that the Liberals had doubts about the security of British rule in India. He restrained the impulses of Lord Ripon and effectively checked the Radical movement in England in favor of large measures of self-government for India, while he approved the extension of education and of local representation. When a Russian war scare arose he assumed a defiant attitude and returned to a forward policy. Retiring with the ministry in June, 1885, he returned to the India Office in February, 1886, till Mr. Gladstone was defeated on home rule, and went out in August of that year. In the Gladstone Cabinet, formed in August, 1892, Lord Kimberley, who had become leader of the Liberal party in the House of Lords, was Lord President of the Council as well as Secretary for India. Although as an orthodox economist he condemned all proposals to stay the falling rupee by legislation, he yielded finally to the importunity of the Indian Government after it had wrung half-hearted approval from Lord Herschell's committee and consented to the closing of the mints and the temporary restriction of the sale of Council bills. Soon afterward, when Lord Rosebery became the head of the Cabinet, he took the latter's place at the Foreign Office, though Lord Rosebery did not relinquish his authority to speak in foreign affairs until he laid down the leadership of the party in 1896. A lease from the Congo State of a route for the Cape to Cairo railroad had to be given up when Germany objected because it was contrary to treaty. When Russia, France, and Germany prohibited Japan from retaining territory in Manchuria after her victory over China, England stood helplessly by, unwilling either to join them or to efficiently support Japan in resisting their dictation. Since June, 1895, Lord Kimberley has been the authoritative spokesman of the Opposition on foreign affairs,

and during the Boer War, although he had strong motives for vindicating his own policy in South Africa and also in the Soudan and in China, he was careful to say nothing tending to embarrass the action of the Government. Lord Kimberley was much interested in education. He was a member of the senate of the University of London, succeeding Lord Herschell in 1899 as chancellor, and was president of University College.

Kowalevsky, Alexander, Russian biologist and anatomist, born near Witebsk, in northwest Russia, Nov. 10, 1840; died Nov. 22, 1902. His father was a Pole, and his mother a Russian. He received his early education at home, and was then placed in the Engineering School of Roads and Highways, in St. Petersburg. But he preferred the study of science to a practical career. As a result of the student disturbances of 1861 he was obliged to leave the country. He went to Heidelberg, where he studied chemistry under Bunsen. He soon developed a taste for zoology and comparative anatomy, and pursued these subjects under Brün, and Pagenstecher, and later under Leydig at Tübingen. In 1864 he published in Russian his first zoological work, *The Anatomy of Idothea*. He went in 1864 to Naples, and carried out important researches on the embryology of low marine forms of life, and in 1866 he made researches on the ascidia. The results of this work, which led to the recognition of the ascidians as vertebrata, gave a new impulse and direction to embryological research. After being for a time *privat docent* at the University of St. Petersburg, he was appointed professor extraordinarius at Kazan in 1868, and professor ordinarius at Kiev in 1869, and at Odessa in 1874, where he remained until 1890. He was made a titular member of the Academy of Sciences of St. Petersburg in the latter year. He was for many years director of the biological laboratory at Sebastopol, and did much of his work there.

Kraus, Franz Xavier, German historian, born in 1841; died Jan. 1, 1902. He was educated for the priesthood and became a disciple of Dr. Döllinger, but did not join his Old Catholic schism. He made researches in ecclesiastical archeology and published valuable treatises on the origin and development of Christian art and early Church history. He was Professor of Ecclesiastical History in the University of Freiburg. In 1896 he published a standard work on the History of Christian Art.

Krupp, Friedrich Alfred, German industrialist, born in Essen; died there, Nov. 22, 1902. His grandfather, Friedrich, spent his life and his fortune in trying to perfect a new process of steel-making. His father, Alfred, invented a new method of manufacturing spoons, new machinery and dies for coining money, a new Bessemer steel out of which he made rifles and cannons, a breech-block for artillery, a seamless tire for car-wheels, a method of hardening armor-plate, and many new uses for steel. He built up at Essen the greatest iron-works in the world, furnishing the German Government and many others with rifle barrels and field and naval guns of Bessemer steel and with ship armor, and all countries with railroad materials. Friedrich Alfred succeeded to the ownership and management of the plant on the death of his father, in 1887. He took in other steel-works at Rheinhausen and near Magdeburg, acquired four coal-mines in different parts of Germany, iron-mines in Spain containing ore for mixing so as to produce the best Bessemer steel, and German iron-mines, and amalgamated with the concern a great ship- and engine-building company with works at Kiel and Berlin. He had a fleet of steamers for exporting his goods. His

capital, including his share in other enterprises, at the time of his death was estimated at 500,000,000 marks, his income at 20,000,000 to 40,000,000 marks. The policy of his father toward his workmen was to furnish them with sanitary dwellings, medical attendance, and means of education and recreation, and insurance, keeping them out of the labor-unions, benefit associations, and political organizations. This patriarchal system was greatly extended and developed by the son, who provided model homes at the lowest rental for the families of his 43,000 workmen, with hospitals, schools, and casinos, organized for them

a system of cooperative stores, and gave them retiring pensions on more favorable terms than the Government or the mutual insurance societies. He was simple and retiring in his habits, but his society and advice were valued by the present German Emperor, who would have liked to give him a title of nobility. He spent his winters at Capri and carried on investigations of the marine fauna of the Mediterranean, of which he collected preserved specimens, and he had an immense aquarium for studying aquatic life and left materials for a book on the subject. The Socialist press of Germany constantly attacked Herr Krupp, and his death is supposed to have been hastened by a slanderous, degrading charge against his private character made in the chief organ of the Social-Democratic party, the *Vorwärts* of Berlin.

Lago, Carlo, Italian impresario, born in Italy in 1830; died in Milan, in March, 1902. He had been connected with the production of grand opera in all parts of the world, and was manager of the Italian Opera in St. Petersburg for several years. He also gave several seasons of opera at Drury Lane Theater, London. He first visited this country as musical conductor with Adelina Patti, when she was under the management of Henry E. Abbey and Maurice Grau; and in 1901 he traveled in the United States as conductor of Mme. Sembrich's concert company. He was one of the best known of the old school of Italian opera impresarios, and was familiar with every detail of the production of an opera, from conducting the orchestra to training the chorus.

Landesman, Heinrich, "Hieronymus Lorm," an Austrian poet, born in Nikolsdorf, Moravia, Aug. 9, 1821; died in Brunn, Moravia, Dec. 3, 1902. He lost his hearing at the age of fifteen, and his sight failed not long afterward, but he invented a kind of finger language, which enabled him to communicate his wants and to dictate his poems and other works. His poetry is markedly pessimistic. His writings include *Abdul* (1843); *Wiens poetische Schwingen und Federn* (1846); *Erzählung des Jahres* (1848 (1855)); *Am Kanin* (1856); *Erzählungen des Heimgekehrten* (1858); *Intimes Leben* (1860); *Philosophisch-kritische Streifzüge* (1873); *Geflügelte Stunden* (1875-78); *Tote Schuld* (1878); *Späte Vergeltung* (1879); *Der Abend zu Hause* (1881); *Ein Schatten aus vergangenen Tagen* (1882); *Vor dem Attentat* (1884); and *Die Schöne Wienerin* (1886).

Latey, John, English novelist, born in London, Oct. 30, 1842; died Sept. 26, 1902. He was the son of John Lash Latey, a former proprietor of the *London Illustrated News*, and after being educated at Barnstable, was for forty years connected with the *Penny Illustrated Paper*, which he edited almost from its beginning in 1861. For a long period he contributed the parliamentary sketches that appeared in the *Illustrated News* under the signature of "The Silent Member," and in 1899 he became editor of *The Sketch*. Mr. Latey was the author of a translation of Alexandre Dumas's *Mohicans of Paris* (1875), and of Paul Feval's *Fils du Diable*, to which he gave the English title of *The Three Red Knights*. In original work he produced the comedietta *The Rose of Hastings*; *The Life of General Gordon*; *The Showman's Panorama* (with W. Mackay) (1890); and the novels *Love Clouds* (1884); *The River of Life* (1886); *A Daughter of the People*; *A London Prima Donna*; *The Queen of Hearts Mine*; *Diamonds Led*; and *Hearts were Trumps*.

Latham, Henry, English clergyman, born in Dover, England, June 4, 1821; died June 5, 1902. He was educated at Cambridge, and entered the Anglican ministry as priest in 1850. His life was spent almost entirely in Cambridge, where he became tutor in Trinity Hall, and fellow of the same institution. He was vice-master of the hall from 1850 to 1888, and was master from the last-named year until his death. He published *Geometrical Problems in the Properties of the Conic Sections* (1848); *On the Recommendations of the University Commission* (1857); *On the Action of Examinations* (1877); *Pastor Pastorum, or the Schooling of the Apostles by Our Lord* (1890); *A Service of Angels* (1894); and *The Risen Master* (1901).

Laurie, Mrs. J. Warner, English author, died in Cannes, France, in December, 1902. She was the wife of an Edinburgh educational publisher, and some of her books attained a wide popularity, their circulation reaching into the hundreds of thousands. They include Henry's *History of England* (1868); *Dramas for Children* (1869); *Henry's Scripture Lessons* (1869); *Maxwell's Geographies* (1869); *The Queen of the Mice*; *Tales and Adventures for the Young*; and *A Trip Round the World*. She edited, also, a popular anthology entitled *Playtime with the Poets*.

Leake, George, Australian statesman, born in 1868; died in Perth, June 24, 1902. He belonged to a family that played a prominent part in the political life of Western Australia, and a year after his admission to the bar in 1890 he became Acting Crown Solicitor. He rose to be Acting Attorney-General and a member of the Executive Council in 1896. In 1899 he was elected to the first Legislative Assembly of the colony, from which he resigned so as to retain the post of Crown Solicitor. In May, 1901, he formed a ministry; when it was reconstructed he became Attorney-General as well as Premier, and he died while in office.

Lecky, Squire Thornton Strafford, English ship captain, who died at Las Palmas, Canary Islands, Nov. 23, 1902. He had made running surveys of Patagonia, and for personal services to the King of Portugal had received the Holy and Military Order of Jesus Christ. He was a fellow of the Royal Astronomical Society and of the Royal Geographical Society. For some years he served as captain in the Inman Line of steamships, and later in the Pacific Steam Navigation Company. Capt. Lecky published *Wrinkles in Practical Navigation*, a much valued work (1881); *The Danger Angle and Off-*

shore Distance Tables (1882); and General Utility Tables (1897).

Ledochowski, Miescelaus, Polish ecclesiastic, born in Klimonton, in 1822; died in Rome, July 22, 1902. The seat of the Counts Ledochowski, near Sandomir, was in Russian territory that was afterward ceded to Germany. Count Miescelaus, a younger son, was educated at the Jesuit Nobles' College in Rome, and after being admitted to priest's orders in 1845 he entered the diplomatic service of the Vatican and was employed till 1861 in missions to Lisbon, South America, and Brussels. In 1865 he was elected Archbishop of Posen by the cathedral chapter. He discouraged the Polish agitation and sustained the Prussian Government in its policy, and as *persona grata* at Berlin he was selected by Cardinal Antonelli in 1870 to solicit the support of Prussia for the temporal power of the papacy. He negotiated with Prince Bismarck at Versailles with no success, and henceforth he adopted a hostile attitude with the object of bringing the Prussian Government to terms, taking the lead in the ultramontane opposition and championing the national aspirations of the Poles. The conflict on education between the Clericals, led by Dr. Windhorst and inspired by Archbishop Ledochowski, and the Prussian Government the latter brought to an issue by the May laws of 1873, requiring every candidate for holy orders to show a certificate of educational qualifications from the state, placing seminaries and monastic institutions under state supervision, and ordering the ecclesiastical authorities to submit all appointments and transfers for the approval of state officials. The Archbishop of Posen defied these laws. He was fined for appointing and transferring parish priests and for other infractions of the new laws until all his property was distrained and finally he was condemned to imprisonment for two years in the fortress at Ostrovo and his archbishopric was declared vacant by the Prussian ecclesiastical court. Pope Pius IX refused to recognize his deposition, made him a cardinal in 1875, and after his release in 1876 received him as a guest at the Vatican. Pope Leo XIII made him Prefect-General of the *Congregatio de Propaganda Fide*. During the *Culturkampf* the German Government perceived in many ways the untoward consequences of Cardinal Ledochowski's hostility. The end of the long conflict was signalized by the reference of the dispute with Spain in regard to the Caroline Islands to the arbitration of the Pope, and from that time the diplomacy of the Vatican was favorable to German interests. Whatever success the German Emperor and his Government has attained in the effort to supplant the claim of France to protect Catholic missions and Christians in the near and far East has been attributed to the pro-German sympathies of the Red Pope.

Lee, Frederick George, English clergyman, born in Thame, Oxfordshire, England, Jan. 6, 1832; died in England, Jan. 23, 1902. He was educated at Oxford, and was admitted to the priesthood in 1856. From 1877 to 1899 he was vicar of All Saints, Lambeth. He assisted in founding the Association for the Promotion of the Unity of the Church in 1857, and twenty years later he founded the Order of Corporate Reunion, and was in consequence severely criticized by the evangelical party for his supposed Romanizing tendencies. One of his sons entered the Roman Catholic communion, and at the close of 1901 the father also became a Roman Catholic. Both as clergyman and as author Dr. Lee was ever busy, and more than one hundred publications witness to the activity of his pen. The more im-

portant of these are *Lays of the Church*, and *Other Poems* (1851); *The Martyrs of Vienne and Lyons* (1854); *Poems* (1855); *Petronilla, and Other Poems* (1858); *Death, Judgment, Hell, and Heaven* (1858); *The Beauty of Holiness* (1859); *Words from the Cross* (1861); *Directorium Anglicanum* (2d ed., 1865); *Christopher Davenport; Articles of the Anglican Church Considered* (1865); *Morning and Evening Prayers for Children* (1866); *Sermons: Parochial and Occasional* (1868); *The Validity of the Orders of the Church of England Maintained and Vindicated* (1869); *The King's Highway, and Other Poems* (1871); *Abolition and Rejection of the Athanasian Creed* (1872); *The Bells of Botteville Tower, and Other Poems* (1873); *The Christian Doctrine of Prayer for the Departed* (1874); *Glimpses of the Supernatural* (1876); *Memorials of Rev. Robert Stephen Hawker, Vicar of Morwenstow* (1876); *A Glossary of Liturgical and Ecclesiastical Terms* (1876); *Historical Sketches of the Reformation* (1878); *More Glimpses of the World Unseen* (1878); *The Church under Queen Elizabeth* (1880); *Order out of Chaos* (1881); *Reginald Barentyne: A Tale of the Times* (1881); *History and Antiquities of the Church of Thame* (1883); *Glimpses in the Twilight* (1884); *King Edward the Sixth, Supreme Head* (1886); *Reginald Pole: An Historical Sketch* (1887); *Immodesty in Art* (1887); *The Church of Haddenham, Berkshire* (1888); *A Manual of Politics* (1889); and *Sights and Shadows, being Examples of the Supernatural* (1894).

Lidderdale, William, English merchant, born in St. Petersburg, in 1832; died in London, June 26, 1902. He was trained in the counting-house of a Liverpool firm doing business with Russia, where his father was established, and afterward was connected with a shipping firm, which he represented in New York from 1857 till 1863, and then as a partner opened a house in London. In 1870 he was chosen a director of the Bank of England, and in 1889 became governor. The reserve of cash was low and was being withdrawn to South America. There had been a period of buoyant confidence and speculation when early in November, 1890, the bank rate of discount was marked up to 6 per cent. without any known adequate reason, and it became known that the bank had borrowed £3,000,000 from the Bank of France and £1,500,000 from the Russian treasury. The cause became apparent when the failure was announced of Baring Brothers, who had locked up immense sums of English floating capital in Argentine public securities, railroads, and other enterprises that were for the moment unprofitable. The Bank of England and the bankers of London joined hands to enable the Baring firm to liquidate its affairs without sacrificing the interests of its clients, and to carry out the arrangements Mr. Lidderdale remained governor till 1892. He was influential in syndicates holding Chicago and Western and Mexican railroad stocks and in the Council of Foreign Bondholders.

Lieber, Ernst, German politician, born in Camberg, near Wiesbaden, Nov. 16, 1838; died there, March 31, 1902. He studied philosophy and law at Würzburg, Bonn, Munich, and Heidelberg, was elected to the Diet of Hesse-Nassau, took his seat in the Prussian House of Deputies in 1870, and on the establishment of the empire was elected in 1871 to the Reichstag, joined Dr. Windhorst, the former Hanoverian Minister of State, in forming a united and militant Roman Catholic party, took the lead himself of the Democratic Clericals, and therefore did not immediately succeed to the leadership of the whole party.

When Dr. Windhorst died, in 1891, and when Count von Ballestrem and Baron Hüne failed to induce the party to accept their compromise with Count Caprivi on the military bill of 1893, Dr. Lieber, who headed the uncompromising resistance to the increase in the army, assumed henceforth the leadership. He had not the authority and the influence over all sections that Dr. Windhorst wielded, but yet he was able to keep the Center together and maintain party discipline.

Liu-Kun-Yi, Chinese statesman, born in Hunan, about 1820; died in Nanking, Oct. 6, 1902. Coming from the province that furnishes the Chinese army with its best material, he was a soldier by education, and as such he made his way upward in the official hierarchy without literary attainments and speaking only the dialect of his province. In 1860, at the head of one of the armies raised to fight the Taiping rebels, he turned back the tide of revolt in Kiangsi by a series of successful operations. He was Viceroy of Nanking when the Boxer outbreak occurred in Shan-tung and Pechili, when antiforeign agitators raised the cry of China for the Chinese in the Yangtse valley, and when the Imperial Government called for troops to defend the capital against the invaders and ordered the expulsion of Europeans Liu-Kun-Yi, acting in concert with Wang-Chih-Tung, Viceroy of Wuchang, refused to join in the movement and used his authority and the foreign-drilled troops at his command to repress every demonstration against foreigners. The Yangtse viceroys kept the Boxer movement and the war confined to the northern provinces, and in the arrangement of peace and the negotiation of a new commercial treaty they were able to protect Chinese interests and facilitate a settlement.

Macaulay, James, Scottish novelist, born in Edinburgh, Scotland, May 22, 1817; died there, June 20, 1902. He was educated at the university of his native city, and was for thirty-five years editor in chief of the Religious Tract Society. He was joint editor of the *Literary Gazette* in 1851-'57, and in 1858 became editor of the *Leisure Hour Sunday at Home*. He founded the popular periodicals *The Boy's Own Paper* and *The Girl's Own Paper*. His published works comprise *Across the Ferry*; *First Impressions of America and its People* (1871); *Memory Helps in British History* (1873); *Ireland in 1872: A Tour of Observation* (1873); *A Plea for Mercy to Animals*, which attracted general attention (1875); *All True: Records of Adventure* (1879); *Gray Hawk: Life and Adventures among the Red Indians* (1883); *Luther Anecdotes* (1883); *True Tales of Travel and Adventure, Valor and Virtue* (1884); *Sea Pictures drawn with Pen and Pencil*, new edition (1884); *Stirring Stories of Peace and War by Land and Sea* (1885); *Gordon Anecdotes* (1885); *Livingstone Anecdotes* (1886); *Thrilling Tales of Enterprise and Peril, Adventure and Heroism* (1886); *Whitefield Anecdotes* (1886); *Wonderful Stories of Daring, Peril and Adventure* (1887); *Victoria, her Life and Reign* (1887); and *From Middy to Admiral of the Fleet*.

MacEvilly, John, Irish Roman Catholic prelate, born in Louisburgh, County Mayo, Ireland, in April, 1817; died in Tuam, Ireland, Nov. 26, 1902. His education was received at Maynooth College, and he was ordained priest in 1840. In 1842 he was appointed Professor of Scripture in Saint Jarlath's College, Tuam, and subsequently he was president of that institution several years. He was appointed Bishop of Galway in 1857, and in 1866 Apostolical Administrator of Kilmacduagh and Kilnefora, continuing, however, as Bishop of

Galway. Appointed bishop-coadjutor of the archbishopric of Tuam in 1878, he succeeded Archbishop McHale as Archbishop of Tuam in 1881. He was the author of an English Commentary on all the New Testament except the Apocalypse.

MacGibbon, David, Scottish architect, born in Edinburgh, Scotland, in 1831; died there, Feb. 23, 1902. He received his education at Edinburgh University, and prepared for his profession in his native city and in London, spending much time also in architectural investigations in Italy, France, and Spain. With Thomas Ross he entered upon the practise of architecture in Edinburgh, and the firm executed many important works in that city and its vicinity. Shortly before his death the firm had undertaken the restoration of Iona Cathedral. In 1888 Mr. MacGibbon published a readable volume on *The Architecture of Provence and the Riviera*, and with Mr. Ross he was author of *The Castellated and Domestic Architecture of Scotland from the Twelfth to the Eighteenth Century*, a work of great value (1886-'92); *The Ecclesiastical Architecture of Scotland from the Earliest Christian Times to the Seventeenth Century* (1896); and *The Five Great Churches of Galloway* (1899).

Mackay, Alexander, Scottish educational writer, born in Bonar Bridge, Sutherlandshire, Scotland, in 1833; died in Edinburgh, Dec. 4, 1902. He was educated at the University of St. Andrews, and was a member of the Edinburgh School Board from 1897, and editor of the *Educational News*. His published works include *A Manual of Modern Geography* (1861); *Outlines of Modern Geography* (1865); *Facts and Dates* (1869); *First Steps in Geography* (1869); *Physical Geography* (1869); *Routing Geography* (1874); *Intermediate Geography* (1874); *Foreign Systems of Education*; *Esthetics in Schools*; *A History of Scotland*; *A Plea for Our Private Schools*; and *Free Trade in Teaching*.

Maclear, George Frederick, English clergyman, born in Bedford, England, Feb. 3, 1833; died in Canterbury, Oct. 17, 1902. He was educated at Cambridge, distinguishing himself by excellence in theological studies and winning several prizes. He was ordered priest in the Established Church in 1857, and after some years passed as assistant minister in London churches was head master of King's College School from 1866 to 1880. He had in the interim been assistant preacher at the Temple in 1865-'70, examiner for the Lightfoot Scholarship at Cambridge in 1876-'77, and Boyle lecturer at Cambridge in 1880. From 1880 till his death he was warden of St. Augustine's College, Canterbury, and was made honorary canon of Canterbury Cathedral in 1885. Under his wardenship the college at Canterbury increased very greatly in efficiency, while his influence as a theological writer, particularly in the earlier portion of his career, was extensive, his *Old and New Testament handbooks* attaining a wonderful popularity and holding it for a long time. Canon Maclear's published writings include *Incentives to Virtue, Natural and Revealed* (1857); *The Cross and the Nation* (1857); *The Christian Statesman and Our Indian Empire* (1859); *Class Book of Old and New Testament History* (1861); *The Witness of the Eucharist* (1863); *A History of Missions during the Middle Ages* (1863); *A Shilling Book of New Testament History* (1867); *The Apostles of Medieval Europe* (1869); *The Hour of Sorrows* (1875); *The Conversion of the Celts, the English, the Northmen, and the Slavs* (1878-'79); *The Gradual Conversion of Europe* (1879); *Evidential Value of the Holy Eucharist* (1880); *Saint Augustine's, Canterbury: Its Rise, and Res-*

toration (1888); Introduction to the Creeds (1889); Introduction to the Articles (joint author) (1895). As editor Canon Maclear published The Gospel of Saint Mark, with Notes and Introduction (1877); and The Book of Joshua, with Notes and Introduction (1878).

Macleod, Henry Dunning, English barrister, born in 1821; died July 16, 1902. His education was obtained at Cambridge, and he was called to the bar of the Inner Temple in 1849. His published writings include *The Theory and Practice of Banking* (1855-'56); *Elements of Political Economy* (1858); *Dictionary of Political Economy* (1862); *Principles of Economical Philosophy* (1872); *The Elements of Banking* (1876); *Economics for Beginners* (1878); *The Elements of Economics* (1881-'86); *Institute of Bankers in Scotland* (1882); *The Theory of Credit* (1889); and *Bimetallism*.

Margareta Sophia, Duchess of Württemberg, born in 1870; died Aug. 24, 1902. She was an archduchess of Austria, niece of the Emperor Franz Joseph, being a daughter of the Archduke Karl Ludwig and the Princess Annunziata of the Two Sicilies. She was married to Duke Albrecht of Württemberg, son of Duke Philip, brother and heir presumptive of the King, in January, 1893, and bore him six children.

Marie Henrietta, Queen of the Belgians, born in Schönbrunn, Aug. 23, 1836; died in Spa, Sept. 17, 1902. She was an Austrian Archduchess, daughter of the Archduke Joseph, Palatine of Hungary, third son of the Emperor Leopold II, and married the Crown-Prince Leopold of Belgium when both were only seventeen years old. She had been Queen of the Belgians since 1865, but lived a secluded life, saddened by the death of her only son in 1869 and by the domestic misfortunes of her daughter Stephanie, but consoled by the presence of her youngest daughter, the Princess Clementine. She was a collector of laces and did much to revive the lace industry in Belgium, and for her charities was beloved by the Belgian people.

Martin, Arthur Patchett, English author, born in Woolwich, England, Feb. 18, 1851; died in Teneriffe, Canary Islands, Feb. 15, 1902. When a child he was taken by his parents to Melbourne, Australia, and his education was obtained at the Melbourne University. He entered the Victorian Civil Service in 1868, resigning in 1882. With others he founded the Melbourne Review in 1876, and was its editor till 1882. He then settled in London. His published books include *Lays of To-day, or Verses in Jest and Earnest* (1878); *Fernshawe: Sketches in Prose and Verse* (1881); *Australia and the Empire* (1889); *True Stories from Australian History* (1893); *Life and Letters of Robert Lowe, Viscount Sherbrooke* (1893); *The Withered Jester, and Other Verses* (1895); and *Beginners of Australian Literature* (1900).

Maurer, Konrad von, German archeologist and ethnologist, born in Frankenthal, April 29, 1823; died Sept. 18, 1902. He was an authority of the first rank on the early history and laws of the Teutonic and Scandinavian peoples. He published an important series of works on the constitution and history of Iceland. He was a good Scandinavian scholar, and edited the first edition of the *Gulthorissaga*. His works include *Die Bekehrung des Norwegischen Stammes zum Christentum*; *Island von seiner ersten Entdeckung bis zum Untergange des Freistaates*; *Das Alter des Groszsprecheramtes in Norwegen*; *Studien über das sogenannte Christenrecht König Sverrirs*; and *Das älteste Hofrecht des Nordens*. He also published a collection of Icelandic popular legends of the present day.

Meiklejohn, John Miller Dow, Scottish educator, born in Edinburgh, Scotland, July 30, 1830; died in Ashford, England, April 5, 1902. He received his education at the university in his native city, and from 1876 was Professor of Education in the University of Saint Andrews. Prof. Meiklejohn was a prolific author of text-books and other educational works, his writings comprising a translation from the German of Kant's *Critique of Pure Reason* (1852); *Geography: The Best and Worst Methods of Teaching It* (1869); *Book of the English Language* (1877); *History of the British Empire* (1878); *The Problem of Teaching to Read* (1879); *The New Education* (1881); *An Old Educational Reformer: Dr. Andrew Bell* (1881); *The English Language: Its Grammar, History, and Literature* (1886); *Outlines of the History of English Literature* (1886); *Short History of the English Language* (1886); *A New Grammar of the English Tongue* (1887); *A New Geography in the Comparative Method* (1889); *Outlines of the History of England and Great Britain* (1890); *The British Empire: Its Geography, Resources, Commerce, Landways, and Waterways* (1891).

Mello, Custodio José de, Brazilian naval officer, died March 16, 1902. He was admiral of the Brazilian fleet when Peixotto was President and attempted to overthrow the republic in 1892 in order to restore Dom Pedro as Emperor. With his ships he blockaded Rio de Janeiro and bombarded the city. Beaten in the end, he was arrested and condemned to imprisonment. As he attempted soon afterward to organize a new insurrection, he was banished from Rio.

Mesdag, Hendrik Willem, Dutch painter, born in Groningen, in 1831; died in The Hague, Aug. 4, 1902. He was the son of a banker and began life in the same business, painting first as an amateur, and finally devoting himself to art altogether. He painted at first at The Hague, then at Antwerp, lived a long time in Brussels, and went to Paris to perfect himself in technique. He became a master, and for twenty years was accounted the first marine painter of his age. His works are exceedingly numerous. In his private gallery in The Hague he collected paintings and sketches of modern Dutch, Flemish, and French artists selected especially to show their style, method, coloring, and brush work.

Meyer, Lucas, Boer soldier, born in the Orange Free State in 1848; died in Brussels, Aug. 8, 1902. He emigrated to the Transvaal, was one of the founders of the republic in 1884 and its President, and when it was incorporated in the South African Republic in 1886 was elected member for Vryheid in the Volksraad. When war was declared against Great Britain in 1899 he was chairman of the First Volksraad, still sitting for Vryheid, which had Gen. Louis Botha for a second member. Both belonged to the Progressive party, which desired to work with the better class of the Uitlanders in introducing reforms and were willing to make concessions to the British residents, but both stood by President Kruger in his refusal of Mr. Chamberlain's demands and in his decision to defend the independence of the country with arms. When war broke out Lucas Meyer took command of the Vryheid, Utrecht, and Piet Retief burghers. He failed in an attack on the force of Gen. Symons at Talma on Oct. 20, and while commanding the left wing of the Boer forces at the battle of Ladysmith on Oct. 30 he broke down and handed over the command to Louis Botha. He took no further prominent part in active operations, but was an important member of the administrative staff and was one of the

central executive during the latter part of the war when Schalk Burger acted as President. In the final peace negotiations he played a conspicuous part, and when the war was over he went to Europe with other leaders to interest the friends of the Boers in the economical restoration of the conquered republics.

Michie, Alexander, British explorer, born in Earl Ferry, Fifeshire, Scotland, in 1833; died in London, Aug. 8, 1902. He received a commercial training, was sent to Hong-Kong at the age of nineteen, became the Shanghai representative and partner in the firm at the age of twenty-four, and rendered services to Admiral Sir James Hope in operations against the Taiping rebels. He also had much to do with opening treaty ports in northern China. In 1863 he returned to Europe overland, and published *The Siberian Route from Peking to Petersburg through Mongolia and Tartary*. On returning to Shanghai he was sent on a mission to western China, and made a report on Szechuan and other provinces. He returned again to Europe, but went to China again in 1883 and settled in Tientsin. In 1900 he published *An Englishman in China*, a biography of Sir Rutherford Alcock.

Montepin, Count Aymon Xavier de, French novelist and playwright, born in Apremont (Haute Saône), France, March 18, 1824; died in Passy, May 1, 1902. In 1848 he founded the journal *Le Carnard*, and was conspicuous for his antirevolutionist sympathies. He soon forsook journalism for fiction, and for more than forty years poured forth a stream of novels and romances, each work in several volumes. His separate works number more than 350, and many of them were extremely popular. The following is a partial list of Count Montepin's novels: *Les Chevaliers du Lansquenet* (1847); *Les Viveurs d'Autrefois* (1848); *Les Amours d'un Fou* (1849); *Le Brelan de Dames* (1849); *Les Confessions d'un Bohème* (1849-'50); *Le Loup Noir* (1851); *Mignonne* (1851); *Le Vicomte Raphael*; *La Reine de Saba*; *L'Épée du Commandeur*; *Mademoiselle Lucifer*; *Geneviève Gailliot*; *Un Roi de la Mode*; *Le Club des Hironnelles*; *Les Fils de Famille*; *Le Fil d'Ariane*; *Les Oiseaux de Nuit*; *Les Valets de Cœur*; *L'Auberge du Soleil d'Or* (1852-'55); *Un Gentilhomme de Grand Chemin* (1854); *Les Amours de Vénus*; *La Perle du Palais Royal*; *Les Filles de Plâtre* (1855); *Les Viveurs de Paris* (1852-'56); *L'Officier de Fortune* (1857); *Souvenirs intimes d'un Garde du Corps* (1857); *La Maison Rose* (1858); *Les Viveurs de Province* (1859-'60); *La Gitane* (1860); *Le Compère Leroux* (1860); *Un Amour Maudit* (1861); *Les Marionnettes du Diable* (1861); *Les Compagnons de la Torche* (1862); *La Reine de la Nuit* (1863); *Les Pirates de la Seine* (1864); *Les Enfers de Paris* (1865); *La Ferme des Oliviers* (1865); *La Fille Meurtneir* (1866); *Maison Maudite* (1867); *Le Moulin Rouge* (1867); *La Voyante* (1873); *Les Drames de l'Adultère* (1873); *La Femme de Paillasse* (1874); *Les Tragédies de Paris* (1874); *La Vicomtesse Germaine* (1874-'75); *Le Secret de la Comtesse* (1876); *La Sorcière Rouge* (1876); *Le Ventriloque* (1876); *Sa Majesté l'Argent* (1877); *La Batarde* (1877); *Un Débutante* (1877); *La Traite des Blanches* (1877); *Deux Amies de Saint-Denis* (1878); *La Marquise Castella* (1878); *La Morte Vivante* (1878); *Les Drames du Mariage* (1878); *Le Médecin des Folles* (1879); *Le Chalet des Lilas* (1879); *Une Dame de Pique* (1879); *Le Dernier des Courtenay* (1880); *Les Filles de Bronze* (1880); *Le Fiacre* (1880); *Jean Judi, Justice!* (1880); *Sœur Suzanne* (1880); *Henriette de Vauvert* (1880); *La Baladine* (1881); *Les Amours*

d'Olivier (1881); *La Maîtresse Masquée* (1881); *Son Altresse l'Amour* (1881); *La Fille de Marguerite* (1881-'82); *Le Pantins de Mme. le Diable* (1882); *Mme. de Frères* (1882); *Le Secret de Titan* (1883); *Simone et Marie* (1883); *Le Dernier du d'Hallili* (1883); *Les Amours de Province* (1884); *La Demoiselle de Compagnie* (1884); *La Porteuse de Pain* (1884-'85); *Le Crime d'Amières* (1885); *Deux Amours: Hermine, Odille* (1885); *P. L. M. la Belle Angèle* (1885); *Rigolo* (1886); *Les Yeux d'Emma Rose* (1886); *Les Filles du Saltrimbanque* (1886); *Les Dessons de Paris: Le Marchand de Diamants* (1887); *Un Famille Parisienne* (1887); *Le Roman de la Misère* (1887); *Fille de Courtisane* (1887); *Les Débuts d'une Étoile* (1888); *Le Gros Lot* (1888); *La Fée des Saules* (1888); *Le Mariage de Lascar* (1889); *Marâtre* (1890); *La Tireuse de Cartes* (1890); *La Fille de Fou* (1890); *Trois Millions de Dot* (1891); *La Dame aux Émeraudes* (1891). His plays, produced by him singly or in collaboration, include *Les Trois Baisers* (1846); *Le Connétable de Bourbon* (1849); *Les Fleurs Animées*; *Le Rossignol des Salons* (1850); *Les Étoiles* (1850); *Le Vol à la Duchesse* (1857); *Pauline* (with Dumas); *Les Chevaliers du Lansquenet*; *Les Frères Corses*; *La Tour Saint-Jacques la Boucherie* (with Dumas); *Les Viveurs de Paris* (1857); *La Nuit du 20 Septembre* (1858); *La Sirène de Paris* (1860); *L'Homme aux Figures de Cire* (with Dornay) (1865); *Lantara* (1865); *Bas de Cuir* (with Dornay) (1866); *L'Île des Sirènes* (1866); *La Magicienne du Palais Royal* (1866); *Le Médecin des Pauvres* (1866); *Tabarin* (with Grange) (1873); *Le Bearnais* (1876); *La Porteuse de Pain* (with Dornay) (1889). Montepin was emphatically a novelist for the people, and he would have disclaimed pretensions to literary style. His novels bear a strong resemblance to each other, and the same is true of his dramas. He was for a long time identified with *Le Petit Journal*, in every issue of which an instalment of a story of his appeared as a *feuilleton*.

Moraes, José Prudente de, ex-President of Brazil, born in São Paulo; died there, Nov. 30, 1902. He was one of the early republicans of Brazil, the leader of the Liberal movement that began in his own province under his direction, and in the end sapped the throne of Dom Pedro II and eventuated in the revolution of 1889. He was a Deputy in the provincial Legislature, afterward sat in the National Assembly, was Governor of his State after the proclamation of the republic, presided over the Constituent Assembly, became a Federal Senator and Vice-President of the Senate, and, when the military dictatorship of Marshal Floriano Peixoto came to an end after the revolt of the fleet, he was elected the first civil President of Brazil in 1894. During his four years of office he had great difficulties to overcome, and in 1897 he barely escaped assassination. He succeeded nevertheless in pacifying the country. Retiring to his plantation after his administration expired, he led the Opposition party in São Paulo and placed himself at the head of an abortive movement for the revision of the Federal Constitution.

Muefeld, Lucien, French novelist and critic, born Aug. 4, 1870; died in November, 1902. He was sublibrarian of the Sorbonne, 1890-'95, and successively thereafter dramatic critic of the *Revue de l'Art Dramatique*, *Revue Blanche*, and the *Écho de Paris*. He was one of the most brilliant of recent French writers, and his novel *L'Associée*, appearing in book form but a month before his death, at once ran through twenty editions. His other novels are *Le Mauvais Désir* (1898); and *Carrière d'André Tourette* (1900).

Münster zu Derneburg, Georg Herbert, Prince, a German diplomatist, born in London, Dec. 23, 1820; died in Hanover, March 27, 1902. He was the son of the Hanoverian minister at the court of George IV, and after finishing his studies at Bonn, Heidelberg, and Göttingen, he entered the diplomatic service. He represented Hanover at St. Petersburg from 1856 to 1864. In 1866 he tried to arrange an understanding with Prussia, and after Hanover was annexed he left the Guelph party, writing pamphlets in defense of the Prussian supremacy and a book on the political situation in Europe since the Congress of Vienna in 1815. His father had dreamed of uniting the Low Germans and the Dutch under the Hanoverian Guelphs, and therefore his apostasy was flagrant in the eyes of the irreconcilable Hanoverians. He represented Goslar in the Reichstag till 1873, when Prince Bismarck made him minister to London. Count Münster, who was quite English in manners and views of life and had an English wife, a daughter of Lord Roslyn, helped to preserve friendly relations between Germany and Great Britain and to secure the cooperation of the latter in some questions of high politics. In 1886, when it was necessary to find a successor to Prince Hohenlohe, who was cool, firm, and conciliatory, he was transferred to Paris. He won a social success in Paris, as he had in London, and brought about better political relations between the two countries than had existed until the advance toward reconciliation was checked for a time at the formation of the Franco-Russian alliance. Count Münster was delegated to represent Germany in the Peace Conference of The Hague. For his defense of German interests there he received the title of Prince von Derneburg, a title that his father had declined when the Prince Regent of Hanover gave him the old monastic estate of that name for his services at the Vienna Congress. In January, 1901, Prince Münster was succeeded as ambassador at Paris by Prince Radolin.

Murray, Francis Henry, English clergyman, born in Bishop's Court, Isle of Man, in 1820; died in Chislehurst, England, Oct. 11, 1902. He was educated at Oxford, prepared for the Anglican ministry, and was ordained priest in 1845. He officiated as curate of Northfield, Birmingham, from 1843 till 1846, and receiving in the last-named year the living of Chislehurst, continued to hold it as rector till his death. He became rural dean of Dartford in 1887, and was appointed honorary canon of Canterbury Cathedral in 1890. Early in his career Canon Murray associated himself with the Tractarian movement. He took an important part in the compilation of *Hymns, Ancient and Modern*, and was the author of *A Catechism of Authorities with Regard to the Altar and the Eucharistic Sacrifice* (1857); and *The Lord Working with Them* (1888).

Nachbauer, Franz, German tenor, born in Schlossgriesen, Württemberg, in 1835; died in Munich, March 21, 1902. He was a leading tenor singer in Germany for years, his voice having first attracted the attention of Johann Pischek, the famous baritone, who advised him to cultivate it for grand opera. He studied at Milan under Lamperti, and sang in Hanover, Darmstadt, Prague, and Vienna, and was finally engaged as first tenor of the opera in Munich, where he sang until 1889, when he retired from professional life.

Nettleship, John Trivett, English artist and author, born in Kettering, England, Feb. 11, 1841; died in London, Aug. 31, 1902. His education was received at Durham School, and he studied painting under Poynter in the Slade School, Lon-

don. His specialty was the painting of wild animals, and his canvases display much vigor of imagination. Among his more striking pictures are *Puma devouring a Peacock*; *A Big Drink*; *A Death Grip*; *A Mighty Hunter*; *The Blood Trail*; *Blind*; and *Refuge*. His literary work comprises *Robert Browning: Essays and Thoughts*, a valued contribution to Browning literature (1890); and *George Morland and the Evolution from him of Some Later Painters* (1898).

Ommanney, George Druce Wynne, English clergyman, died in London, April 19, 1902, at the age of eighty-three. After receiving an education at Cambridge, he entered the Anglican priesthood in 1843, and was successively curate of Edwinstowe, Notts, in 1843-'49; of Camely, Somerset, in 1849-'52; of Aldbourne, Wilts, in 1852-'53; and of Woodborough, Wilts, in 1857-'58. He was vicar of Quern Charlton, near Bristol, in 1852-'62; curate of Whitchurch, Somerset, in 1862-'75; and vicar of Draycot, Somerset, in 1875-'88. From 1884 until his death he was a prebendary of Wells Cathedral. He was the author of *The Athanasian Creed with Reference to its Damatory Clauses* (1872); *The Athanasian Creed: Its Uses in the Services of the Church* (1872); *The Athanasian Creed: An Examination of Recent Theories respecting its Date and Origin* (1875); *The Early History of the Athanasian Creed* (1880); *Marriage with a Deceased Wife's Sister* (1883); *The S. P. C. K. and the Creed of Saint Athanasius* (1884).

Owen, Robert, English clergyman, born about 1820; died in Barmouth, Wales, April 8, 1902. He was educated at Oxford, and although he took orders he never held preferment, but passed his life in study. He professed to follow the lines laid down by Newman and Keble in the earlier stages of the Oxford movement. His writings include *The Kymri: Their Origin, History, and International Relations* (1891).

Parker, Joseph, English non-conformist preacher, born in Hexham, Northumberland, April 9, 1830; died in London, Nov. 28, 1902. When twelve years old he became a teetotaler

and organized a drum-and-fife band in the temperance cause. He taught himself elocution, becoming a good speaker before he was seventeen. In June, 1840, he delivered his first sermon in a saw-pit on a village green. Next he taught a school, at the same time engaging in vigorous itinerant preaching. In 1851 he married

Annie Nesbitt, a farmer's daughter, who died twelve years later. He was ordained a minister of the Congregational Church at Banbury in 1853. Five years later he became pastor of Cavendish Street Chapel, Manchester, where he remained eleven years. In 1864 he married Emma Jane Common, who for thirty-four years was a valuable assistance to him in his ministry. His fame soon became world-wide, and Chicago University gave him the degree of D.D. In 1869

Dr. Parker went to London at the repeated invitation of the oldest Congregational body in that city. Here he built the City Temple, which was opened on May 19, 1874, and his ministry there was interrupted only by brief vacations. He was no respecter of persons, and freely denounced the Prince of Wales (now King) for his gambling and immoralities and the Sultan of Turkey for his atrocities. He several times visited the United States, preaching in Plymouth Church, Brooklyn, and delivering a eulogy on Henry Ward Beecher in that city. Although startling in his methods, he was orthodox as to the fundamentals of Christianity, as shown by his book *Ecce Deus* (1868), in answer to Prof. Seeley's *Ecce Homo*. He also wrote *Emmanuel* (1859); *Springdale Abbey* (1869); *Ad Clerum* (1870); *The Paraclete* (1874); *The Priesthood of Christ* (1876); *The Inner Life of Christ* (1881); *Apostolic Life* (1884); *Tyne Chylde* (1883); and an autobiography (1899). His sermons were published in a series of 25 volumes, under the title of *The People's Bible*.

Paul, Charles Kegan, English publisher and author, born in White Lackington, Somerset, England, March 8, 1828; died in London, July 19, 1902. He was educated at Eton and Oxford. He took orders in the Anglican Church, and was curate of Great Tew in 1851, and at Bloxham in 1852. After spending ten years as tutor at Eton, he became vicar of Sturminster, Dorset, remaining there nine years. His religious views having now assumed a positivist character, he resigned his living, and became reader for the publishing house of Henry S. King, whom he succeeded in the business. With him was presently associated a son of Archbishop Trench, and the firm published several valuable series of books and *The Nineteenth Century*. Later Mr. Paul met with reverses, and the firm became a limited company, of which he long continued as manager, retiring in 1899. In his latest years he entered the Roman Catholic Church. His writings include a *Translation of Faust* (1873); *William Godwin: His Friends and Contemporaries* (1876); *Mary Woolstoncraft's Letters to Imlay, with Memoir* (1878); *Biographical Sketches* (1883); *Maria Drummond: A Sketch* (1891); *Faith and Unfaith* (1891); *Confessio Viatoris* (1891); a translation of *Huysman's En Route*; *By the Wayside* (verse); *Memories* (1899).

Pauncefote, Julian, Lord, English diplomatist, born in 1828; died in Washington, May 24, 1902. He was the son of a country gentleman of Gloucestershire, was educated at Marlborough College and in Paris and Geneva, was called to the bar in 1852, and practised as a barrister and later as a conveyancer, with a short intermission when he was private secretary to Sir Samuel Molesworth, Colonial Minister. In 1862 he went to Hong-Kong, where he became Attorney-General in 1865, was a member of the Legislative and Executive Councils, and became Chief Justice. In 1872 he went to the Leeward Islands as Chief Justice, and on returning to England in 1874 became legal assistant at the Colonial Office. In 1876 he was appointed legal assistant under-secretary at the Foreign Office and received the colonial order of knighthood. In 1882 Sir Julian Pauncefote was appointed permanent Under-Secretary of State for Foreign Affairs. He represented Great Britain in 1885 on the Suez Canal commission at Paris, and in 1888 was made a knight of the Bath. In 1889 he was selected to restore to a normal footing diplomatic relations with the United States, which had been left in the care of a *chargé d'affaires* since President

Cleveland in the previous year had given his passports to Sir Lionel Sackville West. There were many unsettled questions between England and the United States, and Lord Salisbury decided to try the experiment of entrusting the delicate situation to a man of legal and judicial training, hoping that this would prove a better equipment for dealing with American statesmen than diplomatic experience. The principle of arbitration was accepted in the Bering Sea dispute in 1890 and a treaty was signed in 1892. He managed the critical Venezuela question in such a way as to extricate his Government from an embarrassing position with the least possible loss of dignity. As a solace he negotiated the general arbitration treaty between Great Britain and the United States, but by the vote of the Senate such an entanglement was avoided. He sought unsuccessfully to clear away the vexatious petty questions that caused friction between the United States and Canada through a joint commission. He arranged a *modus vivendi* and a provisional boundary in the Alaska frontier dispute. He endeavored to replace the mischievous Clayton-Bulwer treaty with one that preserved an equivalent for the advantages that it gratuitously gave to Great Britain, and when the Senate rejected this he arranged a compromise between the Senate and Lord Lansdowne. The British legation was raised to the rank of an embassy in 1893, Congress having passed an act for the promotion of American ministers to be ambassador to such powers as should send ambassadors to the United States. Sir Julian Pauncefote was the first of the ambassadors to present his credentials. In 1898 he reached the legal age for retirement, but he was requested to remain for another year, and at its close the request was repeated, he having been meanwhile raised to the peerage as Baron Pauncefote of Preston in recognition of his services at The Hague Peace Conference, and when the second year had passed, as difficult negotiations were not yet concluded and a presidential election was near, he was still retained at his post. At the time when the Spanish War was imminent he was the dean of the diplomatic body at Washington. The European cabinets were considering among themselves some means of bringing pressure upon the United States to prevent the threatened intervention in Cuba. The policy of England was to hold herself apart and gain credit and prestige by preventing war either by independent action or by dictating the concerted action. The British ambassador sounded the American Government as to the prospects of mediation and found that it would not be acceptable. When the representatives of the powers, who had already presented a note to the President expressing hopes for a peaceful outcome, proposed to present another joint note, he drew up one in terms which he ascertained that the President would receive. Suggestions of an imperative remonstrance were made by the Austrian minister. Alterations were



made at the suggestion of his colleagues, and it was referred to the respective governments. The British Government vetoed the presentation of such a remonstrance, and so did the German Government. Lord Pauncefoot was the senior British delegate to the Peace Conference at The Hague in 1899. His work in drafting with Mr. Olney the proposed Anglo-American arbitration treaty had made him one of the greatest experts and enthusiasts on the subject of international arbitration. To him and to the American delegates more than to any others was due the successful outcome of the conference, and it was at their suggestion that a permanent arbitration tribunal was created.

Peach, Edward, English army officer, born in 1865; died in December, 1902. His education was obtained at King's College, London, and Sandhurst Military College, and he entered the army in 1884, serving in the Burmese expedition of 1885-'86. He was gazetted captain in 1895, and served on the northwest India frontiers 1897-'98, and in South Africa during 1897-'98. For bravery in the latter service he was brevetted major. He was the author of *Savage Warfare*, a work officially recommended to the army and subsequently adopted as a text-book for infantry training.

Pollen, John Hungerford, English art critic, born Nov. 19, 1820; died in London, Dec. 2, 1902. He was educated at Oxford, studied art, and while fellow of Merton decorated the ceiling of the college chapel. Taking orders in the English Church, he was for five years rector of Saint Saviour's Church, Leeds, but later was one of the followers of the second Oxford Movement to Rome, and was appointed Professor of Fine Arts in the Catholic University of Dublin. He was married in 1855, and three of his sons became Roman Catholic priests. He belonged to various archeological and art societies, and was official editor of the *South Kensington Museum*. His published writings comprise *Decorative Art in its Connection with Modern Science* (1863); *Ancient and Modern Furniture and Woodwork in the South Kensington Museum* (1874); *The Trajan Column* (1874); *Gold and Silversmith's Work* (1876); *Furniture and Modern Woodwork* (1876); and *Ancient and Modern Gold and Silversmith's Work in the South Kensington Museum* (1878).

Pyetsoff, Mikhail Vasilievich, Russian geographer, born in 1843; died March 10, 1902. He received his early education in a military school, and finished in the academy of the general staff. After completing his studies he remained for fifteen years in the general staff at Omsk, making important journeys in Dzungaria and northwestern Mongolia. He was also connected with the great Chinese surveys in 1880 for determining the Russo-Chinese boundary-line. The scientific results of the first two journeys were published in the *Memoirs of the West Siberian Geographical Society*. After the sudden death of Prjevalsky, Pyetsoff was made head of the Tibet expedition, and in company with Roborovsky and Kozloff and the geologist Bogdanovitch, he spent two years in eastern Turkestan and the Gobi. The results of these expeditions were published in 3 large volumes by the Russian Geographical Society. He also published an important paper on the determination of latitudes from the corresponding altitudes of stars, and another on barometrical levelings.

Rawlinson, George, English Orientalist, born in Chadlington, Oxfordshire, England, Nov. 23, 1815; died in London, Oct. 6, 1902. He was a younger brother of Sir Henry Rawlinson, the diplomatist and Oriental scholar, and was educated at Oxford. He took orders in the Estab-

lished Church and was appointed a fellow of Exeter College in 1840. He was tutor in 1842, sub-rector in 1845, and in 1859 was Bampton lecturer at the university. Two years later he received the Camden professorship of Ancient History at Oxford. His friend Mr. Gladstone preferred him to a canonry of Canterbury Cathedral in 1872. An unfortunate indistinctness of utterance prevented him from being effective as a public speaker, and it occasioned some comment when in 1888 he accepted the living of All Hallows, Lombard Street, London, with its annual income of £2,000, when he already held a lucrative canonry and his professorship besides. He, however, resigned the Camden professorship the next year; but for some years prior to his death his duties at All Hallows were performed by proxy. Canon Rawlinson was a sound scholar, and his historical labors have been of great value to his generation. His writings in book form comprise an annotated edition of Herodotus, prepared with his brother Henry and Sir George Wilkinson (1858-'60); *The Historical Evidences of the Truth of the Scripture Records* (1860); *The Contrast of Christianity with Heathen and Jewish Systems* (1861); *The Five Great Monarchies of the Ancient Eastern World*, the work by which he will be longest remembered (1862-'67); *A Manual of Ancient History* (1869); *Historical Illustrations of the Old Testament* (1871); *The Sixth Great Oriental Monarch, or the Geography, History, and Antiquities of Parthia* (1873); *The Seventh Great Monarchy, or the Geography, History, and Antiquities of the Sassanian or New Persian Empire* (1876); *The Origin of Nations* (1877); *Saint Paul in Damascus and Arabia* (1877); *Ezra, Nehemiah, and Esther in Pulpit Commentary* (1880); *History of Ancient Egypt* (1881); *Exodus in Pulpit Commentary* (1882-'85); *Religions of the Ancient World* (1882); *The Antiquity of Man Historically Considered* (1882); *The Early Prevalence of Monotheistic Beliefs* (1883); *Egypt and Babylon from Scriptural and Profane Sources* (1884); *Religious Teachings of the Sublime and Beautiful in Nature* (1884); *Bible Topography* (1886); *Ancient History* (1887); *Ancient Egypt, in Stories of the Nations Series* (1887); *Moses: His Life and Times* (1887); *A History of Phœnicia* (1889); *The Kings of Israel and Judah* (1889); *Isaac and Jacob: Their Lives and Times* (1890); *Ezra and Nehemiah: Their Lives and Times* (1891); *Parthia, in Stories of the Nations Series* (1893); and *A Memoir of Major-General Sir Henry Creswicke Rawlinson* (1898).

Renon, Emil Jean, French meteorologist, born in Vendôme, March 8, 1815; died in Parc St. Maur, April 6, 1902. He spent two years at the German universities, being especially attracted by Gauss's lectures at Göttingen. From 1839 to 1842 he was attached to the scientific commission of Algeria, and he published a *Description Géologique de l'Algérie*. He subsequently published a similar general descriptive work on Morocco. He was active in founding the *Société Météorologique* in 1853, was its secretary eleven years, and was four times elected to its presidency. He was one of the meteorological committee that established the Observatory of Montsouris. In 1872 he was officially appointed director of a laboratory of meteorology, an office which he held until his death. The laboratory was first located at Choisy le Roi, was soon moved to Parc St. Maur, and on the establishment of the *Bureau Centrale de Météorologie*, was finally located on the plot of ground assigned the bureau, where it still remains. In

1847 he became a chevalier of the Legion of Honor; in 1884 an officer; in 1873 an Officier de l'Académie, and Officier de la Instruction Publique in 1891.

Rhodes, Cecil John, a South African politician, born in Bishop's Stortford, Hertfordshire, July 5, 1853; died in Cape Town, March 26, 1902. He was one of the seven sons of a country clergyman and was sent to school to prepare for Oxford and the clerical profession. When he was

sixteen his health became so delicate from a heart affection that he was sent out to his brother's farm in Natal. Finding the farm deserted by his brother, who had joined the rush to the diamond-fields, he undertook to manage it, and planted cotton, which was then being tested on some of the large estates and discussed as a promising new

culture. He was successful enough with his crop to win a prize, and then quit farming, his brother having written to him of the chances to make money in Kimberley. After one year of diamond-mining he found himself very rich at the age of eighteen, owner of some of the best claims and in receipt of a large income. His health at the same time had become robust. He determined to return to England and complete his education at Oxford. Before sailing he made a long journey through the northern veldt, occupied only by savage tribes and scattered Boers whose flocks and herds grazed over farms as large as counties, with wide spaces where only the wild antelopes roved. His slow trip in a Cape wagon drawn by ox-teams to Mafeking and through the Transvaal to Pretoria and back to Kimberley impressed his youthful imagination with the immensity of this salubrious region that had changed him from a weakling into an athlete, and already he dreamed of gaining this new empire for England, with its agricultural and mineral wealth that when tapped only in spots on the border gave such surprising returns as he had seen in Natal and at Kimberley. He traveled in this way for eight months, then returned to England in the latter part of 1872 and matriculated at Oriel College. He remained only six months, for though he hunted and roved his heart became weak again and his lungs diseased to such an extent that a famous London physician, in approving his desire to go out again to South Africa, privately made a note predicting a fatal termination of the case in six months. In three more years at Kimberley he reestablished his health and increased his fortune until his property in diamond-mines was second to none. He was still determined to take his degree at the university, though he could not neglect his important business interests, so in 1876 and the two following years he kept his terms at Oxford, spending the rest of the year at Kimberley, and by reading in the intervals of affairs he managed to pass the examinations. Only far-reaching schemes, not ordinary details of business, could hold the attention of this young gentleman of ideas who, starting penniless and giving only

half his mind to it, had become a great capitalist at twenty-five. The yield of the Kimberley mines, when American engineering methods were employed, increased by leaps and outstripped the consumption, although an unlimited demand for diamonds was growing up in the United States and other countries. The competition of the different mines was likely to destroy the market and render the mining properties valueless, for unless prices could be kept firm the demand would naturally diminish, instead of continuing to increase. Cecil Rhodes, who was the managing director and principal owner of the De Beers, the largest of the companies, was one of the first to see that the remedy was consolidation and limitation of output, and was the first to act. He gradually absorbed the smaller concerns, and then negotiated an amalgamation with the large companies. When dealing with the two chief operators besides himself he agreed to the terms they asked on condition that his one demand should be complied with, which was that the profits of the new De Beers consolidated company might be used for political purposes in extending British rule over the northern countries. The conferees objected that this was not business, to which he replied that it was his business. He cared little for what money could buy and nothing for money in itself, but he had an exaggerated opinion of its potentiality in bringing about political results, believing that there was no use in having big ideas if you have not the money to carry them out. The first three years after his arrival saw the completion of the first amalgamation, whereby the competition of the small mining concerns that were cutting prices was removed and arrangements could be made with the large corporations to divide the market. This business ended, Cecil Rhodes entered the Cape Legislature in 1881 as member of the Assembly for Kimberley. He went over to England in the same year to take his degree at Oxford. In the Assembly he came at once into conflict with Paul Kruger, under whose lead the Transvaal Boers had recovered their independence, one of the conditions being that they should not extend their rule to the westward of the existing boundaries into Bechuanaland or Griqualand West. Individual Boers, however, went over the border and by treaty with native chiefs obtained territory on which they based the independent republic of Stellaland. No expansion of British territory northward was at that time desired, the Little England policy being predominant in Great Britain, but in Cape Colony Rhodes worked up a sentiment of jealousy of the Transvaal, and in England, too, by pointing out the danger of Germany and the Transvaal shutting off the trade route to the north, he won approval of his plan of acquiring Bechuanaland. While a member of the commission appointed to fix the western boundary of the Transvaal he obtained a cession of the lands of Mankaroane, one of the Bechuana chiefs, and by virtue of this a British protectorate was declared over all Bechuanaland in 1884 and a treaty was made with the Transvaal in which in return for the ostensible withdrawal of the claim of suzerainty they accepted the boundary laid down for them on the west and agreed to confine themselves within their existing frontier on the north. Rhodes already had practical plans of an indefinite imperial expansion northward. He could accomplish nothing in Cape politics if he identified himself with the British party, and therefore, having persuaded the Dutch at the Cape of the advantage and necessity for the future of their commonwealth of

holding the Boer republics and German ambitions in check and extending its trade and power northward, which only the Imperial Government could do for them, he wrested the leadership of the Afrikaner party from Hofmeyr, the advocate of a United States of South Africa under its own flag. This he did not accomplish until he had attained brilliant imperial successes that conferred prestige and material advantages upon Cape Colony. The Boer intruders who had seized the trade route in Bechuanaland were ousted by means of a military expedition under Sir Charles Warren, sanctioned by the Gladstone Government because Sir Hercules Robinson, Governor of the Cape of Good Hope, had adopted the views of Cecil Rhodes. These views of imperial expansion, which expanded themselves into a vision of the whole of the eastern side of Africa from the Cape to Cairo under the British flag, did not imply English rule in South Africa or imperial control of the kind that had often exasperated the Dutch. He was as earnest an upholder of self-government and in general of the Dutch views of policy in native, educational, fiscal, and other matters as the Bond leaders. The only essential difference between him and Paul Kruger, his great antagonist, was that he wanted to preserve the imperial connection, whereas the Transvaal President wanted to unite South Africa under republican institutions. Cape Colony was not willing to assume expenses or responsibilities, and the benefits that Rhodes bestowed on the colony were obtained at the charge of the Imperial Government or, more frequently, by means of private funds that were given into his hands for his enterprises, combining commercial speculation with empire building. In the final consolidation of the Kimberley mines, completed in 1887, the trust deed placed large sums at his disposal for political purposes, and other funds were raised among the financial men of London who were delighted with schemes of gain in which possible losses could be charged to patriotism. Cape Colony declined to take Bechuanaland at first, but Rhodes made it British, and then proceeded to expand the empire as a private enterprise. The Matabele chief, Lobengula, whose Zulu warriors terrorized all the region between the Transvaal and the Zambesi, was courted both by Boers and Germans and by English agents who furnished him with guns and money in return for equivocal concessions. Rhodes negotiated with him for the right to hunt gold in the territories over which he claimed sway, and in virtue of this concession obtained in 1889 a royal charter conferring on the British South Africa Company, which he formed, political and military dominion and a commercial and industrial monopoly in the name of the British Crown over the whole basin of the Zambesi, necessitating a warlike demonstration against Portugal, who had claimed all this territory for centuries. Cecil Rhodes took the whole management of this extraordinary enterprise, built a railroad through to Mashonaland, and afterward another from the east coast, endeavored to open the mines, and did attract a community of gold-seekers to the country. When he went to England in 1888 to organize the chartered company he contributed £10,000 to the funds of the Irish home-rule party. His idea was to weaken, not to strengthen, the central power and the authority of England in the empire. He hoped to see separate parliaments in both Ireland and Scotland and an imperial federation in which the self-governing colonies would each have its proportional representation in the imperial Parliament. He extended the operations

of the chartered company beyond the Zambesi up to Lake Tanganyika, subsidized the British colony in Nyasaland, and promised to build a telegraph-line through the length of Africa in order to dissuade the Imperial Government from abandoning Uganda. When Lobengula, declaring that he had only given the English a right to dig gold, not to rule the country, disputed the authority of the company, Cecil Rhodes organized a military force and in a rapid and ruthless campaign half exterminated the Matabele. With cool courage he went without a guard to Lobengula's kraal and made peace on his own terms. He became the most conspicuous figure in Cape politics as soon as he had annexed to the British Empire and brought within the political and economical ambit of Anglo-Dutch South Africa territories nearly as great as British India, full of material resources and commercial possibilities. He entered into an alliance with Mr. Hofmeyr's Afrikaner Bond, and in 1890 took the premiership of Cape Colony, dazzling both the British and the Dutch parties with his brilliant imperialistic schemes, on the strength of which he induced the former to accept the Dutch domestic and native policy, the latter to adopt imperialism. By the act of 1892 the native franchise was curtailed. Cecil Rhodes, who managed thousands of Kaffirs in the mines and was the originator of the compound system, disbelieved in the political and social equality of blacks and whites as thoroughly as any Boer. In 1895 the author of the most remarkable political concord that ever existed in South Africa himself broke the charm and let loose again political rancor and racial jealousy by a sinister, corrupt, and criminal political intrigue as base and dishonest as was ever conceived by a desperate adventurer. He did not concoct the conspiracy alone. Members of the British Cabinet, especially Joseph Chamberlain, were involved in the guilt in a degree that has never been disclosed. Cecil Rhodes, however, was probably the prime mover, and certainly the organizer and director of the conspiracy, and he had to bear the odium, although the fiasco in which his plot ended was due to the precipitate action of his agents. After the discovery of gold in the Witwatersrand in 1886 and the growth of a mining population in Johannesburg almost as numerous as the Boers in the Transvaal, Rhodes, with the concurrence of his financial partners and friends in Kimberley and London, all of whom were deeply interested with him in the gold-mines that came to surpass the diamond-mines and all other South African industries together, used money freely to work up a British imperialist agitation among the Uitlander population with the view of making it his instrument in changing the Boer republics into British colonies, so as to hasten the realization of a British South African federation. The Uitlanders had come, not from British lands alone, but from many countries, some of the most influential of them from the United States. The republicans among them were in a large majority, but all desired the full franchise and had common grievances against President Kruger's Government. The local jealousy felt at the Cape toward the Transvaal greatly increased when the republican Government had a fiscal control over the main source of wealth in South Africa and built independent lines of railroads to the seaboard. *This sentiment began to veer around, however, when the British Government undertook to dictate to the Transvaal about the electoral franchise, schools, and taxation. While the discontent of the Uitlanders was stimulated

by organized agitation and the British annexationists among them were represented as including the whole population, the agents of Rhodes hatched a plot to overthrow the Government of President Kruger by a revolutionary uprising. Arms and ammunition bought with funds of the De Beers corporation were smuggled into the country. Rhodes planned a simultaneous invasion of the republic by his Mashonaland troopers, most of whom volunteered for the adventure on being assured by Dr. Jameson, Rhodes's representative and administrator in Matabeleland, that it was unofficially authorized by the British Government. When the appointed time for the revolution was at hand a hitch occurred in the negotiations still going on between the arch conspirator and the revolutionary committee, an American member of which, who had the widest influence in the Uitlander community, refusing to sanction the raising of the British flag, while Rhodes would not sanction the insurrection on any other conditions. Dr. Jameson, whose force was waiting impatiently on the border for the signal, led them into the Transvaal and rode into a Boer ambush near Pretoria, for President Kruger was well informed of Rhodes's plans and was able to lay hands on the arms in Johannesburg and the chief conspirators. The Jameson raid led to the Boer War, and the policy of Cecil Rhodes triumphed, though he was in eclipse and disgrace. He frankly acknowledged his culpability, immediately resigned as Prime Minister of the Cape Government, went to the territory of the British South Africa Company, called after him Rhodesia, although he had to give up his chairmanship and seat in the directorate, and intended to devote his energies and his surplus capital to developing the agricultural and industrial resources of the new colony he had created. On arriving there he found an opportunity to exercise his executive ability and fertility of resource in conducting the military operations of the Matabele war, which begun in March, 1896. After his railroad from Kimberley was completed to Buluwayo he raised capital in England for its continuance to Tanganyika and persuaded the British Government to lease territory from the Congo State for carrying it through to Uganda in order to realize the scheme of a continuous railroad from the Cape to Cairo. The German Government having objected to this lease, he arranged in an interview with the Kaiser for a German link in his projected line and its operation in connection with the railroads to the coast in German East Africa. He was still member of the Assembly for Kimberley, yet during the negotiations that ended in war he never raised his voice or took any active part in political affairs. Anticipating that Kimberley would have to stand a siege, he went thither after the beginning of hostilities, accumulated large stores of food and other things, and supplied the military authorities with many necessary things, including arms and ammunition and mechanical aids from his workshops and helped to feed the garrison and the population. He attempted to assume control of the operations, but the military men resented his interference. The strain broke down his health. He was a bachelor, and in his will he left his estate outside of Cape Town to be the residence of the Prime Minister of the future United States of South Africa, and, besides a bequest of £100,000 to Oriel College, he left the bulk of his estate to endow scholarships at Oxford worth £300 a year for three years, colonial scholarships and additional American scholarships to be filled—3 each year from

Rhodesia, 4 from colleges of Cape Colony, 1 from Natal, 1 from each Australian colony, 1 from New Zealand, 1 from Ontario, 1 from Quebec, 1 from Newfoundland, 1 from Bermuda, 1 from Jamaica, and 2 from each State and Territory of the American Union. By a codicil he founded 5 German scholarships of £250 a year to be allotted by the German Emperor to students of German birth. He hoped that the intercourse of selected American and German students with young Englishmen at the university would help to secure the peace of the world by cementing a good understanding between England, Germany, and the United States, since educational relations form the strongest tie. Desiring that the scholarships should not be conferred on mere bookworms, he directed that qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindness, unselfishness, and fellowship, taken together, should rank with literary and scholastic attainments as the chief qualifications, and fondness for and success in outdoor sports and the exhibition of moral force of character and of instincts to lead and take an interest in schoolmates as the two minor qualifications to be rated at two-thirds of the value of the others.

Rickert, Heinrich, German politician, born in Putzig in 1833; died in Berlin, Nov. 3, 1902. He represented the town of Danzig for thirty years in the Prussian Chamber and in the Reichstag. He was leader of the group of free-traders that seceded from the National Liberal party in 1879 on account of Bismarck's adoption of a protectionist policy and formed the Liberal Union, which in 1884 coalesced with the Freisinnige party of Eugen Richter. He led the Moderate section of the Radical party, and in 1884 he and his followers seceded from the advanced section to support Count Caprivi's army bill in the hope of bringing about a Liberal administration. His group, known as the Freisinnige Vereinigung, has since then supported the Government's efforts to strengthen the army and navy, to acquire colonies, and to play a greater part in the world's politics, but without altering its position in regard to aristocratic privileges, protection, and domestic policy.

Roberts-Austen, William Chandler, English metallurgical chemist, born in 1843; died Nov. 22, 1902. In 1885 he obtained the royal license to take the name of Austen. He was graduated at the Royal School of Mines in London, obtained employment in the mint, and in 1869 became assayer there. In 1882 he became Queen's assay master. In 1890 he was appointed to the chair of Metallurgy at the Royal School of Mines, which he held until his death. He published metallurgical memoirs, especially in connection with the alloying of copper and gold. He was elected a fellow of the Royal Society in 1875; was president of the Iron and Steel Institute in 1899; served on the British Executive Committee of the Paris Exhibition of 1889; and was vice-president of the International Mining and Metallurgical Congress in Paris, receiving the Cross of Chevalier of the Legion of Honor. In 1888 he was made a C. B., and in 1899 K. C. B. He was a D. C. L. of the University of Durham. As a teacher he is said to have been a universal favorite.

Royal, Joseph, Canadian journalist and statesman, born in Repentigny in 1837; died in Montreal, Aug. 23, 1902. He was educated in the Jesuit College of St. Mary's in Montreal and began newspaper work in 1857 on the staff of *La Minerve*, founded *Le Nouveau Monde* in the same year, and *L'Ordre* in 1859. In 1864 he was one of the founders of the *Revue Canadienne*, to which he contributed articles on political subjects. He

settled in Manitoba in 1870 and started *Le Métis*, entering the same time upon the active practise of law, having been admitted to the bar in 1864. He defended Lépine and Naud, who were tried as murderers for having when members of Louis Riel's provisional Government ordered the execution of Thomas Scott. He sat in the Manitoba Legislature from its creation in 1870 until he was elected in 1879 to the Dominion Parliament, and while in the Legislature he was speaker and afterward provincial Secretary, Attorney-General, and Minister of Public Works. He carried through the school law of 1871, the act abolishing the Legislative Council, and the act creating the University of Manitoba, and he secured more favorable financial arrangements with the Dominion. He was returned to the House of Commons until, in 1888, he was appointed Lieutenant-Governor of the Northwest Territories. After the expiration of his term in 1893 he became editor of *La Minerve*.

Boyer, Clémence, French scientific writer, born in Brittany in 1830; died in Paris, Feb. 3, 1902. She intended in her youth to become a nun, afterward studied at the Sorbonne and the Collège de France, went to Lausanne in 1860, instituted a course of logic for women, shared with Prudhomme a Government prize for an essay on the theory of taxation, and was the translator and defender in France of Darwin's theories. She published a famous pamphlet on a national church for the republic, a work on *Le Bien et la Loi Morale* in 1881, and an original treatise on the atomic theory entitled *La Constitution du Monde* in 1890, besides memoirs on anthropological and archeological subjects.

Rute, Mme. Marie Letizia de Studolmine Solms, Ratazzi de (Wyse), commonly known as Mme. Ratazzi, daughter of Sir Thomas Wyse, an English ambassador to Athens, and Letitia Bonaparte, a niece of the first Napoleon, born in Waterford, Ireland, in 1833; died in Paris in February, 1902. Her first marriage was in 1848 to Frédéric de Solms, a wealthy Alsatian, who died in 1861, and in 1863 she married the Italian statesman Urbain Ratazzi, who died in 1873. Four years afterward she married De Rute, a Spaniard. Exiled from Paris after the *coup d'état*, in 1852, she established a journal, *Les Matinées d'Aix*, to which she contributed sketches in prose and verse. She was allowed to return in 1860, but was again sent to exile in 1864, partly on account of the publication of her book *Les Mariages d'une Créole*. Besides publishing many works in prose and verse, she contributed to many journals, and with her talents, and her great beauty at one period of her career, she played a conspicuous part in literary and political circles during the second empire. The following is an incomplete list of her published books: *Nice, Ancienne et Moderne* (1854); *La Dupinade* (1859); *Les Chants de l'Exilée* (1859); *Fleurs d'Italie: Poésies et Légendes* (1859); *Bontandes* (1860); *La Réputation d'une Femme* (1862); *Mademoiselle Million* (1863); *Les Mariages d'une Créole* (1864); *Le Piège aux Maris* (1865); *Les Rives de l'Arno*, poems (1865); *Les Soirées d'Aix les Bains*, prose and verse (1865); *La Forge* (1865); *La Mexicaine* (1866); *Bichenelle* (1867); *Si j'étais Reine* (1868); *Louise de Kerner* (1868); *Le Rêve d'une Ambitieuse* (1868); *Nice la Belle* (1870); *Florence* (1870); *Cara Patria*, verse (1873); *L'Ombre de la Mort*, verse (1875); *L'Espagne Moderne* (1879); *Le Portugal a vol d'Oiseau* (1880); *Ratazzi et son Temps* (edited) (1881); *La Belle Juive* (1882); *L'Aventurière des Colonies*, a drama (1885); and *Enigme sans Clef*, a collection of tales (1894).

Sargeant, Lewis, English journalist, born in 1841; died in Bournemouth, England, Feb. 2, 1902. He was educated at Cambridge, and for six years preceding his death had been a member of the editorial staff of the *London Daily Chronicle*. He was an authority on educational subjects, and was a man of wide learning and exceptional breadth of view. Since 1878 he had been honorary secretary of the Greek Committee in London, and for his services to Greece he was created knight of the Greek Order of the Redeemer. His published books include *An Introduction to English Composition* (1872); *Elementary Mathematics* (1873); *New Greece* (1878); *England's Policy* (1881); *William Pitt* (1882); *The Government Handbook* (1890); *John Wiclif* (1893); *Greece in the Nineteenth Century* (1897); *The Franks from their Origin as a Confederacy to the Establishment of the Kingdom of France and the German Empire* (1898); and *The Caprice of Julia*, a novel (1899).

Schafarik, Adalbert Vojtěch, Bohemian chemist and astronomer, born in Neusatz in Súdungarn, Oct. 26, 1829; died in Prague, July 2, 1902. From 1856 to 1858 he studied in Berlin and Göttingen with Wöhler. He became Professor of Chemistry in the Bohemian Polytechnicum in 1862, and in 1882 was appointed to the chair of Chemistry in the Bohemian University. His last chemical paper was published in 1872. After this time he devoted himself chiefly to astronomical investigations, which he carried out in his private observatory. He held the chair of Descriptive Astronomy in the Bohemian University from 1892 to 1896. He was an adept at grinding and polishing metallic and glass mirrors. He translated the works of Alexander Humboldt into Bohemian, and left a long series of astronomical manuscripts, which he was prevented by failing health from publishing.

Schenk, Leopold, Hungarian embryologist, born in 1841; died in Schwanberg, Styria, Aug. 17, 1902. He was a distinguished Professor of Embryology when he published a work that created much popular discussion and was received with skepticism in the scientific world, in which he advanced a theory that the sex of children can be artificially predetermined by a regimen of food.

Scholl, Aurélien, French journalist and author, born in Bordeaux, July 13, 1833; died in Paris, April 16, 1902. He was the son of a notary, and after studying in the schools of Bordeaux he went to Paris to embark on a literary career. He became an incisive newspaper writer, writing in 1850 for the *Corsair*, and after it was suppressed in 1852 he was connected successively with the *Paris*, the *Mousquetaire*, *L'Illustration*, and the weekly *Figaro*, revived the *Satan*, and started *La Silhouette*, *Le Nain Jaune*, *Le Club*, *Le Jockey*, and *Le Lorgnon*. From 1872 he was associate editor of *L'Événement*, and was chief editor for a season of both the *Voltaire* and *L'Écho de Paris*. He fought many sensational duels and made himself a conspicuous figure in the public eye by his marriage with the rich Alice Perkins, of London, and its sequel, and by other adventures. He published *Lettres à mon Domestique* in 1854; *Les Esprits Malades* in 1855; *Dénise* in 1857; *La Foire aux Artistes* in 1858; *Claude de Borgne* in 1859; *Les Mauvais Instincts* in 1860; *Aventures Romanesques* in 1862; *Hélène Herrmann*, *Les Amours de Théâtre*, and *Scènes et Mensonges Parisiens* in 1863; *Gens Tarés* in 1864; *Les Cris de Paon* and *L'Outrage* in 1866; *Les Nouveaux Mystères de Paris* and *Les Petits Secrets de la Comédie* in 1867; *Dictionnaire Féodal* in 1869; *La Danse de Palmiers* in 1873; *Les Amours de Cinq*

Minutes in 1875; *Le Procès de Jésus-Christ* in 1877; *Les Scandales du Jour* in 1878; *Fleurs d'Adultère* in 1880; *L'Orgie Parisienne* and *Mémoire du Trottoir* in 1882; *Les Nuits Sanglantes* and *Fruits Défendus* in 1885; *Roman de Follette*, *L'Esprit du Boulevard*, and *Les Fables de La Fontaine* in 1886; *Paris en Caleçon* in 1887; *Paris aux cent Coups* in 1888; and *L'Amour appris sans Maître* in 1891. He also wrote *Jaloux du Passé*, a one-act comedy produced in 1861; *Singuliers Effets de la Foudre*, in collaboration with Théodore de Langeac, in 1863; *La Question d'Amour*, with Paul Bocage, in 1864; *Les Chaines de Fleurs* in 1866; *L'Hôtel des Illusions*, a vaudeville, in 1869; *On Demande une Femme Honnête*, with M. V. Koning, in 1877; *Le Repentir* and *Le Nid des Autres*, with M. A. Artois, in 1878.

Senussi, Sidi el Mahdi, sheik, Arab religious leader of Islam, born in Bengazi in 1837; died in Kanem in July, 1902. His father, Sidi Mohammed, was a dervish of Algerian birth, a shérif, or descendant of the Prophet, who, after adventures and trials under Abdul Kader, went to Mecca, and then returned homeward through Egypt and Tripoli, settling in Cyrenaica near the border of his own district because he found it unsafe to reenter Algeria. He revived the pure doctrines of Islam among the Bedouins, and after some years migrated eastward to the small oasis of Jaghub. Senussi, left an orphan in infancy, was carefully educated by his father's disciples and encouraged to believe in his high calling as a guide of Islam. For fifty years he remained on the oasis, living a life of ascetic piety and preaching his doctrines among the desert tribes whose camels transport goods between the coast and the Soudan states of Wadai and Kanem. His reputation for holiness spread wherever caravans went, and in all the oases of the Sahara lived members and missionaries of his sect. In the end he left Bengazi to take up a wandering life in the Sahara among the tribes who were susceptible to religious fervor and ready to adopt his stringent rules of simple living. He had no political ambition, was loyal to the Sultan of Turkey as caliph, abstained from all intrigue, and kept no armed force. For some years he lived in the oasis of Borku. The Mahdi of the Egyptian Soudan endeavored in vain to gain his support. When he left Borku he moved by slow degrees with his large and increasing body of followers westward through the desert, spreading an elevating and refining influence among the fierce Bedouins and half-pagan Soudanese by his example and missionary teachings.

Siemeradski, Henryk, Russian painter, born in Kharkoff, 1844; died Aug. 22, 1902. He studied natural science at the University of Kharkoff, and afterward painting at the Art Academy at St. Petersburg; in 1871 went to Munich, where he imbibed the spirit of Piloty's historical school; settled finally in Rome; obtained the medal in the Russian section of the Paris Exposition of 1878 with his large painting of the *Torches of Nero*; exhibited later the *Amulet Seller*; *Vase or Slave*; *Out of the Catacombs*; *The Sword-Dance*; *Phryne*; *The Temptation of St. Anthony*; and designed frescoes for the Church of the Holy Saviour at Moscow.

Simar, Hubertus, German Roman Catholic prelate, born in Eupen in 1835; died in Cologne, May 24, 1902. He was educated at Bonn University and in the theological seminary at Munich. In 1864 he was appointed to the chair of Catholic Theology at Bonn, and in 1880 to that of Dogmatics and Apologetics. He took part in pastoral work and Church affairs during his professorship. He was intimate with the leaders of the Old Catholic movement until their severance from the

Church. In 1891 he was consecrated Bishop of Paderborn. His patriotic attitude during the conflict between the Government and the Curia was remembered when Archbishop Klementz died, in 1899, and a successor in the see of Cologne had to be found who was acceptable alike to the Government and the Curia. The King of Prussia placed him on the list of candidates, and the Cologne chapter elected him, but he would not accept without the behest of the Pope, who accordingly issued a formal command. When Dr. Simar took the oath of allegiance to the Emperor on Feb. 9, 1900, he added a declaration that he would act as a loyal patriotic German bishop.

Simpson, Maxwell, English chemist, born in Beech Hill, County Armagh, Ireland, March 15, 1815; died Feb. 26, 1902. He was graduated at Trinity College, Dublin, and subsequently as a bachelor of medicine in 1847. He became lecturer in chemistry, but tired of teaching, and went abroad to study chemistry with the masters of the science. In 1851 he worked under Kolb at Marbourg, then with Bunsen at Heidelberg. While in the latter's laboratory he published his first scientific memoir, *On Two New Methods for the Determination of Nitrogen in Organic and Inorganic Compounds*. He next went to Paris and entered the laboratory of Wurtz. While here he made original investigations and published many papers. In 1861 Prof. Frankland communicated a paper of his to the Royal Society, *On the Synthesis of Succinic and Pyrotartaric Acids*, which led to his subsequent election as a fellow of the Royal Society. In 1872 he was appointed to the chair of Chemistry in Queen's College, Cork. He resigned this professorship in 1891. He was examiner for several institutions in London and elsewhere, was an honorary fellow of the King's and Queen's College of Physicians, received the degrees of M. D. and LL. D. from the University of Dublin, the degree of D. Sc. from the Royal University of Ireland, was president of the chemical section of the British Association in 1878, and was vice-president of the Chemical Society from 1872 to 1874. The volumes of the *Journal of the Chemical Society* and the *Proceedings of the Royal Society* contain many of his memoirs.

Smith, George Vance, English Biblical scholar, born in Portarlinton, Ireland, in 1816; died in March, 1902. He was educated for the Unitarian ministry at Manchester New College, then situated at York, and was Professor of Theology there several years. He was minister of St. Saviour Gate Unitarian Chapel, at York, in 1858-'75, and principal of the Caermarthen Presbyterian (Unitarian) College, Wales, in 1876-'88. He became a member of the New Testament Revision Company in 1870, and served till the conclusion of the work. His invitation to this work excited the fiercest opposition in certain quarters, and in the opinion of some theologians the labors of the company were almost neutralized by the fact that a Unitarian had shared in them. His presence at communion in Westminster Abbey with the other revisers also gave rise to a display of theological bitterness. His published works include *The Prophecies relating to Nineveh and the Assyrians* (1857); *The Holy Scriptures of the Old Covenant in a New Translation* (1859); *Eternal Punishment* (1865); *The Bible and Popular Theology: A Restatement of Truths and Principles* (1871); *The Spirit and the Word of Christ and their Permanent Lessons* (1874); *The Holy Scriptures of the Old Covenant in a Revised Translation* (joint author) (1874); *The Prophets and their Interpreters* (1878); *Texts and Margins of the Revised New Testament* (1881); *Chapters*

on Job for Young Readers (1887); The Bible and its Theology as Popularly Taught, a revised and enlarged edition of The Bible and Popular Theology (1892); and Some Modern Phases of the Doctrine of the Atonement (1894).

Southward, John, English typographer, born in Liverpool, April 27, 1840; died in London, July 9, 1902. He was perhaps the highest English authority on the history of typography, and was widely known as a writer and lecturer on the subject. At seventeen he edited a local magazine, and he was subsequently editor of the Liverpool Observer, edited by his father. He removed to London in 1865, and in 1869 became editor of the Printer's Register. In 1891 he assumed proprietorship of the Paper and Printing Trades Journal, but soon relinquished the business in order to devote himself to the literature of his favorite theme. His valuable work on Practical Printing reached a third edition in 1887. Other important works by him are Fine Printing; Principles and Progress of Printing Machinery (1889); Type-Composing Machines of the Past, Present, and Future (1890); Modern Printing (1900); and Bibliography of Printing (in part).

Stark, Arthur James, English artist, born in Chelsea, England, Oct. 6, 1831; died in South Nutfield, Oct. 29, 1902. He studied painting under his father, John Stark, an artist of the Norwich school of colorists, who was frequently styled the English Hobbema, and profited so well by the instruction that at seventeen he exhibited his first canvas, A Water-Mill, at the Royal Academy. The Starks had removed to Windsor from Chelsea when the lad was about eight years old, and while living at Windsor he acquired that love for the valley of the Thames that was afterward to make itself so apparent in many beautiful landscapes. Stark entered the Royal Academy Schools in 1849, and from the year preceding till 1877 exhibited at the Academy almost without a break. His subjects were nearly always landscapes with cattle, and although an animal painter he was essentially the latest exponent of the Norwich school of painting, depicting nature in rich but quiet tones. After 1886 he lived and worked at South Nutfield, in the pleasant district in Surrey near Redhill.

Stephens, William Richard Wood, English clergyman, born in Gloucestershire, Oct. 5, 1839; died Dec. 22, 1902. He studied at Oxford, prepared for the Anglican ministry, and was ordained in 1864. He was curate of Staines, 1864-'66, and of Purley, Berkshire, 1866-'69; vicar of Mid-Lavant, Sussex, 1870-'73; and rector of Woolbeding, Sussex, 1876-'94. He was lecturer in the Chichester Theological College in 1872-'75, became a prebend of Chichester cathedral in 1875, and was promoted to the deanery of Winchester in 1894. His published books comprise Saint Chrysostom: His Life and Times (1872); Memorials of the South Saxon See and Cathedral Church of Chichester (1876); Christianity and Islam (1877); The Burials Question (1877); The South Saxon Diocese: Selsey-Chichester (1880); Hildebrand; His Life and Times (1888); Life and Letters of Edward Augustus Freeman, his most important work (1895); The English Church from the Norman Conquest to the Accession of Edward I, 1066-1202 (1901).

Sterndale, Robert Armitage, English civil servant, born in England, June 30, 1839; died Oct. 3, 1902. After being educated privately, he was sent to India in 1856 to fill an appointment in the financial department of the Government. He served in various capacities for many years, becoming accountant-general for Bombay in Janu-

ary, 1884, and accountant-general for Madras in November, 1887. Retiring from the Indian service in 1890, he subsequently served as Acting Governor of St. Helena for six months, and was appointed Governor in 1897, which office he filled at the time of his death. Gov. Sterndale was the author of Seoni, or Camp Life on the Satpuras: A Tale of Indian Adventure (1877); The Afghan Knife, a novel (1879); A Natural History of the Mammalia of British India and Ceylon (1884); Denizens of the Jungle (1887); Turkey and Ceylon; An Account of the District of Seoni; and Saint Helena (1902).

Stokes, John, English military engineer, born in Cobham, Kent, June 17, 1825; died in Ewell, Nov. 17, 1902. He was the son of a clergyman, was educated at Woolwich, entered the royal engineers in 1843, served in the two Kaffir wars with distinction, organizing the Hottentot levies in 1851, was chief engineer of the Turkish troops in the Crimean War, fortified Kertch, was British commissioner at the disbandment of the Turkish contingent after the war, was appointed British commissioner for the Danube in 1856 under the treaty of Paris making it an international stream, was nominated vice-consul at the Danube delta in 1861, signed the convention for regulating navigation at the mouths of the Danube in 1866, and the Danube loan convention in 1868, and remained until the work of deepening the Sulina mouth was completed at the end of 1871. For the next two years he commanded the engineers in South Wales, was British commissioner on the tonnage question in 1873 and was employed on other affairs connected with the Suez Canal, concluded a convention with M. de Lesseps in 1875, and has been the representative of the British Government on the Canal Board from the beginning. He retired from the army with the rank of lieutenant-general in 1887.

Sutherland, Alexander, Australian lecturer, born in Glasgow, Scotland, in 1852; died Aug. 9, 1902. After emigrating with his parents to New South Wales in 1867, he completed his education at Melbourne University. He was tutor at Morison's Scotch College, Melbourne, in 1871-'73, and then founded Carlton College in Melbourne, of which he was principal until 1892, when he withdrew and devoted himself to literature, although he continued to lecture. Near the end of his life he was appointed registrar of Melbourne University. With his brother George he published in 1879 a History of Australia and New Zealand, which proved very popular. Subsequent works of his are Thirty Short Poems (1880); The Development of Australian Literature (1898); and Origin and Growth of the Moral Instinct, his most important work (1898).

Targe, Allain, French statesman, born in 1832; died July 17, 1902. His father and grandfather were judges, and he was a deputy of the public prosecutor under Napoleon III until he resigned to join the republicans. He was unsuccessful as a candidate in Paris for the Corps Législatif in 1869. After the fall of the empire he was prefect at Angers and Bordeaux. He failed twice as a candidate for the Chamber, and then succeeded, in 1876, in getting elected for Paris. He opposed the Opportunists, and in 1885 became Minister of the Interior in the Brisson Cabinet. The successes of the Reactionaries through the *scrutin de liste*, for which Gambetta was responsible, were charged to his mismanagement of the elections, and therefore he was not taken into the Cabinet again after the fall of the Brisson ministry at the end of 1885, and in 1889 he lost his seat in the Chamber.

Temple, Frederick, Primate of all England and Metropolitan, born in Santa Maura, in the Ionian Islands, Nov. 30, 1821; died in London, Dec. 23, 1902. He was the son of an English army officer, who died while his son was still quite

young, and the boy was brought up by his mother, who was comparatively poor. He was sent to the famous Blundell school at Tiverton, and thence to Oxford, graduating in 1842 with a "double first-class," and thus securing a fellowship and tutorship in his college. He was ordained to the priesthood of the English Church in 1846, and was principal

of Kneller Hall, near Twickenham, from 1848 to 1858. After serving as school inspector for several years, he became head master of Rugby School in 1858, and under him the school regained much of the prestige it had held during Dr. Arnold's head-mastership. In 1860 the famous volume of *Essays and Reviews* appeared, exciting a vast amount of acrid controversy on account of the supposed unorthodox opinions of its various authors. Dr. Temple's own contribution to the volume, *The Education of the World*, was certainly not open to the objections urged against the others, but it encountered quite as much adverse criticism as they, and caused many persons to regard him as a heretic. When he was nominated to the bishopric of Exeter, in 1869, the most virulent objection to the appointment was developed among the clergy on account of his participation in the volume just named, but it was ineffectual, and he was consecrated in due course. In 1885 he was translated from Exeter to London, and again encountered opposition on account of the unforgotten contribution to the unorthodox *Essays and Reviews*. On the death of Archbishop Benson, in 1896, Dr. Temple was nominated to fill the vacancy, and on Dec. 22 of that year the nomination was confirmed in Saint Paul's Cathedral, and he was enthroned Archbishop of Canterbury in the following January, his death occurring at the completion of his sixth year as primate. But few objectors appeared on the occasion of his elevation to the primacy; and, although he was a Radical in politics, his promotion came to him at the hands of a Tory Prime Minister, the choice having been dictated, in some degree, at least, by Queen Victoria. As Archbishop of Canterbury he stood for sincere belief in the essentials of Christianity combined with extreme comprehensiveness in the Anglican fold, and no man in the kingdom commanded more general respect than he. He was brusque in manner, and a rigid disciplinarian both as head master and bishop; but his perfect sense of justice and his abundant common sense commanded a far-reaching influence. He was a total abstainer, both from temperament and conviction, and was a strong ally of the temperance cause; but he was never fanatical on the subject, being able always to discern the limits of practical attainment in the direction of reform, and on the stirring topic of public education his grasp of the

situation was equally apparent. He was a plain rather than a popular preacher, but, while he was easily comprehended by the uneducated, his scholarship remained unobscured. The absence of early culture and the privations of his boyhood in Devonshire left their mark upon him, as shown in certain provincialisms of speech and accent, and perhaps also in the excessive brusqueness that led some witty clergyman to remark, "There are no polished corners to our Temple." With a wonderful capacity for hard work, he was a stern economist of time, never wasting it upon mere superficials. On one occasion when he was Bishop of London, the visiting Emperor of Germany sent to request the prelate to call upon him. As compliance with the imperial demand involved the loss of practically an entire working day, he told the Emperor's messenger that he should be unable to do as had been requested. "But, my lord," exclaimed the horror-stricken man, "neither I nor anybody else ever conveyed such an answer to the Emperor of Germany." "I can not help that," said the bishop, "you must convey it now," and the desired call was not made. Although the term of Dr. Temple's primacy was short, it was eventful. Many important questions, civil and ecclesiastical, came before him for consideration, and in ritual and other controversies he held an even rein. He took part in the Queen's diamond jubilee in 1897, and in the celebration of the landing of Augustine at Canterbury, and to him fell the duty of crowning the present King of England, Edward VII. He married in 1876; and his wife, a granddaughter of the late Earl of Carlisle, and herself a tireless worker and organiser, survives him. His only published books are three volumes of sermons delivered in Rugby Chapel and his Bampton Lectures, delivered in 1884, on *The Relations between Religion and Science*, a work held in the highest esteem by competent critics. Despite his rugged appearance, his years of tireless activity had told upon him severely, and in his last months he was attacked by a species of ataxia, which manifested itself in August last at the moment of coronation. While about to place the crown upon the head of the King, he tottered and would have fallen but for the King's sustaining arm. An equally pathetic scene occurred in the House of Lords on Dec. 3, when, at the close of a vigorous speech in support of the public education bill, the aged primate sank upon his seat in collapse and had to be assisted from the chamber. On reaching Lambeth Palace he was conveyed to his bed, which he was too weak to leave afterward. On the following Saturday his funeral took place in the cathedral at Canterbury.

Temple, Sir Richard, English civil servant, born in Kempsey, near Worcester, England, in 1826; died in Hampstead, March 15, 1902. He was educated at Rugby and Haileybury College, and entered the East Indian civil service in 1846. After holding successively several important places of trust, he became Finance Minister of India in 1868, Governor-General of Bengal in 1874, and was Lieutenant-Governor of Bombay, 1877-'80. Returning to England, he served on the London School Board in 1884-'94, and sat in the House of Commons from 1885 to 1895. He traveled extensively on the Continent, and was an amateur artist. His published works include *India* in 1880 (1880); *Men and Events of my Time in India* (1882); *Oriental Experiences* (1883); *Cosmopolitan Essays* (1886); *Palestine Illustrated* (1888); *Life in Parliament* (1893); *The Story of my Life* (1896); *A Bird's-Eye View of Picturesque India* (1896); and *The House of Commons* (1900).

Thompson, D'Arcy Wentworth, Irish scholar, born in 1829; died in Galway, Ireland, Jan. 26, 1902. For more than forty years he was Professor of Greek in Queen's College, Galway. He was the author of *A Latin Grammar for Elementary Classes* (1857); *Ancient Leaves* (1862); *History and Philosophy of Story-Telling* (1863); *On History and Progress* (1863); *Day Dreams of a Philosopher* (1864); *Nursery Nonsense, or Rhymes without Reason* (1864); *Fun and Earnest, or Rhymes with Reason* (1865); *The Wit and Wisdom of the Athenian Drama* (1867); and *Way-side Thoughts* (1868).

Tiele, Cornelis Petrus, a Dutch theologian, born in Leyden, Holland, Dec. 16, 1830; died there, Jan. 14, 1902. He was educated for the ministry at the Remonstrant Seminary in Amsterdam, and after being pastor of the Remonstrant Church at Moordrecht from 1853 to 1856 became pastor of a similar church in Rotterdam. Here he soon attracted attention as a preacher and scholar, and when the Remonstrant Seminary was transferred to Leyden in 1873 he was appointed a professor. In 1877 he accepted the chair of History of Religion, in the University of Leyden, while retaining his post at the seminary. Prof. Tiele published *History of the Religions of Zarathustra* (1864); *Comparative History of the Religions of Egypt and Mesopotamia* (1869-'72), which was quickly translated into French, German, and English; *Outlines of the History of Religion* (1876); *Elements of the Science of Religion* (1897-'99); and *History of Religions* (1901).

Tissot, James, French painter, born in Nantes, Oct. 15, 1836; died at the Abbey of Buillon, Aug. 8, 1902. He was a pupil of Ingres in the *Ecole des Beaux-Arts*, studied under Lamothe, and, in



London, under Seymour Haden, became a finished draftsman, but rather feeble colorist of French classic traditions. In his earlier work his favorite subjects were types of female beauty, treated in a frivolous manner, that were striking and attractive. He exhibited *A Promenade in the Snow* in 1859, and *The Return of Faust and Marguerite* in

1861, which is in the Luxembourg. In 1863 he sent to the Salon *The Prodigal*; in 1864, *Two Sisters*; in 1865, *Spring*; in 1866, *A Girl at Church*; in 1867, *Confidence*; in 1868, the water-color *Melancholy*; in 1869, *A Widow*; in 1870, *A Girl in a Boat*. He produced etchings of English scenes and a series on *Parisian Women*, and illustrated a novel by De Goncourt and other books. Under the impulse of a sudden bereavement he went to Palestine and devoted six years to studying the scenery and places, atmosphere, skies, architecture, plants, animals, utensils, costumes, the daily life, customs, and manners, and the Semitic types to be found there. His purpose was to illustrate in pictures all the recorded incidents in the life of Jesus Christ. This he accomplished, retiring to the ruins of the old abbey in the Doubs in 1896 after he returned to France with innumerable sketches and studies, in 350 water-colors and an immense number of small-

er sketches and drawings. As the paintings were intended for reproduction, the freedom of artistic treatment was somewhat restrained, yet they constitute collectively a marvelous and original work of art in which the Biblical scenes are depicted with force and feeling, with an entire absence of the conventions and traditional sentiment of religious art, in their true environment. His exact and faithful impressions of Oriental life are realistic without loss of dignity and minute in ethnological and historical details without a lowering of artistic quality, while the action of the sacred story is powerfully rendered and the actors throughout the series consistently interpret his conception of their character and individuality. The paintings were reproduced by Lemercier in Paris under the title of *La Vie de notre Seigneur, Jésus-Christ*. Tissot was still working at Buillon when he died, painting the scenes and incidents of the Old Testament. His water-colors and pen-and-ink drawings of the life of Christ, 540 works in all, are in the gallery of the Brooklyn Institute of Art, having been purchased for \$60,000, the price set by the artist, who refused to allow the paintings to be sold separately.

Tisza, Koloman, Hungarian statesman, born in Grosswardein, Dec. 16, 1830; died in Budapest, March 23, 1902. He belonged to the noble Protestant family of Borosjeno in the county of Biharar, studied law, and obtained a post in the Ministry of Education in 1848, which he resigned as soon as the revolutionary storm burst, but did not identify himself with the revolution. He went abroad to study, returned to his father's place in Geasz, his part of the inheritance, and first took part in public affairs as the champion of Protestant autonomy in opposition to Count Leo Thun's patent of Sept. 1, 1859, for the regulation of the Protestant communions. This interference of the Austrian Government in a branch of Hungarian affairs that the Hungarians had always settled among themselves gave a fresh impetus to the constitutional idea and brought Koloman Tisza to the front as its advocate. When the prefect called to examine the correspondence that Tisza was holding with the proscribed agitators and asked him to show a specimen of the incendiary documents he handed out the imperial patent as the only one he possessed. When in October, 1860, absolute government in the Austrian Empire was relinquished in a decree recognizing constitutional and representative rights in the various historical states existing, the Magyar Liberals were inclined to accept for Hungary the liberties offered, as they exceeded the constitutional rights that practical politicians then hoped to obtain for Hungary. Tisza induced them to reject the whole scheme of provincial self-government and to stand firmly for the historical rights of Hungary as an independent state. Henceforth he was the acknowledged leader of the movement for the restoration of the Hungarian Constitution. When Parliament was reconvened in 1861 he was elected to the House of Deputies from the town of Debreczin and succeeded Count Ladislaus Teleky in the leadership of the Left Center, the constitutional party which opposed Francis Deak's conciliatory proposal to petition the Austrian Emperor for the restoration of the ancient liberties, holding it unsuitable to address the monarch until he should become the crowned constitutional King of Hungary. When Deak's petition was summarily rejected by the Vienna Government its author drew up a fresh address which presented the Hungarian demands so fully and unequivocally that Tisza accepted it as an adequate expression of the Magyar aspirations. This memorial voicing the unanimous opinion of the nation was an-

answered only by the dissolution of the Hungarian Parliament with the threat of military force in case of resistance. During the despotic *régime* that followed Tisza expounded the constitutional view in articles contributed to a political journal started by his friend Moritz Jokai, in which he unfolded a Liberal program for Hungary, including free trade with other nations and the removal of trammels from internal industry and commerce. When Parliament was again convoked toward the close of 1865 Koloman was elected again as member for Debreczin, and with M. K. Ghycsy he led the group that in 1861 would speak to Austria only through a parliamentary resolution. This minority party supported Deak as well as his own more numerous followers, and Tisza took a prominent part in the negotiations for an *Ausgleich* that were interrupted by the war of 1866 and were quickly completed when it was over. When constitutional government was at last established with Count Julius Andrássy at the head of the ministry Deak's followers became the Government majority and Tisza's the regular Opposition, which supported the Cabinet, however, in its vigorous repression of socialistic and agrarian agitation. Tisza's political influence was not dependent on the strength of his party, which waxed in 1869 and waned again in 1872. He declined several times to take an office in the Cabinet. When the Government fell into discredit in 1874 by reason of administrative mismanagement Tisza was invited to form a Cabinet, but declined until the country was ready to adopt the program of the Opposition, which Ghycsy and his immediate following had left. When the Government made concessions to the non-Magyar nationalities Tisza approved, but when the Nationalist demands still grew he was the first to call a halt and to recall public opinion to sentiments of Hungarian patriotism and national union. In 1875 the Government majority was split up, and a large section was inclined to accept the plans of financial and internal policy put forward by Tisza. The ministry therefore resigned, and the Wenckheim Cabinet was formed, with Tisza in the Ministry of the Interior as the controlling mind of the combined Deak and Tisza parties. Eight months later Baron Bela Wenckheim retired, and Tisza, on Oct. 17, 1875, became Prime Minister and remained at the head of the Government till March 12, 1890, at first as Minister of the Interior and in later years as Minister of Finance. He placed the disordered finances on a sound basis, reestablished the public credit, renewed the *Ausgleich* twice to the advantage of Hungary, and developed a railroad system so complete that only small additions have since been required. The strength and growth of Hungary has been largely due to his undisputed control of internal and financial affairs for many years, while foreign affairs were left to Count Julius Andrássy. After his resignation of the premiership he was still regarded for some time as the general directing the party policy and as chairman of the most important committees of the Chamber and the delegation he continued to shape legislation. He was elected to Parliament four times from Grosswardein, and was grieved at his defeat in 1901 by a member of the Kossuth party, after which he was returned from a Transylvanian town. From the time of his entrance into political life he conducted the temporal affairs of the Calvinist Church and was the champion of Protestant rights and as such the object of the persistent enmity of the Clericals.

Tucker, Henry William, English clergyman, born in Devonshire, England, in 1830; died in

Florence, Italy, Jan. 3, 1902. He was educated at Oxford, and after his ordination to the Anglican ministry in 1855 was successively curate at Chantry, Somerset, 1855-'56; West Buckland, Devonshire, 1856-'60; and Devoran, Cornwall, 1860-'65. He became an assistant secretary of the Society for the Propagation of the Gospel in Foreign Parts in 1865, and subsequently chief secretary. This post he held until his retirement in July, 1901. He was prebendary of St. Paul's Cathedral from 1881. He published Clerical Recreations (1864); Under His Banner, a popular missionary work (1872); and The English Church in Other Lands (1886).

Tyler, Thomas, English scholar, born about 1825; died in London Feb. 27, 1902. He received his education at the University of London. He was a contributor to periodicals, and published the following works: Jehovah, the Redeemer God; The Scriptural Interpretation of the Divine Name Jehovah; Some New Evidence as to the Date of Ecclesiastes (1872); Ecclesiastes: A Contribution to its Interpretation (1874); and The Philosophy of Hamlet (1874).

Vaughan, William, English Roman Catholic prelate, born in London, Feb. 4, 1814; died in Newton Abbot, Devonshire, Oct. 25, 1902. He was educated for the Roman priesthood at Stonyhurst College, Lancashire; Saint Acheul, France; and Oscott College, and was ordained priest in 1838. In 1845 he was appointed president of Saint Paul's College, Prior Park, Bath, which office he filled till his consecration as Bishop of Plymouth, in September, 1855. Bishop Vaughan had two brothers in the priesthood, one of whom died in 1883 as Archbishop of Sydney.

Vibert, Georges, French painter, born in 1830; died in Paris, July 28, 1902. He produced many spirited aquarelles and small canvases rich in color that were prized in France and the United States. The *Couvent sous l'Armes*; *Désespoir de Polichinelle*; *Coquelin en Mascarille*; and *L'Antichambre de Monseigneur* are some of the best known. He earned the cross of the Legion of Honor by bravery in the defense of Malmaison during the war of 1870 and was the author of a successful comedietta.

Virchow, Rudolf, German scientist, born in Schifelin, a small town near Stettin, Pomerania, Oct. 13, 1821; died in Berlin, Sept. 5, 1902. His parents were middle-class people, probably of Jewish descent. He attended the public school in his native town, and then entered the gymnasium of Cöslin. In 1839 he became a pupil at the Friedrich-Wilhelm Institute, a training-school for army medical officers, and among his fellow-students here was Helmholtz. He took his medical degree in 1843. In 1846 he succeeded Froriep at the Charité Hospital. About this time he founded, in collaboration with Reinhardt, the famous Archiv. In 1848, owing to the uncompromising way in which he criticized the authorities as the result of his investigation of an epidemic, he was forced to resign his place at the Charité. He was immediately called to the chair of Pathology at Würzburg, and accepted. As a result of his work here the famous Cellular Pathology was published in 1858. In 1856 the faculty of the University of Berlin petitioned for his recall, and in spite of bitter opposition he was finally recalled and remained in his old university for the rest of his life. Besides occupying the chair of Pathology in the university, he was ethnologist and anthropologist, archeologist, Egyptologist, and scientific politician to the city of Berlin. He was a member of the Municipal Council of the city for forty years, and of the Prussian Chamber from 1862 to 1878, where

...

Rudolf ...

elected only by the delegates of the constituent
 assembly with the approval of the people.
 The resistance to the new constitution
 followed first a period of confusion and
 view in articles, and a second period
 started by his friends, who were
 attacked a few days later by
 ending five days of the movement
 of the people. After the
 conference, which was
 voted to be held in the
 elected assembly.
 M. K. GAY

speak to the fact that the Government had not
 resolution and the Government had not
 as well as the Government had not
 Tisza had not been able to secure
 for an entire year, and the Government
 of 1866, and the Government had not
 over. When the Government had not
 last year, and the Government had not
 at the heart of the Government had not
 the Government had not been able to
 Opatowicz had not been able to
 in its view, and the Government had not
 rich a position, and the Government had not
 department, and the Government had not
 waxed in 1867, and the Government had not
 He declined several times to join the
 Cabinet. When the Government had not
 in 1874 by reason of the Government had not
 ment Tisza was not able to
 declined until the Government had not
 program of the Government had not
 and his immediate follow-up, and the Government had not
 Government made concessions to
 nationalities Tisza appeared to be
 alist demands still greater, and the Government had not
 halt and to recall the Government had not
 of Hungarian patriots, and the Government had not
 In 1875 the Government had not
 and a large section was not able to
 of financial and internal affairs
 Tisza. The minister of the
 Wenckheim Cabinet, and the Government had not
 in the Ministry of the Government had not
 mind of the Government had not
 Eight months later, and the Government had not
 retired, and Tisza was not able to
 Minister and remained in the Government
 until March, and the Government had not
 of the Interior and the Government had not
 of Finance. He had not been able to
 sound basis, and the Government had not
 renewed the *factum* of the Government
 of Hungary and the Government had not
 complete that only small steps had
 required. The Government had not
 Hungary has been largely a Government
 of internal and financial affairs, and the Government had not
 years, while foreign affairs have been
 Andrássy. After his return to the Government
 ship he was still not able to
 the general directing the Government
 man of the most important Government
 the Chamber and the Government had not
 to shape legislation. The Government had not
 at four times from the Government had not
 at his defeat in the Government had not
 party, after which the Government had not
 sylvanian town. From the Government had not
 into political life he was not able to
 of the Calvinist Church, and the Government had not
 of Protestant religion, and the Government had not
 of the persistent enemies of the Government

Tucker, Henry William, 1858-1918, born in Devonshire, England, in 1858.

Florence, Italy, Jan. 3, 1902. He was educated at Oxford, and after his ordination as a deacon began his ministry in 1855 as success-
ful minister at Chantry, Somerset, 1856-57; at St. Andrew's, Devonshire, 1858-60; and Devonport, 1860-65. He became an assistant minister at the Society for the Propagation of the Gospel, Foreign Parts in 1860, and subsequently secretary. This post he held until 1870, when he returned to England. In July, 1901, he was prebendary of Exeter Cathedral from 1881. He published "The Church of England" (1864), "Under His Banner" (1870), "A Dictionary of the Bible" (1872), and "The History of the Other Lands" (1880).

Tyler, Thomas, English sea-
1825; died in London Feb. 27, 1880.
his education at the University
was a contributor to periodicals,
the following works: *John
God; The Sentimental Interprob-
Name Jehovah; Name New Testa-
Date of Ecclesiastes* (1872); *Eccle-
tribution to the 16th generation*;
Philosophy of History (1876).

Vaughan, William, English. Prelate, born in London, Feb. 4, 1831. Newton Abbot, Devonshire, Oct. 2, 1892. He was educated for the Roman priesthood at St. Albans College, England; Saint Ann's and Oscott colleges; and was ordained in 1855. In 1847 he was appointed presb. of Paul's College, Park, Bath, and filled till his consecration as Bishop in September, 1863. Bishop of the brothers in the West of England, and in 1883 as Archbishop of Sydney.

Vibert, Georges, French, born 1830; died in Paris, July 28, 1891; many spirit drawings and paintings in color that were prized in the United States. He, Couvent, and Poir de Polignac, Coquelin and L'Antichambre, Monseigneur, the best known. He earned the Cross of Honor by bravery in the defense during the war of 1870 and was a successful commander.

Virchow, Rudolf, German naturalist and physician, born at Schivelbein, a small town in Pomerania, Oct. 13, 1821; died in Berlin, Sept. 5, 1902. His parents were middle-class people, of Jewish descent. He attended his father's native town and then entered the gymnasium of Cöslin. In 1840 he became a pupil of Friedrich-Wilhelm Luschke, a famous army medical officer, among his students here was Henslow. He took his degree in 1843. In 1846 he succeeded the Charité Hospital. About this time, in collaboration with Reinhardt, he published the *Archiv*. In 1848, owing to the unrest in which he participated, the author of his investigation of an epidemic forced to resign his place at the Charité, he was immediately called to the chair of Anatomy at Würzburg and accepted. As a result of his researches here the famous Cellular Pathology was published in 1858. In 1860 the faculty of the University of Berlin petitioned for his removal, although after bitter opposition he was finally retained in his old university, for the next 20 years. Besides occupying the chair of Pathology, he was ethnologist and prehistoric archaeologist. Egyptologist, and sent expeditions to the city of Berlin. He was a member of the Municipal Council of the city for 10 years, and of the Prussian Chamber from 1862 to 1890.

Rudolf Simon

he was a leader of the Radical party. In 1880 he became a member of the imperial Reichstag. Owing largely to his work in introducing a system of drainage and sewage farms, Berlin is now one of the most healthful cities in Europe. He attracted students to his laboratory and lectures from all parts of the world. As an illustration of his original methods, at his anatomical and pathological demonstrations the specimens were placed under microscopes, which were sent round through the seats on a small trolley railroad, and could thus be closely examined by each student without any interference with the lecture. An important innovation made by him was in autopsical work, which had previously been usually limited to an examination of the diseased part or organ. He systematically examined the whole organism, and thus showed how wide-spread may be the effects of a local disease center. Perhaps his most famous scientific dictum was the now well-known *Omnis cellula e cellula*. He was essentially a pathological anatomist and histologist. In 1874 he became a member of the Royal Academy of Science of Berlin. He was a commander of the French Legion of Honor, a foreign associate of the French Academy of Sciences, and a foreign member of the British Royal Society. Physically he was short and spare—in later years with gray hair and piercing gray, spectacled eyes. His voice was rather thin and weak; but, despite this, his lectures were always well attended, his earnest manner and his logical, incisive reasoning more than counterbalancing the lack of oratory. "The first time I saw Virchow," says a writer in the London Times, "was at the great medical congress held in London in 1881. At the opening meeting the Prince of Wales and the Crown Prince of Germany were present. Sir James Paget was in the chair, supported by Sir William Jenner, and the front rows of seats on the platform were filled by men of the greatest eminence—Pasteur, Charcot, Huxley, Gull, Lister, and others. The Crown Prince came in rather late, and as he stepped across the platform to his seat by the Prince of Wales he stopped for a moment to shake hands warmly with a little gray man sitting in the front row. It was Virchow, who may, I think, truly be said to have been *primus inter pares*. It was entirely characteristic of him that when he entered himself, and was received with a great outburst of applause, he reversed the familiar story of the senior wrangler who came forward and bowed when the people rose on the entry of the Queen. It never occurred to Virchow that they were applauding him, and he looked about for the Prince of Wales. He was always the same, absolutely simple and devoid of self-consciousness." Last year, on his eightieth birthday, he received congratulatory addresses from all parts of the world at a scientific birthday party held at the Pathological Museum in Berlin. In behalf of the scientific bodies of England, Lord Lister said on that occasion: "All these bodies join in the recognition of your gigantic intellectual powers, in gratitude for the great benefits which you have conferred on humanity, and in admiration of your personal character, your absolute uprightness, the courage which has enabled you always to advocate what you believed to be the cause of truth, liberty, and justice, and the genial nature which has won for you the love of all who know you." Prof. Virchow's death was primarily due to a fall on Jan. 3, 1902, from an electric tram-car in the Leipziger Strasse, Berlin. He fell heavily, and fractured the femur at the hip. It was characteristic of him that he took a great interest in the pathology of his own case,

quite apart from its bearing on his recovery. He declared, it is said, that, owing to his age, no osseous union would take place between the broken ends of the bone, and was actually pleased when subsequent skiagrams showed that his prophecy was true. Virchow was once challenged by Bismarck because of the defeat of the Government on a navy vote, and he had the courage to decline the honor of being shot by the famous Prime Minister. On receiving news of Virchow's death, Dr. Guido Baccelli, the Italian Minister of Agriculture, sent the following appreciative message to Berlin: "Wherever, the whole world over, science and freedom, integrity and character, are held dear, the highest honor will be paid to the memory of Rudolf Virchow."

Walsh, William Pakenham, Anglican bishop, born in Mote Park, County Roscommon, Ireland, May 4, 1820; died July 30, 1902. He was educated at Trinity College, Dublin, ordained priest in 1844, appointed curate of various churches, and in 1872 canon of Christ Church, Dublin. He became Dean of Cashel in 1873 and was elected Bishop of Ossory, Ferns, and Leighlin in 1878. He was at one time tutor to the late Charles Stewart Parnell. He resigned his see, owing to old age, in 1897. Among his many published works are *The Moabite Stone* (1874); *The Forty Days of the Bible* (1874); *The Angel of the Lord* (1876); *Ancient Monuments and Holy Writ* (1878); *The Decalogue of Charity* (1882); *Echoes of Bible History* (1886); and *Voices of the Psalms* (1890).

Wernery, Henri, French-Swiss educator, born in 1859; died in October, 1902. He studied theology with a view to entering the Protestant ministry, but the breadth of his religious views interfered with his conscientious acceptance of a pastorate, and after teaching French in Constantinople and at the Protestant Gymnasium in Paris he was called to the chair of French Language and Literature in the Academy of Neuchâtel in 1889. A year later he was invited by the State Council of the Canton of Vaud to take the chair of French Literature in the University of Lausanne. His influence exerted in poems and essays on the *Littérature Romande*, appearing in various periodicals, was felt far beyond the bounds of the university. His latest writing was the *Forspiel* for the coming centenary of Canton Vaud in 1903.

Wigner, John Thomas, English Baptist clergyman, died in London, Oct. 22, 1902, in his ninety-first year. He was one of the best-known ministers in his denomination, twice filling the chair of the Baptist Union of Great Britain and Ireland. He prepared for the ministry at Stepney College, and began pastoral work in 1839; but as he had been engaged in preaching several years prior to that date, his ministry in reality extended over a period of seventy-two years, his longest pastorate having been at Lynn Regis. He also founded the Baptist church at Brockley, and was its pastor for a quarter-century. He was the author of several hymns, and edited the volume of *Psalms and Hymns* so widely used by English Baptists.

Wild, H. von, Swiss meteorologist, born in Uster, Dec. 17, 1833; died in Zurich, Sept. 5, 1902. He was director of the Central Meteorological Station at Bern in 1863-'65, director of the Russian meteorological service in 1868-'95, and president of the International Meteorological Committee in 1882-'92. He was the inventor of a wind-vane much used, and was editor of the *Russian Repertorium der Meteorologie*, and author of numerous works on meteorology and terrestrial magnetism, the best known of which is perhaps his *Temperatur-Verhältnisse des Russischen Reiches*.

Wiltshire, Thomas, English geologist, born about 1828; died in Blackheath, Kent, Oct. 28, 1902. He was educated at Cambridge, and after preparing for the Anglican ministry was ordered priest in 1852. He was lecturer on geology at King's College, London, in 1872-'81; assistant professor there, 1881-'91; and Professor of Geology and Mineralogy from 1891 till his retirement in 1895. Prof. Wiltshire was the author of *The Red Chalk of England* (1859); *The Ancient Flint Implements of Yorkshire* (1862); *The Chief Groups of the Cephalopoda* (1867); *The Red Chalk of Hunstanton* (1869); and *History of Coal* (1878).

Zola, Émile, French novelist, born in Paris, April 2, 1840; died there, Sept. 29, 1902. His father was an Italian civil engineer, who drifted into France and constructed a canal at Aix. He married in Paris Émilie Aubert, and after the birth of their son returned to Provence. He died in

1847, leaving his family in straitened circumstances. Through the aid of his maternal grandfather, Émile Zola was sent to school and college. In 1857 he followed his mother to Paris and obtained a scholarship at the Lycée Saint-Louis, but failed to get his degree. He already showed literary tastes and had written a comedy called *Enfances le Pion*. He began life as an employee of the Custom-House at the wharves on the Seine, on a salary so meager that he was barely able to support his mother and himself in two small rooms. Through a change of administration he lost his place, and his mother returned to live with friends in Provence. Zola removed to a garret and subsisted on chance employment through three years of the direst poverty. About the end of 1861 he obtained work as a packer of books in the publishing house of Hachette & Co., at a salary of \$20 a month. He then devoted all his leisure to writing verses, tales, and romances. This came to the knowledge of M. Hachette, who transferred him to the publishing department and raised his salary to \$40. In 1864 Zola published his first book, the *Contes à Ninon*. He also wrote articles for the *Petit Journal* and the *Vie Parisienne*. In January, 1866, he left Hachette's to devote himself entirely to literary work, and the next month became an editor on the *Événement* under Villemessant. His sympathy for realism in painting and literature began to attract attention. He knew the sufferings of the poor, and determined to describe their life as it was. *Thérèse Raquin*, *The Mysteries of Marseille*, and *Madeleine Féral* rapidly flowed from his pen. The last-named novel dealt with the question of heredity, and soon afterward he conceived the plan of making this subject the basis for a series dealing with successive generations of a family during the second empire. This was the famous *Rougon-Macquart* series. In 1869 he began to write the first volume, *La Fortune des Rougon*, which the *Siècle* began to print as a daily *feuilleton*. On May 30, 1870, Zola married Mlle. Alexandrine Gabrielle Meley, and two months later the Franco-German War interrupted his work. Dur-

ing its progress he narrowly escaped being buried in a Government office, having been nominated subprefect of Castelsarrasin, but Gambetta did not confirm his appointment. After the war Zola returned to Paris and took an apartment in Baignolles. The family was in great poverty, and he worked hard night and day, writing for the papers and acting as parliamentary reporter for the *Cloche*. He had arranged with Lacroix for the publication of the *Rougon-Macquart* series, but the war prevented this. Zola, therefore, on the recommendation of Théophile Gautier, addressed himself to Charpentier, offering to sell one novel yearly, of which the publisher was to have exclusive right of sale and reproduction for a period of ten years, in consideration of a payment of \$100 a month. Charpentier accepted, and then Zola began his great work with the tenacity of purpose and regularity which ever afterward characterized him, writing *La Fortune des Rougon*, *La Curée*, *Le Ventre de Paris*, *La Conquête de Plasans*, *La Faute de l'Abbé Mouret*, and *Son Excellence Eugène Rougon*, none of which had a very large sale. But in 1877 appeared *L'Assommoir*, which brought the author fame and fortune. Charpentier voluntarily canceled his contract with Zola and made him a present of \$4,000. With \$1,800 Zola bought a little villa at Médan, near Paris, and also removed to a better apartment in the Rue Saint-Georges. These novels were far from occupying his entire time. He dramatized *Thérèse Raquin*, and wrote two vaudevilles that did not succeed. It was only when he associated with himself a practical playwright, M. Busnach, that he was able to produce a successful play by dramatizing *L'Assommoir*, which was brought out at the Ambigu in 1879. He expounded his naturalistic theories in the *Messager d'Europe*, of St. Petersburg, and to defend realism on the stage became dramatic critic of the *Bien Public* and afterward of the *Voltaire*. He carried his theories into politics, publishing in 1879 a manifesto denouncing opportunism. In 1880 he went to the *Figaro*, where his articles were for many years a well-known feature. He became head of a sort of school, and attracted to himself young authors such as Guy de Maupassant, Paul Alexis, Henry Céard, Léon Hennique, and Huysmans. They used to meet at his country villa, and together they wrote the *Soirées de Médan*, each author contributing a story, that of Zola being called *L'Attaque du Moulin*, which afterward formed the subject of an opera. After *L'Assommoir* Zola continued the *Rougon-Macquart* series, writing *Une Page d'Amour*, *Nana*, *Pot-Bouille*, *Au Bonheur des Dames*, *La Joie de Vivre*, *Germinal*, *L'Œuvre*, *La Terre*, *Le Rêve*, *La Bête Humaine*, *L'Argent*, *La Débâcle*, and finally, in 1893, *Le Docteur Pascal*. The most striking of the 20 volumes are *Le Ventre de Paris*, describing the market life of the city; *L'Assommoir*—the "knocker-out"—so-called from the name he gave to a low *café* where the vile spirits distilled sent to their death the dregs of humanity; *Nana*, whose heroine sells herself into a life of splendid shame; *Germinal*, showing the brutalizing effect of incessant labor; and *La Débâcle*, describing the overthrow of the empire in the Franco-German War. His novels are like photographs, accurate portrayals of immoralities, and abound in crudities and indecencies shocking not only to refined taste, but to any one with the least moral sense. Perhaps in thus holding the mirror up to vice it was Zola's intention to expose its hideousness, but he never draws conclusions. He leaves that to the reader. With the growth of his fame, Zola, who had shunned public honors, became desirous

of them. In 1878 he affected to despise the decoration of the Legion of Honor, but ten years later accepted it. In 1891 he sought to become a member of the Société des Gens de Lettres, and was elected by acclamation and chosen its president, which office he held until 1895. He had early shown opposition to the French Academy, but in 1888 began to seek admission, and he presented himself as a candidate nineteen times, up to 1898, being always defeated by the more conservative members. In 1894 Zola began a trilogy on three cities: Lourdes, symbolizing the middle ages; Rome, standing for modern evolution; and Paris, the city of the future. Later he undertook another series, which he planned in England during a semivoluntary exile imposed by his advocacy of the cause of Capt. Dreyfus. Convinced of the condemned officer's innocence of the crime of treason, Zola took up his defense with his usual vigor and persistence. In an open letter to the President of the republic, published in the *Aurore*, Jan. 13, 1898, under the title *J'Accuse*, he boldly demanded a revision of the Dreyfus trial. The popular hatred against Zola was only second to that shown for Dreyfus himself. The Minister of War instituted proceedings, and Zola was sentenced to one year's imprisonment and a fine of \$600. The verdict was quashed on technical grounds, but on a new trial Zola was condemned as before. He allowed judgment to go by default, and fled to England. Afterward Esterhazy confessed to the authorship of the incriminating documents, Dreyfus was pardoned, and Zola returned to France. The Four Gospels, as he called his latest series, were entitled *Fécondité*, *Travail*, *Justice*, and *Vérité*, the last not being completed at the time of his death. He had spent the summer at Médan, and returned with his wife on Sept. 28 to his hotel in the Rue de Bruxelles, where he had been living since 1889, to prepare for a trip to Italy. The weather was cold, and he had a fire in a stove in his bedroom. The next morning M. and Mme. Zola were found asphyxiated by fumes from a defective chimney. Mme. Zola was revived, but all efforts to resuscitate the novelist failed. His body was embalmed and buried in the Montmartre Cemetery on Oct. 5. Of his principal novels there were published 2,332,000 copies, Zola receiving an average sum of 20 cents a volume, making a total of \$466,400. Rights on innumerable translations and collaborations brought his earnings up to about \$1,000,000. He was never extravagant, and at the time of his death had about \$400,000, all of which he bequeathed to his wife. The couple never had any children; but, as the result of a *liaison*, he left a son and daughter in whom Mme. Zola, with remarkable generosity, interested herself in spite of their illegitimacy.

OHIO. (See under UNITED STATES.)

OKLAHOMA. (See under UNITED STATES.)

OLD CATHOLICS. The fifth International and eleventh German Old Catholic Congress was held at Bonn, Aug. 5-8, Privy-Councillor Prof. von Schulte presiding. The four previous international congresses were held at Cologne in 1891, Lucerne in 1892, Rotterdam in 1894, and Vienna in 1897. In the present meeting the purpose of bringing various churches together was more emphasized than that of holding a formally ecclesiastical meeting. It was attended by Bishop Weber, of Bonn; the Bishop-elect of Austria (Dr. Cech); the Bishop of Salisbury; Archbishop Gul, of Utrecht; Principal Van Thiel, of Amersfoort Theological Seminary, Holland; and Bishop Kozlowski, of the Polish Catholic Church in the United States. No Oriental bishop was present.

The Protestant Episcopal Church in the United States was represented by Bishop Potter, of New York, on the first day of the meeting; and afterward, Bishop Potter being obliged to leave to meet other engagements, by the Rev. Dr. R. J. Nevin, of the American Episcopal Church in Rome. Of the members of the Reunion Conference held at Bonn in 1875, Bishop Potter, Dr. Nevin, Prof. Lias, of England, and Col. Kireef, of Russia, only were present. At a general reception given the members previous to the opening of the congress an address of welcome was delivered by Dr. von Schulte, in the name of the Old Catholic Congregation of Bonn. Bishop Weber spoke in response, and said that he was glad to see among them representatives of the German Evangelical Church. "All these different churches represented," he said, "are not yet outwardly one, but they have all come out of sympathy and interest in the spirit of peace, which is a symptom of the universal inward wish and striving after a uniform organization of Christendom." The congress sermon was preached by Bishop Weber, who also insisted upon the value, and even necessity, of the Old Catholic platform, in that it maintains the decrees of the first seven councils of the undivided Church. At a meeting of the bishops a detailed report of the present condition of the Old Catholic movement in America among emigrants from the Roman Catholic nations of Europe is understood to have been discussed. At the first general meeting of the congress greetings were read by Col. Kireef from the Metropolitan of St. Petersburg, the Proto-Presbyter Jenischew, a number of eminent scholars and archimandrites, and the Patriarch of Constantinople. At an evening meeting addresses were made by the heads of the several Old Catholic churches. Archbishop Gul gave a historical sketch of the condition of the Jansenist Church in Holland during the past two centuries; Bishop Kozlowski spoke of the growth of his diocese in Chicago, representing that his jurisdiction was accepted by more than 100,000 Polish souls; the Bishop-elect of Austria (whose consecration is delayed till a foundation can be raised for the episcopal salary, as is required by the Government) described the progress of Old Catholicism in Bohemia, to which about 7,000 souls had been added by the movement called "Los von Rom." The Protestant propaganda was richly provided with money, but the Old Catholics were hindered by the want of it. The Bishop of Salisbury spoke of the insular character of the Church of England, and the lesson it had to learn from the international character of the Old Catholic movement, and urged that advantage be taken of the openings for extension offered it in Austria and among the Poles in America. At the second day's session the Rev. Dr. Nevin, in behalf of Bishop Potter, of New York, presented the greetings and good-will of the House of Bishops of the Protestant Episcopal Church in the United States. A number of resolutions touching practical work were adopted; one dealing with the need of a union for mutual help among the Old Catholic churches (with special reference to the "Los von Rom" movement in Austria); one advising religious unions for the training of the young in the principles of Old Catholicism; and one affirming the need of a reconciliation between religion and science. A resolution offered by Bishop Weber and passed almost unanimously was to the effect that a reform of the Roman Catholic Church in a genuine Christian spirit working from within outward is, since July, 1870 (the date of the decree of papal

infallibility), no longer possible; that religious Catholicity, in distinction from the political ultramontaniam of the Roman Catholic Church, is organized in the Catholic churches of the Old Catholic Church in Holland, Switzerland, Austria, and Germany; and declaring, contrary to the movement currently designated "Reform-Katholicismus" and represented by Krause, Schell, Ehrhard, Wahrmund, and others, in favor of a return of the Old Catholics to papal obedience on the ground that the Old Catholics, if inside of the Roman Church, would hasten the reform toward which it was supposed to be beginning to stir—that separation from Rome is necessary in order to make an effective protest against ultramontaniam. A resolution introduced by Prof. von Schulte, president of the congress, declared that "it is the duty of every man who, according to his conscience, is opposed to the fundamental principles of ultramontaniam openly to recognize the bidding of his conscience and act according to it, because only so can the might of ultramontaniam be broken and come to be held an unholy thing both by the state and society"; and appealed to liberal Catholics who remain under the papal banner, non-Catholic liberals, and conservative Protestants who compromise with the papacy for political reasons, to recognize their grave responsibility for the power that ultramontaniam has come to wield in Germany. A letter was read from Bishop Herzog, of Switzerland, who was kept from the congress by illness.

The Old Catholics had in 1900 57 clergy and 13,079 communicants in Germany, between 30 and 40 parishes in Switzerland, 24 parishes and 16,885 members in Austria, and 21 parishes in Holland; they have a few churches in Italy, and are represented in Paris, France. Their growth in Austria has been rapid since 1899, having been aided by the withdrawal of considerable numbers of people from the Roman Catholic Church, under the influence of what is called the "Los von Rom," or away from Rome movement, the origin of which has been traced to the publication in 1898, by the Old Catholic priest, Anton Nittel, of Warrnsdorf, of a tract entitled *Cut Loose from the Pope and from Rome*, and to meetings called by him. Of about 27,000 persons who had joined in this revolt up to 1902, it was estimated that about one-third had joined the Old Catholic Church, and two-thirds the Lutheran and Reformed churches. Besides a few Old Catholic Churches proper in the United States, the Independent Polish Catholic churches under Bishop Kozlowski, having 33 ministers, 43 churches, and 42,850 members, are recognized by the Old Catholics of Europe. The Polish churches have also sought intercommunion with the Protestant Episcopal Church.

ONTARIO, a province of the Dominion of Canada; area, 222,000 square miles; population in 1901, 2,182,942. Capital, Toronto.

Government and Politics.—There was no change in the Government of Ontario in 1902 except the retirement of J. T. Garrow and W. Hartly from their posts as ministers without office. G. W. Ross was Premier and Treasurer; J. M. Gibson, Attorney-General; E. J. Davis, Commissioner of Crown Lands; F. R. Latchford, Commissioner of Public Works; J. R. Stratton, Provincial Secretary; R. Harcourt, Minister of Education; and John Dryden, Minister of Agriculture. The Speaker of the Assembly was F. E. A. Evan-turel. The House was opened on Jan. 7 by Lieut.-Gov. Sir Oliver Mowat, with a speech from the throne, of which the following are the significant passages:

"I congratulate you on the continued prosperity of the lumbering industry, which gives employment to so many of our people and from which such a large part of our revenue is derived. The permanent Crown forest reserves, amounting to over a million and a half acres, have been carefully protected during the past season, and no loss of any consequence from fires or other causes has occurred. Steps are being taken to further increase these reserves, in order, if possible, to establish a perpetual source of income from the forests of the province. The mining industry of Ontario is making steady and satisfactory progress. More capital and labor are now being employed in mining operations than at any previous time, and the output of the chief mineral products of the province is rapidly and steadily increasing in both quantity and value. The work of settling the agricultural lands of the Crown has been successfully prosecuted during the year. Extensive areas have been disposed of to actual settlers, most of whom are from southern Ontario. It is satisfactory to know that those who leave the older settlements of the province to obtain homesteads or employment in newer fields now realize that they can find unexcelled opportunities within our own boundaries.

"The adequate care and maintenance of the insane of our population still engages the attention of the Government. Additional accommodation for 150 patients has been furnished by the completion of the new asylum buildings at Cobourg. This will relieve, for the time being, the existing congestion of the asylums of the province; but I fear you will be again called upon, at no distant period, to consider the advisability of making further provision for accommodation of the increasing number of the afflicted class.

"I am glad to learn that very satisfactory progress has been made in the promotion of technical education, and that in several of our towns and cities special buildings and suitable equipment for the purpose have been generously provided, and also that the system of traveling libraries for the newer parts of the province, for which provision was made a year ago, has met with general approval.

"The compilation of the imperial statutes in force in the province of Ontario under the provisions of chapter iii, R. S. O., has been completed and embodied in what will constitute Volume III of the Revised Statutes.

"The year just closed has been one of very gratifying prosperity to the agricultural classes. The growth of the dairy interests of the province is especially noteworthy, and the marked success of the exhibitors of the province at the Pan-American Exposition evinces the intelligence with which agricultural operations of every kind are carried on within the province. The improvements made at the Agricultural College by the erection of a physical and biological laboratory, and the early completion of the Massey Library and Museum, will add greatly to the efficiency of the college, and place it among the first agricultural colleges of America. The legislation of last session for the encouragement of the beet-sugar industry is likely to produce the results desired. The experiments conducted by the Department of Agriculture conclusively show that the province is most favorably adapted to the growing of sugar-beets, and several companies are now preparing to undertake the work of sugar-production. The amendments to the factories act, requiring the owners of factory buildings to provide suitable fire-escapes, have greatly in-

creased the safety of the operatives and those connected with the mechanical industries of the province. The fishing industry has, during the year, been unusually prosperous. The work inaugurated last year of restocking the inland lakes and rivers will be continued during the approaching season."

After passing important measures dealing with the liquor question and increasing the representation in the Assembly of new districts in the northern part of the province, the Legislature was prorogued on March 17. The royal assent was given to 116 bills, including the following:

Respecting mortmain and the disposition of land for charitable uses.

To amend the manhood-suffrage registration act.

To amend the Ontario election act.

To authorize the construction of the Temiscamingue and Northern Ontario Railway.

The agricultural and arts amendment act.

To approve and confirm an agreement between the Commissioners for the Queen Victoria, Niagara Falls Park Company and the Canadian Niagara Power Company.

Respecting the imperial statutes relating to property and civil rights incorporated into the statute law of Ontario.

Respecting expert witnesses.

Further to amend the mechanics' and wage-earners' lien act.

To amend the act respecting councils of conciliation and of arbitration for settling industrial disputes.

To amend the marriage act.

To amend the joint-stock companies winding-up act.

Respecting the sale of intoxicating liquors.

To amend the public health act.

To amend the Ontario factories act.

To amend the San José scale act.

To amend the act respecting the barberry shrub.

To amend the Ontario game protection act.

To amend the separate schools act.

The General Elections.—After months of preliminary conflict and preparation on both sides, the elections for the Ontario Legislature took place on May 29, 1902. The campaign was opened at Newmarket by Premier Ross on April 4 in a most elaborate speech. "How many of the 2,000,000 people in Ontario," he asked, "had any substantial grievance against the Government? They had settled 150,000 people in New Ontario. Had any of them a grievance? They had spent \$10,000,000 for the development of our railway system, and were doing in New Ontario what had been done in older Ontario many years before, where they had assisted 38 railways, 2,219 miles in length. They had kept pace with the wants of the country in regard to public buildings, on which they had spent \$23,563,000 in the past thirty years. They had cared for the insane, the deaf and dumb, and the blind, and the expenditure in Ontario for charitable purposes was greater per head than in Great Britain or in any State of the Union. They had kept step with the progressive tendencies of the age in education, and with the agricultural wants of the people." He elaborated the details of useful legislation during the past three decades, and declared that the Conservative Opposition had opposed them all.

Mr. J. P. Whitney, the Opposition and Conservative leader, had been equally active. His policy was announced as including measures of law reform in the interest of the poorer litigant

and in favor of one final and conclusive provincial appeal; the development of New Ontario and a railway into the Temiscamingue country; grants to railways only for development or colonization, and subject to Government control of freight and passenger rates; encouragement to the refining of minerals within the province; disposition of timber areas in pulp-wood lands under competitive tender; increased grants for agricultural purposes, and especially for agricultural schools; cooperation with the Dominion Government in promoting facilities for food transportation; educational reform in the direction of improving the curriculum and character of public schools; condensation and revision of municipal laws; elimination of alleged corruption and fraud from election procedure. The following was the Government or Liberal policy as announced and summarized by its supporters:

1. Early settlement of the unoccupied lands of the province by colonization and by the projection of the railways into New Ontario.

2. Manufacture within the province, and so far as practical by Canadian labor, of the products of our forest and the smelting and refining of mineral products.

3. Increase of agricultural wealth by improved methods of husbandry, cold storage, and the production of beet-root sugar, and by reclaiming undrained lands.

4. Extension of trade with Great Britain in all natural products, but especially in cattle, horses, and dressed meats.

5. Disposal of forest wealth with a view to its perpetuation by reforestry, timber reserves, and parks.

6. Improvement of transportation by better construction of highways and removal of tolls.

7. Regulation of rates for passengers and freight on all railways subsidized by the province, and ultimate control of such railways at the option of the Legislature.

8. Application of public revenues for development of the province and relief of the taxpayers.

9. Revision from time to time of the laws governing the municipal and political institutions of the province and the improvement and enforcement of all laws affecting public morality.

10. Maintenance of the independence of the Legislative Assembly as the guardian of the constitutional rights of the province.

11. Application of sound principles of education to the course of instruction in all our schools and colleges.

There was no actual dissolution of the Legislature, which expired on March 29. The writs for a new election were then issued; the nominations were held on May 22, and one candidate (a Conservative) was elected by acclamation; and on May 29 the contest closed with results in some doubt. As finally accepted on May 31, the result was as follows: 98 seats in all, of which the Liberal Government had carried 50 and the Conservative Opposition 47, with one in doubt. Some changes took place in the courts, and on July 2 the Government had a majority of one. At the end of the year the majority stood at two or three, with several by-elections pending. According to figures compiled from the majorities in the constituencies, Mr. Whitney had a popular majority of the votes polled.

The Prohibition Referendum.—Aside from the general elections, the chief public event of the year in Ontario was the referendum. Varied resolutions were passed by temperance organizations and submitted to the Government. On Jan. 24 more than 1,000 men interested in the

liquor traffic visited the Parliament buildings and presented a vigorous protest to the Premier against the impending legislation referring the question of provincial prohibition to a vote of the people. James Haverson made the following statement in behalf of the delegation: "There was invested in the distilleries and breweries of the Dominion \$15,500,000; in the real estate of the retailers, \$38,000,000; in the stock and fixtures, \$21,000,000; making \$74,500,000 directly invested in the business. There was paid by the distillers and brewers to the farmers annually \$2,382,000, and to the transportation companies \$450,000; wages, \$1,200,000; other outgoings, \$1,012,000. The retailers paid \$10,500,000 in wages. There was an outgoing by the trade of nearly \$15,500,000 annually. There was in bond in the Dominion 14,000,000 gallons of spirits, which, with the duty upon them, represented \$26,500,000 alone. The province of Ontario last year derived in revenue from the liquor trade \$629,000, of which \$250,000 was paid to the municipalities. All the distilleries of the country were in this province, and the largest number of the breweries. The retail trade of Ontario was more than half that of the rest of the provinces put together. Not only the liquor trade would be affected, but the banks, the loan companies, and the financial institutions."

The Premier gave a simple promise of consideration. On Feb. 12 Mr. Ross presented his measure to the Legislature in an elaborate speech.

The majority for the measure at its second reading on March 6 was 13. Very few amendments were accepted, though the date was changed to Dec. 4, and the voting requirements were adapted to the general election of 1898, instead of that of 1902. The bill finally passed the House on March 15 with the same majority as above. Meanwhile, on Feb. 26, F. S. Spence presented to a Convention of the Dominion Alliance for the Prohibition of the Liquor Traffic resolutions from its executive declaring the conditions attached to the referendum to be "difficult, unjust, and unreasonable." On March 26 the same committee issued a manifesto urging popular work and support for prohibition.

The day previous to the election the papers published a document signed by a large number of business and professional men protesting against the measure as unwise and impracticable. The first returns on Dec. 5 indicated that a sufficient vote had not been obtained, as 213,507 were necessary to make the measure law. But as the incomplete returns came in the vote was shown to be much larger than expected, until on Dec. 27 95,992 votes in favor of prohibition were received. The total vote cast was 301,268.

Finances.—The Premier and Provincial Treasurer of Ontario delivered his third annual budget speech in the Legislature on Jan. 22, 1902. He took great credit to the Government for their saw-log legislation of 1890, by which the export of logs to United States mills for manufacture had been stopped, and he pointed out the benefits of their policy of setting apart forest reserves to the extent of about 2,500,000 acres. He said that since confederation in 1867 they had received \$3,814,588 interest on investments; that the Government had encouraged the railways of the province by adding 2,219 miles since 1871, at a total cost of \$10,058,942; that during the same period \$3,492,410 had been spent upon colonization roads, \$4,407,546 upon asylums, \$1,307,880 upon penal institutions, \$1,399,542 upon educational institutions, \$541,565 upon agricultural institutions, and \$1,502,682 upon the new Parlia-

ment buildings. With some minor sums, these items made a total of \$9,986,026 which had been spent upon public institutions and special interests. Turning to the actual receipts for the past year, the Treasurer said that they had exceeded the estimates by \$640,511. They were given as:

Balance in banks, Jan. 1, 1901, \$1,033,546; subsidy from Dominion, \$1,116,872; specific Dominion grant, \$80,000; interest due by Dominion Government, \$142,414; interest on investments, \$46,760; Crown Lands Department, including woods and forests, \$1,634,724; Algoma taxes, \$2,361; law stamps, \$55,747; licenses, \$76,372; Education Department, \$57,379; secretary's department, \$88,157; Fisheries Department, \$35,887; supplementary revenue act, \$237,506; succession duties, \$366,581; public institutions, \$97,735; casual revenues, \$92,655; miscellaneous, \$42,621; total, \$5,507,317.

The expenditures included \$281,135 upon civil government; \$134,138 upon legislation; \$416,042 upon administration of justice; \$782,193 upon education; \$833,163 upon public institutions' maintenance; \$4,825 upon immigration; \$209,858 upon agriculture; \$192,280 upon hospitals and charities; \$91,681 upon repairs and maintenance; \$194,607 upon public buildings; \$60,847 upon public works; \$138,801 upon colonization roads; \$179,008 upon charges of Crown lands; \$24,314 upon refunds; \$254,738 upon miscellaneous; \$7,097 upon drainage debentures purchased; \$96,209 upon railway aid certificates; \$102,900 upon annuity; \$25,281 upon the University of Toronto; \$9,706 upon common-school lands; a total of \$4,038,834. This, with a bank balance of \$1,468,492 on Dec. 31, 1901, made up the total of \$5,507,327. The estimated revenue for 1902 (excluding bank balances) was \$4,075,872, and the estimated expenditures \$4,004,228. The indebtedness of the province for annuities was \$2,908,150, and on railway aid certificates \$2,961,890. The Opposition, by adding to these latter figures various railway subsidies and other obligations said to exist, made out a total debt of \$12,769,000, and by other sums added to the year's expenses estimated a deficit in the current accounts of \$310,000.

Fisheries.—According to the latest published figures of the Dominion Department of Fisheries, the value of the capital invested in the lake fishing trade of Ontario was \$789,042 in 1900, and the men employed 2,502. Of the fish caught, and valued at \$1,330,293, trout figured at a valuation of \$531,854, whitefish \$216,054, herring \$163,560, pickerel \$130,280, sturgeon \$52,577, caviare \$45,380, and pike \$51,433. The report of F. R. Latchford for 1901 was dated Feb. 28, 1902, and said that licenses to fish with 2,410,627 fathoms of gill net and various other methods had been issued; that employment during the year was given to 2,802 men, 101 tugs, and 1,299 boats; that a capital estimated at \$749,071 was invested in the industry; that the aggregate catch was 27,428,375 pounds, and its estimated value \$1,428,078.

Crime and Lunacy.—The report of the Inspector of Prisons, etc., was presented to the Legislature on Feb. 15, 1902. He described some of the country jails as being in a bad condition, unsafe and unsanitary. Officials were excessive in numbers at some places, and deficient at others. The number of commitments in 1901 was 8,546, or fewer than in the previous year. There were 7,314 male prisoners, and 1,232 females. Two-thirds of these were intemperate, and one-third could not read or write. There were 41 deaths in the year, and 10 escapes, of whom 6 were recaptured.

As to lunatic asylums, the report of the inspector showed that on Sept. 30, 1901, there were 4,604 patients in the asylums of the province, compared with 3,318 in 1890. The question of the relative increase of insanity, compared with the population, the inspector declared to be very perplexing. While the provincial population had increased 56 per cent. in forty years, the number of insane and idiotic persons known had increased from 1,631 to 5,880, or 260 per cent.

Assessment Commission.—On Feb. 13, 1902, the commissioners appointed in the preceding year to investigate the condition and laws regarding assessments and municipal taxation in Ontario, made their final report. They went into the whole subject with some elaboration, and concluded that "in Ontario, as everywhere else, the direct taxation of personal property generally fails to reach the new kinds of property or wealth which modern civilization has produced." The existing taxes should be abolished, and the only feasible substitutes were thought to be (1) an improved and more general tax, and (2) a tax on the occupiers of land, based on its rental value. Single tax was not only too radical, but it was impossible as well as unprecedented. Various recommendations were made, and a bill was submitted for the Government to utilize, but nothing was done in the matter.

Forestry and Pulp-Wood.—The annual report on forestry in Ontario was published under date of Jan. 24, 1902. Statistics were given of the acreage in each county. The total showed 365,127 acres of woodland, compared with 425,781 in 1896. The experience and legislation of the United States in regard to reforestation were then described, and further action in Ontario was urged. The question of pulp-wood concessions in the forests of northern Ontario was a prominent political question. The Government asserted that these grants of territory, or rather of certain rights and privileges on the territory, were given under safe conditions and solely for purposes of development. The Opposition asserted that they were really grants of public property to enrich friends of the Government at the expense of the people. The area of the seven concessions was 15,660 square miles.

Mines.—Steady progress was shown in the development of the mining interests of Ontario in 1901-'02. On March 4 of the latter year the official report of the Bureau of Mines, prepared by Thomas W. Gibson, director, was submitted, and it was made public in August. The total production of the four years preceding Jan. 1, 1902, was as follows: 1898, \$7,235,877; 1899, \$8,416,673; 1900, \$9,298,624; 1901, \$11,831,086. In 1901, therefore, the total production showed an increase of \$4,595,209 in value over that of 1898, while the metallic products increased by \$3,327,732. Of this latter output in 1901, copper contributed 11 per cent., nickel 37, and pig-iron 33 per cent. Gold, silver, iron ore, and steel were small in comparison. The number of such concerns incorporated in 1901 was 47, with a nominal capital of \$27,716,000, while 13 companies of foreign origin took out licenses to sell stock and hold real estate in the province, with a nominal capital of \$12,250,000. Mr. Gibson made the following comment: "It is a somewhat remarkable fact that metalliferous mining in this province is almost wholly carried on by companies whose share capital is in the hands of people living in Great Britain or the United States. In nickel and copper this is true without exception; in gold it is all but true, and so also in iron."

The lead in progress was taken by the copper-

nickel industry. The yield of nickel ore for the year amounted to 8,882,000 pounds, or 4,441 tons, valued in the matte at \$1,859,970. This was an increase in quantity of 25 per cent., and in value of 145 per cent. compared with 1900. The copper contents of the matte were 4,197 tons, valued at \$589,080, compared with 3,364 tons, worth \$319,681, in 1901.

The iron industry occupied the second place in importance, and the progress was very marked. This was principally owing to the extensive development of the Helen Mine in Michipicoten, from which most of the ore now raised is taken. In 1901 the amount of ore produced was 273,532 tons, worth \$174,428, which was more than three times the quantity mined in 1900. The output of pig-iron was largely augmented both in value and quantity. In 1900 62,385 tons were got out, valued at \$936,066, while in 1901 the output was 116,370 tons, of the value of \$1,701,703.

There was a continuous decrease in the gold product. Only 9 mines were producing gold, against 18 the previous year. Their output was 14,293 ounces, worth \$244,443. The silver-mines yielded 151,400 ounces, valued at \$82,830, against 160,162, valued at \$96,367, the year previous. The only zinc-mine in operation yielded \$15,000 worth of ore, or 1,500 tons.

Petroleum products showed a decline, the yield of 1901 having a value of \$1,467,940.

Agriculture.—The creameries in Ontario at the end of 1901 numbered 286, with a production of butter valued at \$1,798,264, against 308 and a production of \$1,819,290 in 1900. The average wages of farm-laborers, according to the annual report of the Bureau of Industries for 1901, was \$165 a year, with board, in yearly engagements, and \$263 a year without board. By the month wages were \$17.78 in the working season with board, and \$27.05 without. Domestic servants averaged \$6.90 a month. The areas of assessed land in the province in 1901 was 23,636,178 acres, of which 13,436,482 were cleared, 6,715,872 were woodland, and 3,483,824 acres were swamp, marsh, or waste land. The crops for 1902 were as follows: Fall wheat, 20,033,669 bushels, yield per acre 26.8; spring wheat, 6,048,024 bushels, per acre 20; barley, 21,890,602 bushels, per acre 33.1; oats, 106,431,439 bushels, per acre 42.6; peas, 7,664,679 bushels, per acre 14.4; beans, 670,633 bushels, per acre 12.4; rye, 3,509,332 bushels, per acre 18.5; buckwheat, 1,911,683 bushels, per acre 20.5; potatoes, 12,942,502 bushels, per acre 89; carrots, 3,277,161 bushels, per acre 374; mangel-wurzels, 39,140,924 bushels, per acre 511; turnips, 71,740,204 bushels, per acre 525; corn for husking (in the ear), 20,512,194 bushels, per acre 55.1; hay and clover, 4,955,438 tons, per acre 1.87. There were 2,777,983 acres of pasture land in the province in 1901; 346,915 acres of orchard and garden, 12,227 acres of vineyard, and 677,935 apple-trees of fifteen years and over, producing 14,430,650 bushels of apples. The cattle on July 1 numbered 2,507,620, and were worth \$59,527,119. Those sold or slaughtered in the year numbered 610,880, valued at \$20,286,936. The sheep numbered 1,761,799, worth \$7,772,793. Those sold or slaughtered in the year numbered 729,148, worth \$3,103,513. The hogs numbered 1,491,885, and were valued at \$9,298,712. Those sold or slaughtered in the year numbered 1,973,405, valued at \$17,548,490. The poultry numbered 9,745,236, valued at \$2,859,172. Those sold or killed in the year were valued at \$1,305,555. The value of the wool-clip was \$781,769, and the product of bees in the province was worth \$1,111,099.

OREGON. (See under UNITED STATES.)

Amir Khan Sipahsalar; Minister of the Interior, Dabir el Mulk; Minister of the Treasury, Mushir es Sultaneh; Minister of Agriculture and Domains, Nassir es Sultaneh; Minister of Justice, Gholam Hussein Khan; Minister of Posts, Mirza Mohsin Khan; Minister of Telegraphs, Mukhbir ed Dowleh; Minister of Public Instruction, Neyer el Mulk; Minister of Mines, Mukandis el Mamaalik; Minister of Commerce and Religious Endowments, Kayam Makam. The system of government is that of an absolute Oriental monarchy, controlled only by occasional religious influences and popular outbreaks against intolerable wrongs. The Shah delegates his despotic powers to his ministers and to provincial governors, who transmit it to their underlings, to whom they sell their offices with the understanding that the prices paid will be exacted from those lower down in the scale, and in the last instance from the people. Whenever the superiors wish to raise more money they need only threaten to remove those below them in order to extract fresh gifts as the price of continuance in office. Justice, both in the courts of the Urf, or civil law, and those of the Shari, or ecclesiastical law, is bought and sold.

Area and Population.—The estimated area of Persia is 628,000 square miles. The population is estimated at 9,000,000. The empire is divided into 33 provinces of various sizes, each of which is under a governor-general. Of the population about 8,000,000 are Shiite Mohammedans, 45,000 Armenians, 35,000 Jews, 25,000 Nestorians, and 9,000 Parsis.

Finances.—The revenues belong to the Shah's treasury, and after payment of the expenses of the court, the army, the general administration, the colleges, contributions to poor provinces, and pensions and allowances to princes and members of the royal Kajar tribe, there formerly remained a considerable surplus to be added each year to the royal treasure. The fall in the price of silver reduced the revenues proportionately; consequently the present Shah can accumulate no hoard, and his fortune consists principally of what is left of the jewels collected by his ancestors, which at his accession were believed to be worth \$15,000,000. The savings of the late Shah alone were at one time not less than \$20,000,000. The total present annual revenue is estimated at 75,000,000 kranas, equivalent to \$7,500,000. About 15 per cent. of the revenue is derived from customs, 3 per cent. from posts and telegraphs, fisheries, mines, and other concessions, and 82 per cent. from taxes assessed on towns, villages, and districts. The expenditure on the army amounts to 18,000,000 kranas. For local government 2,600,000 kranas are allowed, and out of this sum comes the only expenditure on public works. The useful expenditure for the public services forms a small fraction of the total expenditure, most of which is absorbed by rapacious officials who do not work, and who get no regular salaries, but enrich themselves and those above them by the official perquisites that ancient custom enables them to obtain. Whenever a province revolts against the exactions of its governor and his subordinates and lapses into anarchy these officials are dismissed in disgrace and one of the masterful men in the official hierarchy is sent as governor to restore order in the turbulent province by whatever tyrannical methods he finds necessary to employ. Such strong governors are the ones who win the approbation, not only of the Shah, but of the people they rule over, since these prefer strong rule to the chaotic conditions that result when authority

is in feeble hands. The Persian public revenue has declined 25 per cent. since 1877. The value of the silver kran has fallen nearly 50 per cent. since 1884, and the further fall in 1902 caused a commercial and economic crisis. The rise in the prices of tea, sugar, cotton goods, and other imported necessities and native foodstuffs, which powerful officials and large landowners have manipulated for their own benefit, has doubled the cost of living in twenty years.

The existing public debt consists of loans obtained by the Shah since 1900 from a Russian banking corporation created for the purpose of financing Persian loans. The first loan, made in January, 1900, was 22,500,000 rubles. This debt, which pays 5 per cent., is secured on custom-house receipts, except those of Fars and the Persian Gulf, and has the guarantee of the Russian Government. A loan of £500,000 obtained from an English banking concern in 1892 was paid off from the proceeds of the Russian loan, and the Persian Government agreed to conclude no new foreign loan without the consent of the Russian bank, which in 1901 made another loan to the Persian Government of the nominal amount of 12,000,000 rubles on the like condition that Persia contract no loans with any other power than Russia before 1912. A fresh loan of 20,000,000 rubles was negotiated with the Russian bank in 1902. The Shah and his ministers have been spending, with the aid of the Russian loans, twice the present diminished revenue of the country, and the greater part of the expenditure has been sheer prodigal waste. His two journeys to Europe are believed to have cost \$1,500,000, and this part of his expenditure has been most resented by his people.

The Army.—The Persian army numbers 80,000 officers and men. It is badly armed with miscellaneous rifles, ill-fed and clothed, and irregularly paid, except the Persian Cossack brigade, about 2,000 strong, consisting of 4 regiments of cavalry and 2 battalions of field-artillery, thoroughly trained and disciplined and permanently commanded by Russian officers. The headquarters of this force are in Teheran, and it acts practically as the Shah's guard, which secured his peaceable succession to the throne and is employed for the suppression of riot or rebellion occurring in any Persian city.

Commerce and Production.—Persia produces wheat and barley, rice, fruits, opium, silk, wool, gum tragacanth and other gums, carpets, cotton, tobacco, pearls, and turquoises and other precious stones. Among the minerals are copper, lead, iron, zinc, tin, orpiment, ocher, cobalt, antimony, salt, coal, petroleum, and alum. The imports are cotton and woolen fabrics, glass, carriages, sugar, tea, coffee, petroleum, and drugs. The chief exports are dried fruits, opium, cotton, wool, silk, carpets, pearls, and turquoises. The customs duties, formerly farmed out, are now collected by Government officers. European merchants since 1828 have paid a uniform duty of 5 per cent. on imports and exports. Persians formerly paid from 1½ to 8 per cent. at the frontier and various transit and road duties in the interior; but on April 7, 1901, these internal barriers were abolished and the customs duties were made the same as for foreigners. The collection of customs by the Government was first tried in Azerbaidjan and Kermanshah in 1899, and in the following year was extended to the whole of the empire excepting the districts of Muhamrah, the Karum river, Kurdistan, Sistan, and the minor ports on the Persian Gulf. The values in pounds sterling of imports from and exports to different

countries in 1901 as reported by the Persian custom-house were as follow:

COUNTRIES.	Imports.	Exports.
Russia.....	£2,858,000	\$1,048,000
Great Britain.....	1,400,000	1,980,000
Turkey.....	285,000	458,000
France.....	272,000	428,000
Austria.....	300,000	200,000
China and Japan.....	40,000	808,000
Afghanistan.....	28,000	46,000
Germany.....	24,000	24,000
Other countries.....	50,000	90,000
Total.....	£5,107,000	\$2,898,000

The total commerce that passed through the custom-house was according to these returns £8,000,000 sterling, and that of the excepted districts is estimated at £600,000. The trade of the customs stations which have not yet been transferred to the European officials lent by the Belgian Government is not included in these figures, nor are the large exports of pearls from the fisheries of the Persian Gulf, nor the mysterious flow of silver from Persia into Afghanistan and Russian Central Asia, nor the imports of silver for the Persian mint and of Persian coins minted recently in Russia. Although imports have increased, exports have declined. The disparity is growing greater and is due not only to the large loans contracted by the Shah in Russia but to the consumption of the savings accumulated during the peaceful and prosperous early period of the last reign. There are many indications showing that the people, as well as the court and officials, are becoming impoverished. The process has gone on since silver begun to decline, and the court has at the same time grown more extravagant. Nasreddin in the last ten years of his reign squandered half the treasure he had accumulated in the previous forty years. The remainder has been spent by the present Shah.

In 1900, as estimated from the amount paid into the treasury by farmers of customs, which was assumed to be 80 per cent. of the duties collected, while these were supposed to average 4 per cent. ad valorem, the total trade of the country was calculated at £10,500,000. In the ports of Bushire, Lingah, Bunder Abbas, and Mohammerah, on the Persian Gulf, there were £809,449 imported from India in 1900, £506,226 of exports to India and £903,854 of imports from and £176,120 of exports to Great Britain. The tonnage entered and cleared at these ports was 1,025,363, of which 896,414 tons were British. Russian exports to Persia are encouraged by special rates on Russian railroads amounting to a bounty of 15 or 20 per cent. ad valorem. The duty collected on imports is fixed by the Russian treaty of 1828 at 5 per cent. ad valorem, and other nations have an equal advantage with Russia under the favored-nation clause, with the exception of Turkey, which has special arrangements of a less liberal character.

Railroads, Posts, and Telegraphs.—The only existing railroad is one 6 miles long between Teheran and Shah Abdul Azim, built by a Belgian company in 1888.

The postal service was farmed out until in March, 1901, it was made a Government department. The net revenue from posts in 1902 was expected to be about £8,000.

There are 4,800 miles of telegraph-line, with 7,000 miles of wire. The Persian Government has 3,700 miles of wire. The British Government has a staff which by virtue of conventions made in 1868 and 1872 operates 675 miles of line with 2,025 miles of wire, forming part of the overland

Indo-European line. Another part of this system, consisting of 415 miles of line, with 1,245 miles of wire, belongs to the Indo-European Telegraph Company. The line of the British Government earned £111,867 in 1900, and the company's line £164,926. In August, 1901, the British Government obtained a new convention allowing it to build a line 900 miles long, with 2,700 miles of wire, from British Baluchistan to Kashan. The Persian Government is constructing a line connecting Tabriz with the northwestern frontier and one 300 miles long from Meshed to Sistan.

There is a British Imperial Bank which has the sole privilege of issuing bank-notes, but its business has contracted owing to the competition of the new Russo-Persian Discount Bank, and the only Government business it obtains is the transmission to Teheran of customs revenue collected in districts where the Russian bank has no branches. The value of Russian trade with Persia has increased 125 per cent. since 1889, while trade with the British Empire has decreased 33 per cent. In the north Russian cotton goods and other manufactures have driven out British imports. In 1902 exports of cottons from England to Persia were 40 per cent. less than in 1901. The Persian customs service has been reorganized by a staff of Belgian officials, increasing the revenue, which was formerly farmed out to favored Persian officials, over 66 per cent. The treaty rate of 5 per cent. was often lowered by rebates offered by some of these officials, who by this expedient attracted a larger share of the trade to their own ports. The Belgians have collected a uniform 5 per cent. and have abolished internal *octrois* and transit duties, which were exacted from Persian merchants only, foreigners being exempt by treaty. The yield of customs in 1901 was 1,600,000 tomans, nearly equal to \$1,600,000, two-thirds of which is absorbed by the interest and sinking-fund of the two first Russian loans. Negotiations are going on with Russia for an increase of the general tariff by the substitution of specific duties ranging from 7 to 10 per cent. for the 5-per-cent. ad valorem rate. The Turkish treaty will also be revised, so that foreign nations can not claim under it more favorable rates than those established in the new Russian treaty. The growing British trade by the Karun river route from the Gulf of Persia was checked in 1902 by the closing of the custom-houses at Shuster and Ahwaz, compelling merchants to clear all goods at Mohammerah.

The cheap fabrics of European factories have in Persia, as in other Asiatic countries, caused the once flourishing manual industries of the towns to languish. The hand-loom silks, satins, and cotton and woolen stuffs, the copper vessels, the pottery, tiles, and other products of industrial art, excepting rugs, shawls, and such other articles as find a foreign market, are made in diminishing quantities and the old arts are passing into oblivion. Agriculture, too, is decaying. Although the farming population is exceedingly laborious and skilled in cultivation, with the aid of underground aqueducts by which the slender water-supply is distributed over the largest possible area, the land is passing into the possession of rich officials, who have it in their power to divert the sources of the water, and thus can buy at their own price the land of small owners and exact from their tenants the maximum share of the produce.

Political Affairs.—The foreign debts contracted by the court, for which the revenues have

been pledged without any visible benefit to the country in the shape of roads and bridges or irrigation canals, have caused wide-spread popular discontent. One of the manifestations of this is a revival of Babism in a socialistic and agrarian form. The Atabeg Azam, Mirza Ali Ashgar Khan, is the object of the manifestations of disaffection, rather than the Shah, who is regarded from his yielding and good-natured disposition to be as wax in the hands of his able and resourceful Vizier, who in spite of his ascendancy over the Shah was replaced by the Amin ed Dauleh early in 1897, and only recalled to power in the middle of 1898. The turbulent spirit shown by

nations, since they must pay Russian import and export duties in goods destined for or coming from Persia or central Asia. In the Persian Gulf the Russians have attempted to build up a trade by subsidizing steamers plying between its ports and Odessa. The road from the Caspian port of Reshd to Teheran, the only good one in Persia, was built with Russian capital, and Russian goods that are brought over it now undersell British goods in central Persia as far as Isfahan. Two other Russian-built roads tap other parts of north Persia. A concession for a road from the Caucasian frontier through Tabriz to Kasbin was given for the loan of 1901,

BRIDGE AT ISFAHAN.

the people of Shiraz in 1902 caused the Governor residing in that city, who was the Shua es Saltaneh, the second son of the Shah, to be recalled. The Amin ed Dauleh when he took office announced a comprehensive scheme of administrative reform, including a revision of the land tax, the reduction of the standing army to 20,000 men, the conversion of the irregular cavalry into a gendarmerie, separate administrations for the collection and the expenditure of revenue, and the framing and publication of annual budgets setting forth the revenue and expenditure of the Government. Before he was dismissed he introduced a nickel coinage and started a number of schools with the aid of private subscriptions. Some of the minor features of his program have been carried out by his successor, though the program as a whole was discarded. The Shah in May, 1902, accompanied by his Grand Vizier, made his second journey to Europe, visiting the heads of the important states and not returning to his capital till October. Abul Fath Mirsa, the Salar ed Dauleh, the third son of the Shah, twenty years old, was appointed regent during the Shah's absence.

The governments both of Great Britain and of Russia declared in 1884 their policy in Persia to be the maintenance of its independence and integrity and an open door for trade throughout the empire. These declarations have been repeatedly renewed. The open door to British trade in northern Persia which existed when Kars and Batum were Turkish ports has been closed by Russia, which imposes protective duties on foreign goods though they are in transit for Persia. All flags except the Russian have been shut out from the Caspian Sea. Batum, which Russia undertook in the treaty of Berlin to make a free port essentially commercial, has become a great port for Russian commerce, but not free to other

and for the latest loan one for a road from Tabriz to Teheran. Russian political influence at Teheran has to some extent baffled the British schemes for opening commercial routes from the southern ports into the heart of Persia. The British, however, are still commercially supreme in the south, and they have opened an overland trade route from India through Baluchistan, the Quetta-Nushki route, with a view of retaining a part of the trade of the northern provinces. In five years the traffic on this road has risen from 500,000 rupees to 1,600,000 rupees. British vessels of war have for a long period patrolled the Persian Gulf, which was infested with pirates until Great Britain undertook this police duty. The ascendancy of Great Britain in the Persian Gulf was stated by the spokesman of the Foreign Office in the House of Commons to be the foundation of British policy. A naval base in these waters in the possession of another power would flank the ocean route to India and the far East and to Australia. The British Government in 1902 obtained the right to build a new telegraph-line from Baluchistan across Persia to Kashan. An Australian capitalist obtained a concession of the right to work the petroleum wells of the Kerkhah valley and to lay a pipe-line to tidewater. The oil-fields in southwestern Persia begin in the district between Bagdad and Kermanshah that is in dispute between Persia and Turkey. Russian diplomacy induced the Persian Government to defer for ten years the construction of railroads or the granting of any concession for that purpose either to Persians or to foreigners. The British Government subsequently obtained an agreement that whenever railroad construction should begin British capital and enterprise would have as good opportunities as are extended to any foreigners. At Robat, the station on the Persian border of the caravan route opened

through Baluchistan, the Indian troops sent to guard the road occupied two posts in Seistan. Mirza Mahmud Khan, Governor of Kirman, went with a Persian force to the spot, and arranged with the British commander that the Anglo-Indian troops should withdraw from Mirza, which is undoubtedly Persian. The garrison at Robat, the other disputed place, was allowed to remain, the boundary at that point not being clearly defined.

PERU, a republic in South America. The Congress consists of a Senate of 48 and a House of Representatives of 108 members. Members of both houses are elected for six years by electoral colleges, the delegates to which are elected in each province by parochial electoral colleges. The President and Vice-Presidents are elected for four years by the direct vote of the nation. The President of the Republic for the term beginning Sept. 8, 1899, is Eduardo de Romaña. The Vice-Presidents are Dr. Isaac Alzamora and Federico Bressani. The Cabinet constituted Sept. 13, 1901, was composed as follows: President of the Council and Minister of Foreign Affairs, Cesares Chalcatana; Minister of Justice, Worship, and Public Instruction, Lizardo Alzamora; Minister of the Interior and Police, Leonidas Cardenas; Minister of War and Marine, Capt. Meliton Carvajal; Minister of Finance, Andreas Ward; Minister of Public Works, Señor Eug. A new ministry was formed on Aug. 10, 1902, as follows: Prime Minister and Minister of the Interior, Alejandro de Ustua; Minister of War and Marine, Col. Diez Canseco; Minister of Justice, Dr. José Aria; Minister of Finance, José Reinoso; Minister of Public Works, Teodoro Elmore.

Area and Population.—The area of Peru is 695,733 square miles. The population in 1896 was 4,609,999, not counting uncivilized Indians, of whose numbers no estimate can be formed. Of the population less than 14 per cent. are white, 2 per cent. negroes, 2 per cent. Asiatics, 58 per cent. Indians, and 24 per cent. mestizos, both Cholos and Zambos. Lima, the capital, has above 100,000 inhabitants.

Finances.—The revenue in the year ending May 31, 1900, was 14,123,278 soles, and the expenditure 13,919,970 soles. For the year ending May 31, 1901, the revenue from customs was estimated at 7,857,100 soles; from taxes, 5,485,360 soles; from the salt monopoly, 800,000 soles; from posts and telegraphs, 461,330 soles; from other sources, 706,110 soles; total revenue, 15,309,900 soles. The estimated expenditure for the Congress was 385,250 soles; for the Ministry of the Interior, 2,951,400 soles; for the Ministry of Foreign Affairs, 634,590 soles; for the Ministry of Justice, 1,314,710 soles; for the Ministry of Finance, 4,688,700 soles; for the Ministry of War and Marine, 3,364,530 soles; for the Ministry of Public Works, 378,280 soles; total expenditure, 13,717,460 soles.

The Army and Navy.—The peace strength of the army is 6 battalions of infantry, of 320 men each; 7 squadrons of cavalry, numbering 800 men; 1 regiment of artillery, numbering 600 men; and 2,000 police. French officers have undertaken to reorganize the army, which has lately been provided with 20,000 Mauser rifles, 24 light field-guns, and 24 Gatlings.

The naval force consists of the cruiser Lima, of 1,700 tons, the transport Constitución, and the small steamers Santa Rosa and Chaluco.

The foreign debt, consisting of the 6-per-cent. loan of 1870 and the 5-per-cent. loan of 1872, originally amounting to £31,579,080, with arrears of unpaid interest which amounted in 1889 to

£22,998,651, was assumed in 1890 by the Peruvian Corporation, which, as agent of the bondholders, received the concession of the railroads, the guano deposits, the mines, and the public lands for the period of sixty-six years. Chile, having possession of some of the guano islands, made arrangements to pay the proceeds of sales of guano to the bondholders, but a dispute having arisen, the moneys were deposited to await the award of a court of arbitration at Lausanne, which, in November, 1901, delivered its decision as to the distribution of the amount in dispute, which was £558,566. On Feb. 2, 1901, the guano deposits on Huanillos, Punta Lobos, and Pabellon de Pica, which had been surrendered to the Peruvian Corporation, reverted to the Chilean Government, while the island of Lobos de Afuera was retained by the corporation. The internal obligations, including the floating debt, amount to 40,000,000 soles, on which 1 per cent. interest is paid.

Commerce and Production.—The quantity of cotton exported in 1900 was 7,246 tons; of coffee, 1,450 tons; of sugar, 112,000 tons. The Peruvian Corporation has attempted to colonize its concession, consisting of 2,750,000 acres. The coca plantations in Libertad comprise 2,700,000 trees on 9 estates. The export of coca in 1900 was 630 tons, besides 10,479 pounds of cocaine. Of alpaca wool 2,030,700 kilograms were exported in 1898 and 1,280,000 kilograms of llama wool. About 1,500 tons of rubber are annually shipped down the Amazon river from Iquitos.

There were 4,714 mines in 1899, many of which had been abandoned. The minerals include silver, copper, lead, gold, zinc, quicksilver, salt, sulfur, coal, and petroleum. From the Cerro de Pasco mines were exported 16,800 tons of ore containing from 30 to 50 per cent. of copper in 1900, and the same mines produced 1,000,704 ounces of silver in 1898.

The total value of imports in 1900 was 23,171,500 soles, and of exports 44,979,990 soles, not including the trade down the Amazon from Iquitos. The imports of cotton goods were 3,612,570 soles; of provisions, 2,529,030 soles; of furniture, 1,691,620 soles; of woolen goods, 1,477,630 soles; of other textile fabrics, 665,090 soles; of drugs, 971,540 soles; of miscellaneous merchandise, 7,988,644 soles. The exports of ores were 16,950,558 soles in value; of sugar, 14,558,420 soles; of cotton, 3,260,740 soles; of wool, 2,966,730 soles; of cocaine, 1,161,780 soles; of hides, 1,085,580 soles; of coffee, 654,310 soles; of rice, 639,080 soles; of borax, 566,370 soles. The values of imports from and exports to different countries in 1900 are given in soles in the following table:

COUNTRIES.	Imports.	Exports.
Great Britain	10,511,450	20,892,680
United States	2,974,260	2,548,960
Germany	8,505,990	5,159,680
Chile	914,132	6,105,200
France	1,563,490	1,204,680
Bolivia	98,860	995,510
Italy	970,760	55,860
Belgium	725,380	21,250
Ecuador	55,600	444,030
Spain	142,610	32,010

Navigation.—The number of vessels entered at the port of Callao during 1900 was 497, of 659,314 tons, and the number cleared was 494, of 655,859 tons, excluding vessels under 50 tons, of which 889, of 349,391 tons, were entered and cleared.

The merchant marine in 1900 consisted of 57 sailing vessels of more than 50 tons, having an aggregate tonnage of 28,458 tons, and 5 steamers of 4,253 tons.

Railroads, Posts, and Telegraphs.—The length of railroads in operation in 1898 was 1,035 miles, of which 844 miles were operated by the Peruvian Corporation. The capital cost was £36,000,000 sterling, including lines in the provinces ceded to Chile. Steamboats of the Peruvian Corporation on the Desaguadero river and Lake Titicaca connect with railroads. Receipts from railroads and steamboats in 1901 amounted to £493,827; expenses, £293,069; net earnings, £200,758.

The telegraphs in 1898 had a length of 1,933 miles, of which 1,400 miles belonged to the Government and 533 miles to the Peruvian Corporation.

The post-office handled 9,311,856 letters, postal cards, newspapers, etc., in 1899.

PHILIPPINE ISLANDS, a possession of the United States, ceded by Spain in the treaty signed at Paris on Dec. 10, 1898. Military government was superseded wherever the country was pacified on July 4, 1901, by civil government on a system planned by the Philippine Commission, composed of Judge William Howard Taft, of Ohio, president; Henry C. Ide, of Vermont; Luke E. Wright, of Tennessee; Bernard Moses, of California; and Dean C. Worcester, of Michigan. The members of the commission were appointed to carry their scheme into effect, and the Government was constituted as follows: Civil Governor-General, William H. Taft; Lieutenant Civil Governor, Luke E. Wright; Secretary of Finance and Justice, Henry C. Ide; Secretary of Commerce and Police, Luke E. Wright; Secretary of Public Instruction, Bernard Moses; Secretary of the Interior, Dean C. Worcester. The commander-in-chief of the forces and Military Governor-General at the beginning of 1902 was Major-Gen. Adna R. Chaffee. Dr. Detavera, Benite Legarda, and José Luzuriaga, natives of the Philippines, were appointed additional members of the Philippine Commission. Municipal government was established by the military authorities before the inauguration of civil government in accordance with the recommendations of the Philippine Commission in the provinces that seemed to be thoroughly pacified, and was extended after the transfer of authority. Early in 1902 there were 765 towns, three-quarters of all the towns in the islands, organized as municipalities, each with a president, a vice-president, and a council elected for two years by qualified voters. The qualifications for voting were ability to read and write English or Spanish, ownership of property worth \$250, the payment of \$15 a year in taxes, or the fact of having held a municipal office. Only 1.8 per cent. of the population qualified under these conditions. A Supreme Court was established, consisting of 7 judges, and courts of the first instance were instituted in 14 judicial districts. A native police force was organized. Provincial government was inaugurated, and the following provincial civil governors were appointed: H. P. Whitmarsh in Benguet province; Major E. M. Johnson, Jr., in Romblon; Capt. J. M. Goldman in Bataan; Col. C. Gardener in Tayabas; Ceferino Joven in Pampanga; Capt. Wallis O. Clark in Tarlac; José Serapio in Bulacan; Perfecto Sison in Pangasinan; Major W. H. Holbrook in Antigua; Hugo Vidal in Capiz; Major Henry T. Allen in Leyte; Capt. A. U. Betts in Albay; Lieut. George Curry in Ambos Camarines; Bonifacio Serrano in Masbate; Capt. J. G. Livingston in Sorsogon; Martin Delgado in Iloilo; Ricardo Paras in Marinduque; Prudencio Garcia in Surigao; Manuel Carrales in Misamis; Major W. H. C. Bowen in Abra.

The provincial governors were ordered to report to Gov. Taft at Manila, who reported to the

President at Washington through the Secretary of War. In regard to taxation and in all other matters ordinarily belonging to civil government the authority of Gov. Taft and his Cabinet was complete. Troops were ordered into the organized provinces by the commanding general only at the request of Gov. Taft on a call from the provincial governor. Surplus revenue in excess of the requirements of civil government were applied to the building of roads and other internal improvements, thus giving work to thousands of unemployed natives and helping to pacify the country. The development of the material resources of the islands by corporate capital was retarded by the safeguards which Congress imposed on the granting of franchises and the exploitation of the natural wealth. All military, civil, and judicial powers necessary to govern the Philippine Islands were vested, unless otherwise provided by Congress, in such person or persons as the President of the United States may appoint, to be exercised in such manner as he shall direct for the establishment of civil government and for maintaining and protecting the inhabitants of the islands in the free enjoyment of their liberty, property, and religion; but all franchises granted under the authority of this law shall contain a reservation of the right to alter, amend, or repeal them, and no sale or lease or other disposition of the public lands or the timber thereon or the mining rights therein shall be made; nor shall any franchise be granted which is not approved by the President of the United States and is not in his judgment clearly necessary for the immediate government of the islands and indispensable for the interest of the people, and which can not without great public mischief be postponed until the establishment of permanent civil government, and all such franchises shall terminate one year after the establishment of permanent civil government. Until a permanent government shall have been established in the archipelago full reports must be made to Congress at the opening of each regular session of all the legislative acts and proceedings of the temporary government, and full reports of the acts and doings of the government and as to the condition of the archipelago and its people shall be made to the President, including all information which may be useful to Congress in providing a more permanent government.

Schools were established throughout the islands upon the introduction of regular government. About 1,000 teachers were brought over from the United States, and 2,000 native teachers were employed to teach elementary subjects; 150,000 children were enrolled in the schools, and 10,000 adults were instructed in English. A normal institution was established to train native teachers. The Philippine Supreme Court was organized with Cayetano Arellano as presiding justice and J. F. Cooper, Fletcher Ladd, Victorino Mapa, Florentino Torres, and Charles A. Willard as associate justices.

Area and Population.—The area of the Philippine Islands has been estimated at 129,853 square miles. That of the principal islands is 119,542 square miles. The population has been variously estimated between 7,500,000 and 10,000,000. The Spanish estimate was 9,000,000; that first adopted by the American officials was 8,000,000. There are 69 savage tribes known of which no enumeration is possible, and the estimates of their numbers vary widely. The area of Luzon is estimated at 44,235 square miles, and that of Mindanao at 46,721 square miles. The latest esti-

mate of population is 6,975,073 for the whole archipelago. From reports of local officials in 1840 the total was estimated at 3,096,000; from reports of parish priests in 1850 it was raised to 3,800,163; the civil census of 1876 gave 5,567,685, not including 602,853 non-Christians, the estimated number; the civil census of 1887 made the total 5,984,727; and from the partial census of 1896 it was estimated to be 6,281,339. The inhabitants of the islands are divided into 84 local tribes, and 30 distinct languages or dialects are spoken; yet, excepting the dwarf Negritos and the Indonesians of Mindanao, all the races and tribes are of Malayan stock, with Chinese, Japanese, and other crosses. The Negritos, supposed to be the aboriginal inhabitants, live in the mountains and do not now number over 30,000, though they are divided into 21 tribes. They are believed to be identical in race with the Mincopies of the Andamans and the Sakals of the Malay peninsula. They rove through the mountain forests in small groups of a few families each, feeding on roots and small game. Most of them are only 3 feet high, and they are timid and shy, yet to a certain extent they are feared by the more civilized tribes. The Indonesians, estimated at 252,200, divided into 16 tribes, are a tall, muscular race of light color, having wavy hair and abundant beard, high forehead, and aquiline nose, showing affinities with the Polynesian races. The Malays are estimated at 5,699,400, divided into 47 tribes. The Visayans number about 2,601,600; Tagalogs, 1,633,900; Bicolos, 518,100; Ilocanos, 441,700; Pangasinans, 365,500; Pampangos, 337,900; Cagayans, 166,300; and Moros, outside of Mindanao, 100,000. The Tagalogs, who are the civilized race among the Filipinos, live around Manila and form progressive communities in other provinces and islands. Besides these the Bicolos of Sorsogon, Albay, Ambos, Camarines, and Tayabas are Christians, and so also are the Visayans of the middle islands of the same name and the coast of Mindanao, and the Pampangos, Pangasinans, and Ilocos who inhabit the provinces named from them. The Cimarones of the Camarines peninsula, the Itanegs of Lepanto and Abra, the Ifaguas of the Caraballos mountains, the Catalangans of Isabela province, and the Manguians in Mindoro are pagan tribes of Malays. The Moros, or Mohammedan Malays, inhabit Sulu, Tawi Tawi, and Palawan to the number of about 40,500, while 200,000 live in the lake region of Mindanao and on Illana Bay, on the Gulf of Davao is a tribe having an admixture of Indonesian blood, and on the south coast are the Sanguilles, on the little island of Olutanga the Lutangas, on the Gulf of Sibuguey the Calibugans, on the shores of Basilan the Samales-Laut, and in the interior of that island the Yacanes. The Moros have an organized system of government, the pagans only savage tribal government. Slavery is practised by the Moros, the wild Indonesian tribes, and the pagan tribes of northern Luzon. Spanish mestizos are found in all parts of the archipelago where European commerce reaches and are very numerous in Manila and its vicinity and in all the more important towns. The Chinese mestizos are intelligent and enterprising, but have the reputation of being treacherous and addicted to conspiracy. The Chinese have been in the Philippines from early times, coming first as conquerors and later as merchants and artisans. The number of Chinese residents in 1887 was estimated at 37,585. A law was made in 1888 to stop Chinese immigration, but the attempt was a failure. In September, 1898, the provisions of the United States

Chinese exclusion act were extended to the Philippines, and since then only former residents and the exempt classes can lawfully be admitted. Employers of labor and some of the Government officials deprecate their exclusion, against which the Chinese Government has strongly protested. In two years and a half after the law went into operation as many as 27,696 were admitted and 23,658 returned to China, showing a net increase of 4,038. The Spanish estimate of their number is shown to have been much too low by a census lately taken in Manila which credits that city alone with a Chinese population of more than 50,000. The Spanish language is known to all educated persons and is the only vehicle of education, since only rudimentary and colloquial English has yet been taught. About 9 per cent. of the people are able to speak Spanish. The masses know only the native dialects of their respective tribes and districts.

Commerce and Industry.—The soil of the Philippines is very fertile, and the parts that have been brought into cultivation produce large crops of rice, corn, Manila hemp, sugar, tobacco, indigo, and cacao. Coconut-palms thrive, and the export of copra is increasing. Cotton was formerly cultivated and woven into cloth in large quantities, but this product has been displaced by European manufactures. Large coffee plantations have been ruined by insects. The best tobacco is grown in Luzon and is exported in the leaf or manufactured into cheroots and cigars at Manila. Large quantities are grown also in other islands, and the consumption of the people is large as all the inhabitants of both sexes are smokers. The rice-crop is about 765,000 tons, in addition to which about 50,000 tons are imported annually to supply the needs of the population. Luzon and Mindoro produce the rice and corn; Mindanao and the southern islands the cacao; southern Luzon, Mindoro, the Visayas, and Mindanao the hemp; southern Luzon the greatest quantity of coconuts; and the Visayas the sugar. Gold is mined with profit in the mountains of Luzon, and in this island iron is obtained. In Cebu there is a lead-mine and coal-mines have been opened. Petroleum has been found in several islands, but is not utilized. Rice, flour, beer, and wine, textiles and clothing, kerosene, and coal are the principal imports. The exports of Manila hemp in 1900 were 688,392 bales, against 600,738 bales in 1899; of sugar, 966,827 piculs, against 1,488,854 piculs; of cigars, 156,316,000, against 138,493,000; of leaf-tobacco, 188,368 quintals, against 114,261 quintals; of copra, 1,023,727 piculs, against 278,227 piculs; of sapan wood, 3,924 tons, against 556 tons. The total value of imports in 1900 was \$20,601,436, and of exports \$19,751,068. In 1901 the imports amounted to \$30,279,406 and the exports to \$23,214,948. Hemp is exported mainly to the United States and Great Britain; cigars, tobacco, and copra to European countries; sugar and sapan wood to China and Japan. The imports into the United States from the Philippine Islands were \$5,971,208 in value in 1900 and \$4,420,289 in 1901; exports from the United States to the Philippine Islands were \$2,640,449 in 1900 and \$4,027,064 in 1901. The imports into the United States from the Philippine Islands in 1900 were hemp for \$5,014,770, sugar for \$925,335, and tobacco and cigars for \$1,068; exports from the United States to the Philippines included beer for \$563,950, live animals for \$441,950, iron and steel manufactures for \$383,892, and cereals for \$168,726.

The rainy season sets in late in June and ends early in September. Corn ripens in twelve weeks,

and two crops are grown every year, and one crop of tobacco on the same ground. Manila hemp is a native plant grown in abundance in forest lands. Though other tropical countries are probably suitable for its culture, it is produced nowhere except in the Philippines. The problem of increasing the product does not depend on cultivating more plants, but on extracting the fiber more easily. The hand-machines now used are carried into the hemp forests and worked by three men. The process is so slow that only about a sixth of the plants are cut and stripped into fiber. The fiber deteriorates rapidly after the stalks are cut, and therefore the extraction can not be carried on at a central factory unless transportation is much improved. From the hemp and from the native pineapple fiber the natives weave handsome light diaphanous cloths, often shot with threads of bright silk, that are universally worn. The pineapple cloths are also exported to Singapore, where the Chinese pay for them high prices. This fiber, too, is extracted by primitive hand-machines. The tobacco of the Philippines is inferior to that formerly grown. No fresh seed has been imported from Cuba in many years, and no attention is given to the selection of seed. David G. Fairchild, sent as an expert to explore the agricultural resources of the islands by the Department of Agriculture, suggests the distribution by the Government of good Sumatra and Havana seed and selected seed of Manila-grown tobacco. Rubber, gutta-percha, tea, coffee, and cotton are proposed as experimental cultures. For the exploitation and protection of the valuable timber resources of Mindanao and other islands the methods pursued in Java by the Dutch are recommended for imitation. The hard woods of the Philippines are remarkable for size as well as quality. There are large forests of giant trees, some of them, like the hard dark brown harra wood, 7 or 8 feet thick. Imports were larger during the early period of the American occupation than later. In 1902 they showed no appreciable increase owing to a scarcity of money and the still unsettled state of important districts. Exports fell off because when the blockade was first raised the accumulated stocks of hemp and other products were shipped at once, and this temporary movement soon came to an end. Southern Luzon, which produces hemp and copra, and Samar, one of the most important hemp islands, were so disturbed that there was little to export in the early part of 1902, and the hemp exports of Leyte suffered from an influx of Samar rebels. Cebu, which was first pacified, became the most important source of the hemp supply. Sugar cultivation in Panay and Negros was not disturbed. Rice was planted in smaller quantities than usual, and the crop, owing to drought, was unusually light. Agriculture was retarded not only by the impoverishment and disturbance resulting from five years of warfare, but by the loss of a large proportion of the water buffaloes by rinderpest and another epidemic disease peculiar to the islands. From Mindanao the Mohammedan Malays ship hemp, rubber, gums, and other tropical products. The Sulu Archipelago has more trade with Singapore than with Manila, and it is carried on by Chinamen. From Palnan they ship bird's-nests and trepang to Hong-Kong.

The total value of imports in 1902 was \$32,750,000 in gold, of which nearly half came from British ports. The exports amounted to \$20,750,000, of which \$13,750,000 went to British ports. The exports of hemp were 913,349 bales. The export duty on hemp sent to the United States

was abolished. Owing to local and temporary causes the exports of sugar, copra, and tobacco declined. The failure of the rice-crop in many districts caused such a dearth of food that the Government appropriated \$2,000,000 in silver to buy and transport rice to be sold at cost price in the places most in need. Formerly the Philippines produced a surplus of rice to export to China, but the exports gradually fell off and finally ceased, and of late years large quantities have been imported from Cochin-China, Burma, and Siam to supply the deficiency of the home crops. Tobacco, sugar, and the popular and increasing hemp-crop are much more profitable than paddy planting, which is carried on in most instances on a small scale by petty cultivators who grow little more than is necessary for their own families. The most primitive and laborious methods are used in cultivating, harvesting, and cleaning the paddy. As rice of both the variety grown under water and the upland variety thrives in the Philippines, and there is a great deal of unused land suitable for its growth, it is intended to promote the cultivation by economical methods on a commercial scale, so that the country will not depend on others for its food-supply. The great increase in imports as compared with Spanish times is not due to larger production, but to the amount of money put into circulation by the army and the civil administration. Large amounts have been paid out in wages for public works. Wages have doubled, and labor is still so scarce that those who are engaged in private enterprise deplore the exclusion of Chinese. The natives are considered by some to be too indolent and careless by nature to be suitable for work on a large scale. Others find them honest and industrious. A temporary relaxation of the restrictions on Chinese immigration is under consideration, though in the long run Gov. Taft says that native labor must be depended on. The value of real estate in the centers of population has gone up enormously. Activity in building, especially in Manila, created a demand for native timber. In spite of the depression of agriculture due to war, rinderpest, and cholera, reducing the area under cultivation to only half that of ordinary years, the imports of merchandise in the year ending June 30, 1902, exceeded the figures of any previous year, amounting to \$22,141,842 in gold. From the date of the American occupation the total imports were \$96,135,694, on which over \$22,500,000 duties were collected. Gov. Taft held out hopes to the Filipinos that after two years there would be free trade between the United States and the islands. The United States Supreme Court decided that duties collected in the United States under the general tariff law were illegal and that free trade existed until Congress enacted a tariff to govern the trade relations between the Philippines and the United States. The Philippine tariff bill voted by Congress, which went into force on March 8, 1902, reduces the import duties 25 per cent. on Philippine products imported into the United States and on United States products imported into the Philippines. The export duties on Philippine products shipped to the United States are reduced proportionally by means of a rebate if the goods are consumed in the United States. Germany and Great Britain complained of this reduction as a preferential rate imposed to the detriment of the old-established trade in Manila hemp, and hence contrary to the assurance given by the United States. German, English, French, and Chinese have enterprises in the Philippines and have brought much

additional capital in since the American occupation, but very little American capital has flowed in, although sugar, cacao, and coconut plantations return over cent. per cent., machinery is needed for cleaning rice, hemp and cacao grow wild and go to waste, the vast mineral wealth of the islands remains untouched, steam communication between the islands is a crying need, the forests contain woods capable of a high polish and are as fine in color and markings as any cabinet-woods in the world, there are forests of gutta-percha trees awaiting exploitation, and pearl fishing is an enterprise of great promise into which Japanese and Russians have already ventured. Existing businesses have such need of capital that 25 per cent. is paid for well-secured loans. The new fall in the gold value of silver in 1902 disturbed the external commerce and the internal business situation. The Philippine Government advocates a gold basis. In November, 1902, the Government was compelled to raise the rate of exchange to 250, making the value of the Mexican dollar 40 cents in United States money. A silver currency for the Philippines with a dollar exchangeable at an official fixed rate for half a dollar in gold, like the Japanese yen, is recommended by Lieut.-Gov. Luke E. Wright, the Secretary of Commerce.

Railroads and Telegraphs.—There is a railroad running northward from Manila through the center of Luzon, the length of which is 120 miles. The telegraphs have a length of 720 miles.

End of the Insurrection.—At the beginning of 1902 the insurrection was extinguished in all parts of the peninsula except in the provinces of Batangas and Laguna and the islands of Samar, Mindoro, Cebu, and Bohol. In Mindanao the Government entered into arrangements with the Mohammedan chiefs, but did not attempt to impose direct American rule over the Moros. Except among these people and in the disturbed districts it was safe to travel unarmed in all the provinces. To prevent a recrudescence of the insurrection a sweeping law was enacted by the Philippine Commission declaring it to be treason to levy war against the Government or give aid or comfort to the enemy, misprision of treason to conceal knowledge of treason, criminal insurrection to incite or abet any movement for the overthrow of the Government, conspiracy to plot to destroy the Government or hinder the execution of its laws, and sedition to rise tumultuously to prevent the promulgation of laws, the free holding of elections, or the execution of judicial or administrative orders by provincial, municipal, or other public officials, or to inflict any act of hate or revenge upon insular, provincial, or municipal officials, or with political or social objects upon any other individuals or class. The punishment for these various crimes was imprisonment for terms of which the maximum varied from five to ten years. Any person uttering seditious words, or circulating libels or instigating cabals against the Government, or inciting conspiracies or riots to obstruct the execution of the laws or stir up the people against lawful authority or disturb the peace, was made punishable with two years' imprisonment; and a term of one year was decreed for persons belonging to secret societies or forming new ones for promoting treason, rebellion, or sedition, or the promulgation of any political opinion or policy, while every person administering or attending a meeting where oaths were administered binding a person to commit crimes against the Government could be imprisoned for ten years, and every one administering or consenting to oaths or en-

agements to take part in any seditious practise or disturbance of the peace or to refuse to inform against confederates or reveal any unlawful conspiracy or secret society was made punishable with imprisonment for five years. Until the state of war or insurrection should be officially proclaimed to be at an end it was declared to be unlawful and punishable with one year's imprisonment to advocate orally or in writing or print the independence of the Philippine Islands or their separation from the United States, whether by forcible or peaceable means. Any person having taken an oath of allegiance to the United States who afterward violated the oath was made liable to ten years' imprisonment. The provisions of the law did not extend to the provinces still in insurrection. This law, copied from the United States statute of treason in its main provisions, was a *brutum fulmen* as far as any possibility of checking the insurrection by fear of the civil power was concerned. The civil power was not there to inspire fear, but to encourage self-reliance and ideas of liberty, to win the confidence of the natives, and to train them in self-government, a task that seemed hopeless owing to their abject and blind submission to those of their fellows who were sufficiently intelligent, rich, powerful, ruthless, cunning, and masterful to compel a superstitious obedience and devotion springing from awe of the superior and dread of the tyrant. It was the army's work to suppress the insurrection, and now when the insurgents were reduced to the guerrilla bands of half a dozen of the most disreputable of the leaders operating still in only four provinces it seemed as interminable as when the Philippine republic was alive with an army in the field. The civil officials and many of the military garrisons were getting on admirably with the Filipinos, whose ready intelligence, friendly and hospitable disposition, and eagerness to become Americanized persuaded the Americans stationed among them that if all Americans treated the Filipinos with confidence and respect and made them their friends all the troubles would disappear. That was not the opinion of the soldiers sent to crush out the rebellion in the disturbed provinces. They knew that if they treated the natives with friendly confidence they were liable to be massacred as at Balangiga; that every native who proved his friendship by helping them to capture *insurrectos* or concealed arms was marked out for murder; that the leading men in the community, who received them with hospitality and professions of loyalty and praised the American system of government of which they themselves were sworn officials were at the same time in constant communication with the insurgent leaders; that the rebel bands subsisted on the willing or unwilling contributions of these peaceful Americanized municipalities. They learned from Macabebe scouts and native volunteers ways of extracting information as to the whereabouts of insurgents and hidden arms that were sanctioned by native custom, though not by the rules of civilized warfare. Fighting in the Philippines is fraught with difficulties and terrors. The long and usually bootless marches in mud or dust with insufficient food, the stifling heat, the fever and other tropical ailments unnerve and incapacitate men for dealing with an alert and treacherous foe. The American soldiers have frequently met a sudden surprise or ambush when every one in the detachment was faint with sickness, and never have they run or given up their arms. Yet they had reason to dread an enemy so agile that a boloman could creep up unseen like a snake, spring at a sentry, and

snatch away his rifle; so savage as to mutilate and defile corpses and torture prisoners with fire; so well informed, active, and secret that he could attack by surprise at the most favorable place and moment. Prisoners that small columns of tired and sickly Americans could not take with them, prepared when released fresh attacks from front and rear; so there were battalions that took no prisoners. The rebels often raised a white flag to facilitate retreat or a hostile movement, and the white flag had with them no other purpose, hence there were officers who disregarded it. In a few regiments squads were detailed to get information of the enemy by the only means the Spaniards formerly found effective, the infliction of bodily pain and mental terror. When it was suspected at headquarters that the Macabebes and even American soldiers resorted to forms of torture, such practices were expressly forbidden in orders; yet soldiers at the front did not always obey. The Military Governor-General and his staff were of the same mind. The continued impoverishment of the people, aggravated by the blackmail levied by the rebel leaders, rendered the situation dangerous, and it was known that some of the leading men in Manila and many of the officials in the provinces were doing their best to keep the embers of rebellion alive in hope of a fresh conflagration. Gen. Smith was sent to clear Samar, and his order, when by Lucban's order the people left the coast towns, that they should return or be regarded as rebels, was approved. A blockade was declared in all the ports of the insurgent districts. Gen. Wheaton adopted the plan of concentration camps in the insurrectionary centers in Luzon to prevent Malvar from getting provisions and recruits, and this also was approved. As soon as the report reached Manila of the massacre and horrible mutilation of 50 unarmed American soldiers at Balangiga by their pretended friends, Gen. Chaffee ordered Col. de Russy and other officers having troops within striking distance to send out punitive expeditions to chastise the savages. Before Gen. Smith arrived to occupy the island, which had become the stronghold of the rebellion since the pacification of Luzon, these expeditions burned many towns in southern Samar and destroyed all boats and all supplies they could lay hands on. Gen. Smith divided the island into districts, and the commander of each district under his instructions ordered the concentration of all the inhabitants at places designated for their residence, warning those who remained out in the hills with the rebel bands that they would after a delay of fifteen days be regarded as insurgents. In the swamps and jungles of the southern end, the forest and river gorges of the middle and northern plateau, and the precipitous mountains and deep valleys of the coast districts the American columns found Samar the most difficult country to march through they had known, and, weakened by fever and dysentery and the leeches with which the island is infested, they had to meet at every stage an ambush of bolomen, whose weapons in the spots they chose to fight were more effective than their own. The soldiers fell into concealed pitfalls upon poisoned spearheads; they were transfixed by spears fastened to bent saplings to be released by tripping against a trailing vine; they were drowned by boulders rolled from cliffs upon their boats. When the Samarites attacked they fought desperately, expecting no quarter, as by

Lucban's orders they were to give none. Capt. Preston's detachment of the Forty-third United States Volunteers and Major Waller's marines crossed the island with a heavy sacrifice of men. Every other column had to turn back. Lieut. Downs and most of his detachment fell in a hand-to-hand encounter after their provisions had given out and two-fifths of the men in his small column were already incapacitated by wounds and disease. Capt. Francis Schoeffel's party, surprised by bolomen two to one, had not a man unscathed when Lieut. Lang came to the rescue. Lieut. Wallace's post of 25 men on the Gandara river, while the commander himself was absent, was rushed at daybreak by 200 bolomen, but they had room to use their rifles, and when reduced to 10 men these had one part of the savages helpless on a point of land and craving mercy while the main body kept up the attack from the jungle. The men, who killed 84 of the enemy during the fight, were exonerated by Gen. Smith for not granting quarter under the circumstances.

Gen. Chaffee chose energetic and incisive officers to conduct the operations and warned them that they were dealing with a people whose character is deceitful, who are absolutely hostile to the white race, who regard life as of little value, and who would not submit to American control until absolutely defeated; hence every male should be suspected unless he proved his loyalty by action that could not be misunderstood, and every hostile motion of any inhabitant should be quickly and severely punished so as to inspire a wholesome fear of the army, and any means taken to disarm the people and keep them disarmed would be approved. Gen. Smith in Samar and Gen. Bell in southern Luzon, convinced that the insurrection was supported by wealthy people living in the *pueblos* and enjoying American protection, adopted methods calculated to create in all the people an interested desire for peace, and gave orders to treat as an enemy every native, whether in arms or living in the *pueblos* or *barrios*, until he conclusively showed that he was a friend by positive acts committing himself openly to the American side, as neutrality would no longer be tolerated, and natives must demonstrate their loyalty by devoting themselves in earnest to bringing about a real peace.

The vigorous campaign of Gen. Smith in Samar and the increased severity of the military in dealing with *insurrectos* and their supporters and spies, although this harsh and often misdirected treatment of the natives estranged many who before were friendly, crushed out the rebellion effectually by making the secret friends of the insurgent leaders afraid to help them and ready to inform against them. To extract information from the unwilling some of the officers resorted to practices contrary to general orders that shocked the public conscience when revealed in the United States. The chief offense of this nature was a form of torture, formerly employed by the Spaniards, that the American soldiers called the "water-cure." It consisted in forcing a man, bound and lying on his back, to swallow rapidly a great quantity of water poured into his mouth until in fear and distress he was willing to confess. Gen. Chaffee ordered all military commanders to cooperate in every way with the civil authorities without relaxing their rigorous methods when dealing with active insurgents. The insurgent leaders in Luzon and Samar were forced at last to surrender with the handful of followers they had kept together to the last. Before the end of April the rebellion was entirely extinguished. Civil government was extended over the whole Christian-

ized territory of the islands, comprising the parts that are commercially and politically important, while military rule remained necessary only for the Mohammedan tribes of the southern islands, where Spain never obtained a firm foothold.

In the very last days of the insurrection the American public was led to believe from revelations of mistakes and misdeeds of the military in the Philippines that the rebellion had become chronic and the relations between the natives and the Americans more incurably bad than ever existed between the natives and their Spanish masters. Major L. W. T. Waller, who lost a part of his detachment from starvation and nearly perished himself in a march across Samar, was tried by court-martial on a charge of murder for ordering inhabitants of that island to be shot without trial. He pleaded that his acts were a just retaliation against the inhabitants of that island who had committed unspeakable atrocities on American soldiers, and, moreover, that he was following out the orders of Gen. Jacob H. Smith, which were to kill and burn and make Samar a howling wilderness, treating every male over ten years of age who had not obeyed the proclamation of concentration as an active insurgent. Major Waller was acquitted, and Lieut. J. H. A. Day, of the marines, was acquitted. Gen. Chaffee disapproved the findings as contrary to the evidence.

Major Cornelius Gardener, Civil Governor of Tayabas province, whose reputation was high both as a military officer and a civil administrator, made a report after a more vigorous military policy was adopted, expressing his opinion that the good sentiment and loyalty that formerly existed among the people of his province to the United States Government was being fast destroyed and a deep hatred engendered owing to the conduct of the troops, such as extensive burning of *barrios* in trying to lay waste the country so that the insurgents could not occupy it, the torturing of natives by the so-called water-cure, and other methods in order to obtain information, and the failure of inexperienced lieutenants to distinguish between friendly and unfriendly natives. The troops called all natives "niggers," and treated all alike harshly. When this report reached Washington the Secretary of War called upon Major Gardener for specifications and evidence and directed Gen. Chaffee to have his charges against the army investigated. A committee of the Senate was inquiring into the administration of the Philippines. The attention of the committee was irregularly brought to the Gardener report, which was held in the War Department for investigation, through Gen. Miles, who criticized the campaign in the Philippines for its marked severity. The committee, which questioned Gov. Gen. Taft closely on all Philippine affairs, sent for two discharged soldiers, who said they had seen the water-cure applied, and from them heard a story of the torture being administered to the president of a municipality under the direction of Lieut. Conger and the medical oversight of Surgeon Lyon by order of Capt. Glen. The President gave directions that every violation of law and every act of cruelty and barbarity be investigated in the fullest and most circumstantial manner and the offenders be brought to justice. It was believed at Washington that violations of humanity would prove to be few and occasional, and not to characterize the army in general. For the very reason that the President intended to back up the army in the heartiest fashion in every lawful and legitimate method of doing its work, he also intended to see that rigorous care was exercised to detect and prevent cruelty or brutality.

Orders were sent from Washington for the military trial of Gen. Smith and of Major Glen, Major Regan, Lieut. Conger, and Surgeon Lyon. Gen. Jacob H. Smith's advocate admitted to the full the orders in which Major Waller justified his conduct in having 11 natives executed without trial. Major Waller and Lieut. Day were acquitted on the ground that they were obeying orders. Gen. Smith's counsel justified the orders that he issued on the ground that they were covered by General Order 100, approved by President Lincoln in 1863. He had reduced to submission the treacherous and implacable inhabitants of Samar, a result that Spain had never been able to achieve, and yet had not transgressed the limits of retaliation for inhuman practices and breaches of the laws of war that are recognized in international law. The court found Gen. Smith guilty of the charge of conduct prejudicial to discipline and good order and sentenced him to be admonished by the reviewing authority. Sec. Root could find nothing in Gen. Smith's orders authorizing the illegal execution of natives over ten years old, yet the language of his orders was reprehensible; therefore President Roosevelt retired him from active service with a reprimand. The Senate censured the measures of Gen. Bell in Luzon, especially the concentration camps and the selection by lot of an insurgent officer or prominent citizen to be shot for every American soldier or friendly Filipino who was assassinated. Gen. Lloyd Wheaton accepted full responsibility for the plan of campaign carried out in obedience to his orders, as Gen. McArthur did for the ruse of war by which Gen. Funston captured Aguinaldo. Gen. Wheaton approved a report of Col. Wagner affirming the effectiveness of the concentration in protecting the natives of Laguna, Batangas, and parts of Cavite and Tayabas from guerrilla bands. After more than two years of occupation it had been found impossible to exterminate these bands or capture their leaders owing to the reign of terror which they exercised over the inhabitants. Their systematic assassination, sometimes by burying alive, of natives who refused to contribute to the support of the insurrection, enabled them to wring a steady war revenue from people presumably enjoying the privileges of free government and the protection of the United States. The War Department approved the policy that had, within a few weeks, brought to a termination the guerrilla warfare with its accompaniments of long-continued suffering, destruction, and assassination. The provincial secretary of Batangas, a loyal native, reported that during the wars the population of that province had been reduced, largely by disease, from 300,000 to 200,000, and that distress was general and famine imminent. The authorities at Washington upheld Gen. Chaffee in his policy that had proved effective and humane, and Gen. Bell and Gen. Smith in the measures of retaliation they adopted, holding that these came within the laws of war as codified in General Order 100 and were calculated to end fighting that was decimating the garrisons by the resort on the part of the natives to practices intolerable among civilized nations. Major Edwin F. Glen and his subordinates, accused of inflicting the water-cure to obtain information of natives who had roasted and otherwise tortured a soldier of their regiment, were tried later in the year. Capt. Cornelius Brownell admitted that Father Augustine, a Filipino priest at Banate, had died after the third application of the water-cure, the only death reported from this cause.

The concentration camps established by Brig.-Gen. J. Franklin Bell in Laguna and Batangas

provinces, where Malvar operated alternately, were not scenes of privation or suffering, for the people were better provided for than they ever had been before, and the mortality was less than in the neighboring provinces. When Malvar's sources of supply were cut off the native volunteers hunted down his rebel bands, one after the other. Their work resulted in the capture or surrender of 3,500 riflemen and hundreds of storehouses filled with ammunition and provisions. On April 15 Malvar himself surrendered to Gen. Bell at Lipa. A few days later the last of the *ladrones* in the island of Negros surrendered and took the oath of allegiance. On April 27 Major, now Brig.-Gen., Frederick D. Grant ascended the Gandara with two gunboats, and received the surrender of Guevarra, the last of the guerrilla leaders in Samar. This ended the insurrection.

On May 1 the ports of Batangas and Laguna were reopened for trade, and a few days later the ports of Samar. *Ladrones* were still at large in parts of the Philippines where there were mountains and forests to give them refuge. Sporadic murders of soldiers still reflected the fierce hatred of Americans with which many of the natives had been inspired by the teachings of the revolutionary leaders or the occasional lawlessness or arrogance of men of the army. A party of non-commissioned officers and privates while decorating graves of comrades near Manila were seized by natives, some of whom were policemen, and their limbs were hacked off.

From the battle of Manila, which occurred on Feb. 4, 1899, down to April 30, 1902, there were 2,651 engagements with the enemy, most of them skirmishes, in which small detachments took part or attacks from ambush on the American troops. In many cases the percentage of loss was high, yet in almost no engagement did American troops surrender or have to retreat or to leave their dead and wounded in the possession of the enemy. The number of troops transported to the Philippines up to the middle of July, 1902, was 4,135 officers and 123,903 men. The average strength of the army in the Philippines was about 40,000. The casualties from the beginning to the end of the insurrection were 69 officers and 936 enlisted men, killed or died of wounds; deaths from accident, 6 officers and 125 men; drowned, mostly in action or active operations, 6 officers and 257 men; murdered, 1 officer and 91 men; died of disease, 47 officers and 2,535 men; total deaths, 139 officers and 4,016 enlisted men; wounded, 190 officers and 2,707 enlisted men; total killed and wounded and deaths other than by disease, 282 officers and 4,188 enlisted men. The proportion of killed and wounded to the strength of the army was 9.7 per cent. The total cost of the war was \$170,326,586 in gold.

Campaign against the Moros.—On March 15 two soldiers of an exploring party in Mindanao were approached by Moros under the semblance of friendship, and after the rifle they had between them was snatched away both were stabbed, one of them fatally. The murderers were known, but the Dattos refused to deliver them. The Moros had always been friendly. Mindanao is more healthful than Luzon, probably as rich in natural wealth, and this is entirely undeveloped. Some of the Moros objected to the topographical surveys and exploration of the resources of the island that Gen. Chaffee had ordered. He told them that the Government had a right to explore the country. After the murder he went to Malanbag and summoned to a conference the Dattos, or chiefs, of the tribe to which the murderers belonged. They did not come. He left after sending a letter to the

Dattos saying that the authority of the United States must be respected and its sovereignty fully acknowledged. An expedition of 1,200 cavalry and artillery under Col. Frank D. Baldwin was ordered to leave for Lake Lanao on April 27 for the purpose of arresting the murderers and punishing the Moros who sheltered them. The American policy in dealing with the Moros has been to avoid any exercise of authority over the Moros so long as they outwardly acknowledged American sovereignty. The Spaniards, who had always left the Moros alone and practically independent, attempted two years before the cession of the islands to the United States, when the cessation of the Tagalog rebellion released their military and naval forces, to subjugate the lake Moros. They built a railroad, placed two gunboats on the lake, and kept fortified posts in the country for some time. Still they were unsuccessful. The loss of the Philippines put an end to their project, which required prolonged exertion and a greater development of power. The movement was favorable because the tie that formerly united the most formidable tribes, however loosely, no longer existed. The Mindanao Moros owe no political allegiance to the Sultan of Jolo, although recognizing that island as the source and center of Mohammedan civilization in the Philippines. Formerly there was a Sultan of Mindanao, who had sufficient prestige and authority to unite the tribes against an external foe. Datto Mandi, of Zamboango, who claims to be heir and successor of the former sultans, is chief of the tribe that has fallen most under the peaceful influences of European civilization. His hereditary right to exercise any authority over the powerful Datto Piang and the warlike and fanatical tribes of the Dattos Ali and Utto is rejected with scorn. The Moros therefore relapsed into jealous and mutually hostile tribes. They speak four different languages, and there is little intercourse except among neighboring tribes, and these are often at war with each other. Those about Lake Lanao cultivate the land well with their slaves and are numerous and rich. Since the Spaniards attempted to establish their power over them they have accumulated arms and strengthened their fortifications. Every house is fortified, and they make pitfalls and entanglements in the roads and have strong central forts of masonry, with their native bronze cannon, called *lantakas*, swung in embrasures on pivots or hanging from beams. All Moros are armed with the curved *kris* of highly tempered steel, which comes from Borneo. They are noted as cunning, swift, agile, and muscular fighters, and their Mohammedan fatalism and fanaticism makes them more daring, desperate, and ferocious than Christian Malays. The picked men swear to their Dattos to conquer or die in battle. Recently they had obtained rifles from unknown sources. The authorities at Washington were inclined to countermand Gen. Chaffee's order for a punitive expedition, fearing that it would lead to a war with the 400,000 Moros of Mindanao, united and inflamed by religious zeal against Christians. When assured by Gov. Taft that there was no danger of their uniting and by Gen. Chaffee that the large majority of the tribes would remain as friendly as ever, some in the neighborhood of the scene of action, but that if American military power were not demonstrated to those who now challenged it no garrison could be kept on the island without fighting, the Secretary of War authorized the projected movement to be carried out provided a peaceful solution could not be reached by parleys, but operations were ordered to be restricted as far as possible to the objects the expedition was sent

to attain. Brig.-Gen. George W. Davis was placed in charge of operations. When the troops advanced red flags were seen flying from the villages, indicating that the inhabitants intended to fight to the last. Every Datto's house was a fort, with trenches about it, stone walls, and bamboo stockades. There were many Dattos, and therefore many forts, stockades, and intrenched positions to be carried. None of them, however, were strongly defended. Each fort was supplied with one or more old cannon, a few small guns, and many bamboo cannons, and when these responded ineffectually to the shell and shrapnel the defenders retreated safely by covered passages, offering little of the expected hand-to-hand fighting from lurking-places with bolo and spear. The troops advanced cautiously, to avoid traps and surprises, at the rate of 8 miles a day. On entering Bayan, the land of the murderers, Gen. Davis on May 1 sent a message to the Dattos demanding that they give them up or send a peace delegation with explanations. Instead of answering, the Moros fired upon the troops at night. In Bayan, near the lake, a large stockaded fort, defended by 300 men, was shelled, but was not taken until the infantry rushed the trench. On the shore of the lake was a small fort to be taken, covered like the others with brush to screen the men with rifles and shotguns and hide portholes. The field-battery shelled the walls, but made no breach nor even silenced the fire of the *lantakas*, which fire cartridges of bamboo an inch and a half thick and four inches long, enclosing tightly packed slugs, screws, pebbles, and bits of glass. At close range they did considerable execution. When the Moro fire slackened at last and the fort was presumably wrecked the troops advanced from all four sides. They came to a trench filled with Moros, who fought to the death. Some of the men and horses fell into deep pitfalls. Another trench was enfiladed, and then a third, and a fourth. The Sultan and Dattos of Bayan and the Sultan of Pandapatan, the builder of the fort, were killed and most of their men. When the fort surrendered at daylight on May 3, 84 survivors were found inside, while some escaped by a tunnel to the lake. The American losses were insignificant in the previous actions, but in this engagement 1 officer and 7 men were killed and 4 officers and 39 men wounded. The taking of Fort Pandapatan ended the task of the expedition. A fortified post was established at Vicars, in the interior, and strongly garrisoned, and communications were kept open with Zamboango on the sea-coast.

In the rainy season the Moros harassed the camp at Vicars and stabbed several unwary outposts with bolos. On Aug. 1 a party crawled noiselessly in the dark and fog to within leaping distance and killed two sentinels and wounded another with spears and *kris*es. These men were from Bacolod, whose Sultan, formerly friendly, had been strengthening his forts since the arrival of the Americans, and was sending messages of defiance and committing depredations. The Maciu Moros were equally truculent and yet bolder in their attacks. Tagalog intriguers deluded the Dattos and Sultans into believing that the Spaniards were driving the Americans out of the Philippines, and that the United States was at war with the Sultan of Turkey, recognized by the Moros as the Caliph of Islam. The main motive of their hostility was still that they had always been in possession of the country about Lake Lanao and would defend it from American, as they had from Spanish occupation. Gen. Chaffee considered that a campaign was necessary to curb

the growing hostility of the Moros and received permission to use his own discretion in the matter. When the rains ceased Brig.-Gen. Samuel S. Sumner mustered a force of 1,100 infantry and cavalry with a mountain battery at Camp Vicars. Before these were assembled the Moros made several attacks on the American camp, which Capt. John J. Pershing, the commander, repelled with his cavalry. On Sept. 17, Capt. Pershing advanced at the head of a column of 700 men against Maciu. The Americans met but slight opposition at first, capturing three forts in Goanan, two in Bayubas, and two in Sanir. On entering the country of the Sultans of Uali, Butig, and Maciu the troops were frequently fired upon. Capt. Pershing halted to send a message to the two Sultans of Maciu, who replied contemptuously. Thirty more entrenched and fortified positions were taken with a loss of only 2 wounded, although 20 Moros were killed in one engagement. As before, the Moros fell back from one fortified position to another. On Sept. 30 the column came in front of the stronghold of Maciu on the lake. The sultans boasted that it was impregnable and the Americans knew from their experience at Pandapatan that the thick high walls, bristling with native cannon and swarming with bolomen and riflemen hidden in the shrubbery on top, could not be stormed without severe losses. The approach was difficult, as the place was surrounded with swamps on the land side, which it took time to bridge so as to besiege the fort. Capt. Pershing at last disposed his men at an effective range. A final summons, with an offer of peace from Gen. Sumner, was sent to the sultans, who replied that the Americans must capture them in fight if they wanted to confer with them. They had sworn that they were willing to go with their people into slavery if the fort could be captured with them alive. The American riflemen and gunners learned to pick out the embrasures and loopholes and the marksmen on the walls by watching the puffs of smoke. Shrapnel fire, solid shot sent through the walls, and shells bursting within the fort rendered the defenders apparently helpless. The siege line was drawn closer, and Lieut. Loring led a storming party, but it was called off when an inner lower wall was found on which there were plenty of yelling Moros. The bombardment was resumed. The Sultan of Cabutatan made a desperate sortie, and was killed with all his followers, yet, pierced with six wounds, he bolooed an American. The besieged were well supplied with food and water, but the American sharpshooters and gunners killed them off, and on the night of Oct. 2, when Capt. Pershing had brought his batteries up to 100 yards and closed in the infantry lines, those who remained escaped by the usual underground passage. Besides the Sultan there were 7 Dattos and 42 other Moros killed and 50 wounded. The American loss was only 2 wounded. The attempt to form a combination among the rebellious tribes was frustrated by the thorough defeat of the Macius, though the Sultan of Bacolod still threatened war to defend the religion of Mohammed. Gen. Chaffee transferred the chief command in the Philippines on Oct. 1 to Gen. Davis, who after the return of the column to Camp Vicars ordered Gen. Sumner to delay his intended expedition against Bacolod to see the effect of Capt. Pershing's victory. This effect was marked and instantaneous. The rebellious sultans made professions of peace and offered to furnish provisions and laborers.

Civil Government.—The Philippine Commission reached the conclusion that the only possible method of instructing the Filipinos in methods of

self-government was to make a government partly of Americans and partly of Filipinos, with absolute control in American hands for some time to come. Even the educated have but a faint conception of civil liberty. In the schools the English language was made the basis of all public instruction, and the people showed a remarkable eagerness to learn English. When the normal school was opened for training Filipino teachers, 600 pupils were enrolled at once. In the night-schools 10,000 adults sought instruction. Young Filipinos were instructed in telegraphy so as to take over the telegraph service from the army. Manual training-schools and agricultural colleges were a part of the plan of education. The people of the islands were found by the Philippine Commission to be divided into three parties: one opposed entirely to the American occupation; one favoring the established government; and one, larger than both the others and composed of the ignorant mass, which was indifferent and would support any government able to restore order and tranquillity and protect the people from violence.

The Federal party asked for amnesty for political offenders and the organization of local and insular government on a basis partially popular and desired to have the Filipinos represented before the executive and legislative departments in Washington by two or three delegates. This party, which was composed of the majority of the educated people, ultimately looked forward to statehood or to political independence. Its leaders proposed to impose higher restrictions on the municipal franchise than those adopted by the Philippine Commission. This party was an efficient ally of the Government in procuring the submission of insurgents and the pacification of the country. Wherever the Philippine Commission went the Federal party prepared a favorable reception. The other active party, the one opposed to American rule, was the Conservative party, composed largely of Spanish mestizos, and having the most sympathy for the Spanish clerical hierarchy that was obnoxious to the Filipinos in general. This party was in favor of peace as well as the Federal party, and the great party that desired only peace and advanced no political views. The Conservatives wished to establish an independent native government with an American protectorate.

The Philippine Islands, owing to the influence of the friars and Spaniards owning large haciendas, had no land tax in Spanish times. The American Commission imposed one, which encountered some opposition at first. The yield can only be small at first, because out of 65,000,000 acres of agricultural land in the Philippines only 5,000,000 acres belong to private owners.

The sanitary measures taken at Manila practically stamped out the plague, which caused 20 deaths a week at the beginning of 1901, but not more than 3 on the average at its close. Small-pox is endemic in the Philippines, and vaccination was made compulsory. Beriberi, another endemic disease, has been studied with a view to curbing its propagation. A plan was formed for isolating the lepers, of whom there are believed to be 60,000 in the islands. In 1902 an epidemic of cholera raged in many towns and districts and caused fearful mortality.

On July 1 civil government was proclaimed throughout the Philippines, excepting in the southern islands of the Moros, according to the bill passed by Congress. Gen. Chaffee's powers as Military Governor-General ceased, and he became merely commanding general of the military division of the Philippines. The Philippine Govern-

ment remained under the absolute direction of the President and received instructions from the War Department. A provincial government was inaugurated at Laguna on the same date, completing the establishment of local civil rule throughout the civilized parts of the archipelago. The pacification was pronounced complete and the acceptance of American authority universal. The army was reduced to 27,000 men. Its duties were confined to police work, except in the Moros country, and it was expected to replace it eventually by a native constabulary. On July 4 a proclamation of the President announced that peace had been established and offered amnesty to all who had participated in insurrections against Spain or the United States or had been guilty of treason, sedition, or any other political crime. Pardon was granted even for acts in violation of the rules of civilized warfare in the belief that they were committed in ignorance and under orders of the revolutionary leaders, but not for such acts committed since May 1, nor for murder, rape, arson, or robbery. Those held for these crimes at common law were promised such clemency as would be consistent with justice and humanity. To political prisoners and all who had committed political crimes the only condition of a full pardon and amnesty was that they should subscribe to an oath recognizing the authority of and assuming allegiance to the United States. Aguinaldo and the other officers of the revolutionary *junta* and insurgent leaders who were in confinement took the oath and were set at liberty. The prisoners in Guam were brought back in September. In the autumn *ladrones* and irreconcilable fanatics became active in the provinces of Cavite, Rizal, and Bulacan. In Tayabas a leader named Rios with 150 bolomen attacked a town, and the constabulary, after driving them away, arrested 700 persons who were suspected of complicity with Rios, who claimed to be divine and immortal. In Samar the American constabulary suffered from attacks of robbers. *Ladrone* bands gave trouble to the constabulary in the vicinity of Manila. In Cavite a leader named Felizardo had a large following. There were several bands of from 200 to 300 in the provinces affected. When driven from Cavite, which has been the home of *ladronism* for ages, they crossed into Bulacan, and from there were chased into Rizal by volunteers. After committing depredations on the plains in the provinces surrounding Manila it was easy for the robbers to escape from the constabulary into the mountains. In November the civil authorities called for the aid of the army, which had remained inactive, and it was decided to protect the towns with military garrisons in order to release the constabulary for vigorous field operations. For the suppression of *ladronism* it was enacted early in November that highway robbery committed by three or more persons shall be a capital crime. The United States garrison for 1903 was fixed at 17,000 troops.

The Question of the Friars.—Spanish regular priests were, under the Spanish *régime*, the actual rulers of the island, the only representatives of authority with whom the Filipinos came in contact, and it was against their rule that the successive revolutions were directed. It was because their vested rights were reserved by the treaty of Paris that the insurrection against American authority gained such rapid headway and became so general. These monks, through gifts and bequests and Government grants and by confiscation and expropriation in various guises, had, in the course of ages, acquired for their establishments a large part of the best lands. When the insurrection broke out they fled to Manila for safety. The

great majority of the secular priests were natives, but the regular clergy held the important cures, all those to which an endowment or a Government stipend of any value was attached. During the insurrection the native priests, some of whom were active leaders in the revolution, settled themselves in the vacant livings. After the establishment of civil government under American auspices a large number of them, choosing Father Aglipay, one of the chiefs of the revolution, for their bishop organized what they called an Independent Catholic Church, independent of Rome, because the Curia sustained the Spanish hierarchy and monastic orders in the Philippines. Negotiations were proceeding between Gov. Taft and Mgr. Guidi for the transference to the Government of churches and the determination of what part was Government and what monastic property. The growth of the schism interrupted these negotiations, and at the beginning of 1902 led the apostolic delegate and the archbishop to appeal to the Governor-General to place the authorized priests at once in possession of the Church property with the aid of the constabulary. Bishop Aglipay and his followers, who continued to seize church property throughout the archipelago, asserted that the churches, having been built by public subscription and gratuitous labor, belonged to the people of the different towns, who had seceded from the Roman Catholic Church and joined the Independent Catholic Church. Gov. Taft considered that it was not a function of the executive, but of the judiciary, to settle the controversy, and declined to place the constabulary at the service of the Church authorities unless they appealed to the courts and obtained decrees affirming their legal ownership and rights in the disputed property. The Filipinos were not actuated by any desire to abandon the Roman Catholic faith, although some of them at one time spontaneously launched a Protestant movement, which had, however, no religious basis. Their object was not to be placed again under the authority of the Spanish monks. In June Gov. Taft went to Rome to arrange a settlement of the question with the Vatican. He presented to a commission of cardinals appointed for the negotiation a proposition of the United States Government to purchase the lands held by the friars in the Philippines at a valuation to be fixed by two commissioners representing the United States, two appointed by the Vatican, and one to be nominated by the Viceroy of India. These estates are believed to have a value of about \$10,000,000. In return for this offer the Pope was asked to recall from the Philippines within two years the friars of the Dominican, Franciscan, Augustinian, and Recoleta orders. The Vatican did not see the way to the recall of the friars within a fixed time because their rights there were guaranteed by the treaty of Paris, and such action on its part in the absence of *force majeure* would bring the Holy See into conflict with Spain; furthermore, it would be equivalent to an admission of their unworthiness. However, the Vatican promised to replace the friars little by little with clergy of other nationalities, instructing them meanwhile to occupy themselves with religion only, leaving politics alone. While willing to agree to the elimination of friars from parishes where they are really obnoxious, the Vatican trusted that the American authorities would not permit any to be kept from their religious ministrations by factious minorities. Secretary Root could not see how the recall of the friars by the spontaneous act of the highest authority of their Church could violate the engagements of the United States to Spain, or how the interest

of the United States in restoring religious peace for the welfare of the Filipinos could conflict with that of the Vatican in retaining them as faithful Roman Catholics. He pointed out that the United States sought not a forcible, but a voluntary withdrawal of certain persons who happen to be Spaniards and whose previous experiences in the islands had fortuitously thrown them into antagonistic relations with the people, the Catholic laity, and the native clergy. Many of them had left their parishes, and could not be reinstated without using material force, which the United States could not permit. Their voluntary recall by their religious superior in the interest of the whole people of the Philippines, who were bitterly opposed to their presence, which was the only motive the United States as well as the Holy See could have, would not be a violation of the treaty of Paris and could not be regarded as affirming or admitting any accusations against the friars, because the American Government made no such accusations. Besides the purchase of lands held by the religious congregations or their representatives at a price to be fixed by a tribunal of arbitration the United States offered to settle by agreement or arbitration indemnities to be paid for the use of churches and rectories by American troops during the insurrection and to convey to the Vatican the sites of churches and rectories to which the Vatican has no legal title, while charitable institutions and public trusts would be divided, by arbitration if necessary, between the Church and the Government according as their character or origin justifies their administration by the ecclesiastical or the civil authorities. Cardinal Rampolla accepted the offer for the purchase of the monastic estates, suggesting that the fifth commissioner to appraise their value be selected by the four others. This offer was withdrawn, since the main proposal, that of the gradual withdrawal of the friars within two years, was rejected. Gov. Taft left Rome to continue the negotiations later with the apostolic delegate to be appointed to Manila. The money that the United States may pay for the friars' lands and for indemnities is very necessary to the Church in the islands, as the Philippine Government does not pay stipends to the clergy, as it did under the Spaniards, when every friar in charge of a parish received from \$600 to \$1,500 Mexican a year. Secretary Root requested the Vatican to send to Manila lists of the property claimed as belonging to the Church and to the religious congregations, with proofs of title. The lands formerly controlled by the friars are now tenanted by Filipinos, who no longer give any returns to them in rent or services. A small number of friars have remained in their parishes and continue to minister acceptably to the Filipinos. The Church authorities were asked by Mr. Root to furnish full and definite lists, first, of the property the congregations claim to own and desire to sell, with the precise relations they hold to the title; second, of details of damages done by troops to churches and convents, and of indemnities claimed; third, of Church properties to which formal title remained in the Spanish Crown at the time of its cession; fourth, of charitable and educational trusts which it is said devolve on the Church rather than on the state.

PHYSICS, PROGRESS OF, IN 1902. Cosmogony.—S. Arrhenius, in *Archives Néerlandaises*, 6, 1901, endeavors to infer from natural laws that the universe has continued materially unchanged for an indefinite time, and that it will so continue indefinitely in the future. He shows that for the bulk of existing gaseous matter

contraction to one-eighth of its volume, with corresponding increase of pressure, will initiate a loss of heat by radiation, while the mass continues to rise in temperature. If the pressure increases more rapidly than in the ratio of 16 to 1, a second stage will be reached in which the mass will be cooled by contraction. With hydrogen and nitrogen, Amagat has shown that this will occur (at pressures of more than 250 to 300 atmospheres) at about 17° C. The densities of the nebulae are much less than this, so that if they lose heat by radiation, their temperatures will increase more rapidly, and therefore, conversely, the communication of heat from outside will cause cooling accompanied by expansion. This expansion would continue indefinitely if it were not for comets and meteorites. When new stars begin to form a solid crust, the loss of energy will fall suddenly, and this third stage will therefore continue indefinitely. With bodies in the second and third stages collisions will give rise to explosive outbursts of gases, and these would form spiral nebulae. The author points out that there will be practically no dissipation of gravitational energy during expansion, and none through ordinary chemical dissociation. There will be dissipation, however, in photochemical processes inverse to those which occur on the surface of the earth, and the series of changes may go on without intermission. The average period of the cyclical changes is on the increase, so that the quantity of nebulous material in existence must continually become greater, while that of the stars must correspondingly decrease.

Properties of Matter, etc. Gravitation.—V. Wellman (*Astrophysical Journal*, May) attempts to explain the Newtonian law of gravitation by supposing a gaseous ether of extreme tenuity, whose particles possess velocities approaching that of light. On this supposition gravitation must be modified if the attracting masses are in relative motion. The modifying factor involves the velocity of the ether particles, which the author assumes to be equal to that of light *in vacuo*. The resulting "gravitation factor" agrees with the constant of Gauss so closely that "a merely accidental coincidence of the two values is out of the question, and a causal connection between light and gravitation seems to be expressed in the figures." The distribution of what he calls "gravitational matter" is discussed by Lord Kelvin in a British Association paper (*Nature*, Oct. 24, 1901). Ether, according to Lord Kelvin, is matter, but not gravitational matter, because if it gravitates it must be infinitely incompressible, which to the author appears improbable. It is assumed that the Newtonian law of attraction between masses of gravitational matter holds throughout infinite interstellar space. The author considers it probable that there may be as much matter as a thousand million suns within a sphere of radius 3.09×10^{16} kilometers (the distance at which a star's parallax is 0.001 of a second), because, if uniformly distributed at rest throughout such a space, twenty-five million years ago, they would now have acquired, by mutual attraction, velocities comparable to the present velocities of the stars. Kelvin also states that if all the matter in the universe were, at a certain epoch, at rest, and unequally distributed, there would be a tendency for the densities to become more unequal, solid bodies would ultimately form, and there would be collisions, giving rise to waves in ether, carrying energy away to infinite space. The origin of meteoric stones is attributed to this kind of cooling.

The Ether.—Hopkinson (*Philosophical Magazine*, January) argues that optical and other terrestrial phenomena, including gravity, fail, with one exception, to give any logical non-metaphysical basis for postulating the existence of an ether. This one exception is the fact that, according to the undulatory theory, the aberration of a star depends on the motion of the earth relative to the free ether, and is entirely unaffected by the motion of the star, which, if capable of experimental proof, would give such a logical basis. Certain stars, the so-called "spectroscopic binaries," appear single when viewed through a telescope, but are inferred to consist of two components because of the periodic doubling of lines in their spectra. This would occur, owing to the Doppler effect, when one component of the system is moving toward, and the other away from, the earth. If the motion of the components affected their aberration, then, when moving as above, there should be a lateral separation between the components as seen in a telescope, resulting in a periodic doubling alternating with the separation of the spectroscopic lines. The fact that no such doubling can be detected affords, in the author's opinion, evidence that the aberration is unaffected by the motion of the star, and gives a logical basis for postulating an ether.

Molecular Fields of Force.—S. Leduc (*Comptes Rendus*, Feb. 17) has attempted to explain a number of phenomena by applying the notion of fields of force to molecular movements in liquids. When a drop of any aqueous solution falls into distilled water the dissolved molecules diffuse in all directions and water moves in an opposite direction to replace them. The drop is then the seat of a field of force, the directions followed by the moving molecules being the force lines. A similar but inverse field is established when a crystal forms in a solution. By retarding the molecular movements by a colloid such as gelatin, and drying the liquids rapidly, photographs of the molecular fields of force have been obtained, exhibiting also interference between fields of force of diffusion, or between fields of force of diffusion and crystallization.

Mechanics. Pressure of Vibrations.—Lord Rayleigh (*Philosophical Magazine*, March) gives several examples to show how the energy of a vibrating system may be drawn off and converted into other forms of work. In one of these, a string is attached at its upper end to a vertical axis, and a ring slides over the axis, including the upper part of the string, the lower part being free. To the lower end is attached a pendulum, which, when set swinging, tends to force the ring upward, any work done in raising it being at the expense of the vibration energy. By mathematical calculation it may be found that raising the ring to an infinite distance would exhaust the whole energy of vibration. The author raises the question whether an analogue of the second law of thermodynamics can be found in the general theory of the pressure of vibrations, but does not give, apparently, a final answer.

Measurement of Minute Masses.—E. Salvioni (*Nuovo Cimento*, May) has devised a microbalance, made of a thin thread or ribbon of glass or other material, fixed at one end. The device is placed in a closed case, which also contains small weights (the larger of platinum wire, the smaller of silk thread), which can be placed on the flexible thread or ribbon. The bending of the loaded thread is observed with a micrometer, and appears to be proportional to the weight. A glass thread 10 centimeters long and one- to two-tenths of a millimeter in diameter will thus support a weight

of more than 100 milligrams, and will serve to weigh to one-thousandth of a milligram. The balance has an arrangement that maintains the flexure after unloading. The loss of weight of musk by volatilization is clearly demonstrated by this instrument, which shows it to be proportional to the time.

Density.—G. Guglielmo (Atti dei Lincei, Dec. 1, 1901) describes a balance used under water to determine densities. As the weight in water can be made small, the friction on the knife-edges is small, and these are, moreover, lubricated by the water. The balance is thus of extraordinary delicacy, and the error due to surface tension on the suspending wire is also avoided. The balance arm is of glass, with a central bulb to give the whole suitable weight. The knife-edges of the ordinary balance are replaced by points resting on planes.

Strain.—L. Cailletet (Comptes Rendus, Feb. 17) notes that a thick coating of strong glue spread upon glass splits off when it dries, pulling with it thin layers of the glass, and leaving a decorative curved pattern, especially if crystalline salts are added to the glue. A cylindrical vase of thin glass so treated will split into a hemicylinder, and a thick piece of glass will, under polarized light, show the contractile strain to which it is subjected.

Torsion.—Coker (Edinburgh Royal Society, Nov. 12, 1901) has studied turned steel bars about one-half inch in diameter, under torsion, together with tension and bending. Such experiment has generally been limited hitherto to wires. According to the usual theory, if the material changes from the elastic to the plastic condition at the yield-point, the maximum torque which the bar will stand, when it is all plastic and subject to the same shearing stress, is four-thirds the value at which the first marked deviation from perfect elasticity occurs. With an iron bar, the deviation occurred at 375 inch-pounds and failure at 525 inch-pounds, the ratio being 1.4; a steel specimen gave 675 and 870, a ratio of 1.29. The phenomenon of breakdown and subsequent recovery from over-strain is similar in torsion to that in tension, such a moderate heating as 100° C. having a marked effect in promoting the recovery. The experiments demonstrate that the limits of elasticity do not remain in their original positions; stress carried beyond the elastic limit in one direction reduces the other limit to zero. The theory that a twisted bar is twice as strong to resist torsion in the same direction as in the opposite one is not borne out by experiment. As for the effect of tension on torsion, a tension within the elastic limit has practically no effect on the elastic part of the torsion curve, but lowers the yield-point. The effect of torsion on tension was only examined below the elastic limit. No difference was observable, whether the bar were twisted or not, provided its elasticity remained unimpaired. When a bar was bent within the elastic limit, and tested by twisting beyond that limit, its yield-point was considerably lowered, and the effect was to give the bar a permanent set in bending under the same moment to which it had previously been elastic.

Cyclonic Motion.—J. Aitken (ibid., 40, 1, 1901) notes that vortices will not occur either in air or water unless there is initial circular motion as well as low pressure. Otherwise the fluid will flow toward the low-pressure center radially. This may be illustrated by emptying a basin of water from an orifice at its lowest point. In water vortices so formed there is a great increase in velocity near the center. The resistance of-

fered in the case of a cyclone by the spirally moving air enables the latter to develop more energy than if the air moved inward radially, as the retardation causes a fall of pressure, and the energy of the cyclone is increased.

Liquids. Solution.—Friedländer (Zeitschrift für physikalische Chemie, Oct. 1, 1901) has observed certain peculiarities of partially miscible liquids near the critical point, using chiefly mixtures of water and isobutyric acid. The temperature coefficient of internal friction increases very greatly in the neighborhood of the critical point, not only with these substances, but also with mixtures of phenol and water, and with benzene, water, and acetic acid. Precisely similar results were obtained on studying the opalescence or milkiness that appears when such mixed liquids are cooled near the critical point. In mixtures of isobutyric acid and water the opalescence reached a maximum of 69 units for a critical mixture 0.04° C. above the critical temperature, and falling to 4.5 units at a temperature 1° above. The density, coefficient of expansion, electrical conductivity, and refractive index of the solutions, however, change continuously in the neighborhood of the critical point, and do not exhibit maxima or any other abnormal features.

Wave Motion.—W. G. Fraser (Philosophical Magazine, October, 1901) has sought to explain the fact that large waves instead of being reflected at an obstacle, as a small wave is, and as all waves should be, according to theory, break into spray. His explanation is that the vertical component of velocity is checked by the obstacle, which tends to produce variation of density, and finally breach of continuity. For deep waves with direct incidence it is found that cohesion will prevent rupture so long as the ratio of the amplitude to the wave-length is small. In the case of oblique incidence not only the vertical component of velocity, but also the horizontal component parallel to the obstacle is checked, and this somewhat lessens the liability to break.

Composition.—G. F. Stradling (Franklin Institute Journal, October, 1901) elaborates Röntgen's theory that water contains two kinds of molecules, which he designates "ice molecules" and "molecules of the second kind." This has already been worked out quantitatively by Sutherland, and promises to explain many points in which water behaves oddly, such as the well-known maximum density at 4° C.; the minimum of compressibility at 63° C.; the decrease by increasing pressure of the coefficient of thermal expansion; the lowering by increased pressure, and by dissolved salts, of the temperature of maximum density; the influence of pressure and temperature on its viscosity; the decrease of volume in preparing aqueous solutions; and the low specific heat of solutions as compared with water. The author says: "Not only in the matter of solutions, but in other more strictly physical relations, it is a misfortune that the rôle of the typical liquid was assigned to water."

Flow.—H. T. Barnes and E. G. Coker (Physical Review, 12, 1901) have continued the investigations of the former author on the flow of liquids. Barnes showed that if water be heated while flowing through tubes in parallel stream-lines, the distribution of heat is not uniform; where the heat is applied to the outside only a few layers of the water will be heated, and where the heat is from a central wire the hot water flows only along the wire. Beyond the critical velocity, where the flow is eddying and sinuous, the distribution of heat throughout the water-column is uniform. The authors now find that the critical velocity can

be sharply determined by placing the bulb of a sensitive mercury thermometer in the water just as it emerges from the tube; when the motion becomes sinuous, even for an instant, the mercury column shoots up.

Surface-Tension.—The surface-tensions of mixed liquids have been investigated by W. H. Whatmough (*Zeitschrift für physikalische Chemie*, Dec. 5, 1901), who has made his measurements by determining the pressure necessary to drive a stream of air-bubbles through a capillary point immersed in the liquid. He finds that under certain conditions the method is capable of exceedingly great accuracy. This experimenter was unable to confirm the results of Quincke and Harnack, who found a difference in the surface-tension of freshly prepared solutions and those that have been kept some time. The maximum deviation observed by Whatmough after twenty-four hours in six solutions was only 0.1 per cent. Mixtures of sulfuric acid and water were found to exhibit a remarkable maximum of surface-tension at 46 per cent. H_2SO_4 , corresponding with a minimum of compressibility. Minima occur in mixtures of acetic acid with ethyl iodide, carbon tetrachloride, benzene and chloroform, toluene with xylene, and other mixtures of hydrocarbons.

Viscosity.—A. Batschinski (Moscow Imperial Society of Natural History, *Bulletins* 1 and 2, 1901) has tested the law that the product of the internal friction of a liquid and the third power of the absolute temperature is a constant. He finds that the relation holds with a large number of substances, including bromine, nitrogen-dioxide, most halogen derivatives, and certain aldehydes and ethers; but anhydrides, acids, alcohols, and water (below its boiling-point) in general do not obey the law. P. Duhem (*Comptes Rendus*, May 12) defines a fluid as a body, each element of which is in a state completely defined by the temperature and the density. Within an incompressible fluid the virtual work of viscosity is zero, and if a body is rigorously fluid and rigorously incompressible, it must be considered devoid of viscosity. All viscous fluids are compressible. The author shows that the laws of motion of a viscous fluid differ from those of a non-viscous only in that there is no longer a relation in finite terms between the pressure, temperature, and density, such relation being replaced by a differential equation. For a compressible perfect fluid the density at any point has the same value as if the fluid were in equilibrium under the same pressure and temperature; while for a viscous fluid in motion the density at each point varies in such a sense as to approach that value. In a slightly viscous fluid, where the velocity varies little, these two values are very nearly equal, and thus a perfect fluid is the limiting form of a fluid slightly viscous. The same author, in a later paper (*ibid.*, June 2), extends these considerations to a fluid near the critical state. It is shown that while the density differs by a finite amount from the equilibrium value, the density of an element may vary very slowly. The fluid is thus in quasi-equilibrium, but such a state is not permanent. In a fluid with sensible motion, if the accelerations are large the rate of variation of density is no longer very small, and a stirred fluid near its critical state thus presents the same problem as that of a dissolved substance diffusing slowly through the solvent. The striæ in a fluid near the critical point are thus similar to the motions in a solution having great differences of concentration at different points.

Gelatinization.—J. M. van Bemmelen (*Archives Néerlandaises*, 6, 1901), has shown that silica jelly

really consists of an open microscopic network, or mass of polygonal cells, enclosing a large quantity of water, which is not in chemical combination, and can be replaced by other liquids. When slowly dried at ordinary temperatures, the jelly at a certain point, called by the author the "change-point," loses transparency because air enters the cells and condenses there, but it becomes clear again when this is displaced by a liquid. The jelly may be dried till only one molecule of water to ten of silica remains, but exposure to aqueous vapor causes the cell cavities to gradually refill with water, the volume of the jelly remaining almost unchanged. The phenomena can be repeated indefinitely. The position of the change-point depends on the structure of the jelly and the constitution of the cell-walls. The power of absorption of vapors is reduced by heat, and at low redness may be entirely removed. S. Levites (*Russian Journal of Physics and Chemistry*) studies the delay of gelatinization of some colloidal bodies from an aqueous solution, produced by the addition of salts or other substances. This effect increases with the temperature, and the gelatinization process may often be wholly prevented. The author suggests that a colloid will undergo gelatinization from a salt solution more slowly, the more readily it dissolves in this solution, and striking analogies between this process and crystallization are pointed out.

Crystallization.—G. Tammann (*Annalen der Physik*, April 29) believes that the so-called "liquid crystals" are not such in reality. He points out that the existence of crystals with a displacement elasticity equal to zero would introduce a fundamental modification of the space-net theory, if it did not, indeed, require its complete abandonment. Experiments, he asserts, support the view that "liquid crystals" must really be regarded as emulsions. A. Amerio (*Nuovo Cimento*, November-December, 1901) reexamines this question of "liquid crystals" by using an apparatus similar to the ice calorimeter of Bunsen, with which he demonstrates that at the points of transformation from the clear to the turbid state there is an evolution of heat, and an absorption on the reverse change. The specific heats of the compounds examined were less in the former state. Double refraction and dichroism are properties of the turbid liquids and not due to solid particles, and the author believes that surface-tension is the determining force of the orientation, and that the droplets are not analogous to crystals. He prefers to term them simply birefractive and anisotropic liquids. P. R. Heyl (*Physical Review*, February) has inquired experimentally whether electrostatic stress might not alter the interfacial angles and density of crystals formed under its influence. Mercuric iodide, a salt sensitive to slight mechanical disturbances, was employed as indicator, but no effect was found. Hence any molecular forces called into play in a solution under electrostatic stress are not comparable with the forces of crystalline attraction.

Hydrostatic Pressure.—W. Ramsay (*Archives Néerlandaises*, 6, 1901) describes an attempt to determine whether fine-grained particles, having incessant pedetic motion in a liquid, exert hydrostatic pressure. His method was to determine the density of a colloidal solution in water first by a hydrostatic method, and then by the pycnometer. The latter is found to give a higher value, and although the difference is so small as to be comparable with the errors of observation, the author concludes that the particles by their impacts on the sinker exert hydrostatic pressure.

Gases. Boyle's Law.—Rayleigh (Philosophical Transactions, April 12) used for experiments on this law two gages, which, as determined by testing them in parallel, indicated pressures in the ratio of 1 : 0.99862. A volume of gas was taken with the pressure indicated by one of these gages, and it was then compressed till the pressure was that of the two in series, its new volume being noted. It was thus found that, to an accuracy of $\frac{1}{1000}$, air, hydrogen, oxygen, and argon obey Boyle's law at the pressures and temperatures (10° – 15° C.) of the experiments, while nitrous oxide deviates from it in having greater compressibility.

Vortex Rings.—A. Indra (Vienna Academy of Sciences, April, 1901) describes experiments with the well-known smoke ring, the box used having transparent sides. When a direct ring issues from the aperture, a conjugate ring enters the box, its rotation being in the opposite direction. Experiments with direct rings show phenomena analogous to reflection, refraction, and absorption. The author believes that vortex rings play no part in the dispersion of storm-clouds by cannon firing, since experiments shows that they can not reach a sufficient altitude. He attributes the effect to sound-waves.

Sound. Stability of Vibration.—C. Barus (Science, Sept. 13, 1901) finds that when a resonator is gradually moved toward an organ pipe, under certain conditions the following phenomena are observed: With the aperture of the resonator toward the pipe, the note rises from c'' to d'' at a distance of 1.1 centimeter. For smaller distances the note returns to the original c'' . For larger distances destructive interference occurs. If the closed end of the resonator be toward the pipe, a flattening of the note occurs. Like effects are produced if the resonator be approached to the top of the pipe instead of to the slit. The explanation is that in the vibration of a system under friction having one degree of freedom a certain amount of damping occurs. The open end of the resonator diminishes the damping to such an extent that the pitch is raised. The closed end increases the damping with contrary effect.

Air-Pressures in Brass Instruments.—E. H. Barton and S. C. Laws ([London] Physical Society, Dec. 13, 1901) have examined the relationship of the pressure of blowing to pitch, intensity, and method of fingering in several musical instruments. The following results are arrived at: (1) The louder the note the greater the pressure; (2) the higher the pitch the greater the pressure; (3) for a given intensity, the pressure is approximately proportional to the logarithm of the frequency; (4) alternative methods of fingering have practically no effect on the pressure required, pitch and intensity being kept constant; (5) the pressures for cornet and trumpet are almost the same, the same note being produced at the same intensity; the pressure for the trombone is very much greater."

Decimal Musical Scale.—A. Guillemin (Comptes Rendus, April 28) proposes to replace the octave and the comma (the usual large and small units of interval) by the savart and the millisavart, defined as follow: The savart to be the interval 10:1 (3 octaves and a major third) and the millisavart the thousandth part of this (approximately 435 to 434). With these units all calculations will be much simplified. The tempered semitone is very nearly 25 millisavarts, and the millisavart, although not appreciable directly by the ear, may be easily apprehended by the beating, at the rate of one per second, of the notes 435 and 434. It is proposed that the standard international fork should be taken as 434.3.

Heat. Thermometry.—L. Holborn (Annalen der Physik, October, 1901) has examined various substances to find one suitable for liquid expansion thermometers for temperatures as low as the boiling-point of liquid air. Petroleum ether was finally adopted, but as it is scarcely a definite substance, it is not altogether satisfactory. The ether used was distilled from a commercial sample boiling at 33° C. The authors compare petroleum thermometers with platinum thermometers, and tabulate the deviations at different temperatures on different days. O. Lummer and E. Pringsheim (Physikalische Zeitschrift, Dec. 1, 1901) find that the radiation laws can be made serviceable for temperature determinations, furnishing a new temperature scale, which is identical at low temperatures with the usual gas thermometer scale, but can be utilized at much higher temperatures than the method of the gas thermometer permits of. F. Kurlbaum (Physikalische Zeitschrift, Feb. 1) employs an optical pyrometer devised by Holborn and himself to measure the temperature of flames. An image of the flame is formed on the filament of a glow-lamp, and the latter is heated by a current until it ceases to be visible through red glass. This method gives lower estimates of temperatures than Lummer and Pringsheim's (for example, $1,431^{\circ}$ C. for a candle instead of $1,582^{\circ}$). It can only be employed when the luminous carbon particles in the flame are not surrounded by absorbent gases. A. Job (Comptes Rendus, Jan. 6) describes a method of utilizing the viscosity of a gas in thermometry—a suggestion due to Barus and Callender. A 15-per-cent. solution of soda is placed in a bottle in whose stopper are three holes—two for electrodes, and one to allow electrolytic gas to escape. This gas passes through a fine porcelain tube, in which lies a platinum wire. If the tube is placed in a furnace, the viscosity of the gas decreases and the volume escaping increases. The relation between the temperature and the pressure of the gas on entering the porcelain tube is a linear one, and the former can therefore be ascertained by reading the latter by a sensitive manometer, calibrated by comparison with a known thermometer.

Radiation.—Compan (Comptes Rendus, Nov. 18, 1901), in order to investigate the laws of radiation at low temperatures, experimented on the cooling of a ball of copper 2 centimeters in diameter, blackened and of maximum emissive power, suspended in a glass globe, the pressure in which could be increased or diminished at pleasure. The vacuum in the globe being first of all pushed to its extreme limit, the ball was heated without removing it by projecting on it, by means of a lens, the positive crater of an electric arc. In this way its temperature could be raised above 320° . The globe was plunged in a freezing mixture, and the rate of cooling was measured thermoelectrically with different ranges of temperature between 302° and -182.5° , the values obtained being compared with the formulæ that express the laws of Dulong and Petit, of Stefan, and of Weber. The first of these laws was found to apply only from 0° to 200° . That of Stefan agrees fairly well from the temperature of liquid air up to 302° , yet it is somewhat too high above 150° . Weber's law applies well only from 100° to 302° .

Mechanical Equivalent.—H. T. Barnes (Electrician, 45, p. 969, 1900) has redetermined the mechanical equivalent of heat by imparting electrical energy to a constant stream of water, so as to give a steady difference of temperature at its ends. He finds the equivalent to be 4.18876 joules—a result about 0.132 per cent. higher than those that Rey-

nolds and Moorby obtained by direct mechanical means. The difference is ascribed to the electromotive force of the Clark cell, to which the electrical measurements were referred.

Relation between Temperature and Pressure.—According to the hypotheses of Poynting and Ostwald, this relation for a two-phase one component solid-liquid system varies according as the melt can or can not flow freely away. Thus, according to these views, ice will melt, provided the water can escape, at much lower pressures than those corresponding to its ordinary pressure-temperature equilibrium curve. G. Tammann (*Annalen der Physik*, December, 1901) tests these views by measurements of the plasticity of ice, phosphorus, naphthalene, and piperine, and states that the hypotheses above mentioned are untrue. With ice and white phosphorus the plasticity increases rapidly with the force and the temperature, while with the other substances there is a maximum of plasticity as the pressure increases at certain temperatures.

Change of State.—J. E. Mills (*Journal of Physics and Chemistry*, April) concludes that the total energy *per se* of a molecule must be the same in the liquid as in the gaseous state at the same temperature, and he thus believes that in general the energy required to change a liquid into gas is spent in overcoming the external pressure and in altering the distance apart of the molecules. Assuming that the attraction between the molecules varies inversely as the square of their distance apart, he deduces a formula that affords a means of testing the above assumption. The results are favorable to it and also show that the absolute molecular attraction is only slightly affected by changes in temperature, as it depends primarily on the chemical constitution of the molecule and not upon its mass.

Specific Heat.—Ponsot (*Comptes Rendus*, March 24), from discussion of a gaseous homogeneous mixture of bodies in chemical equilibrium, deduces the general law that at absolute zero two systems of solid bodies comprising the same elements have the same specific heat. The specific heat of a compound in the solid state is thus equal to the sum of the specific heats of its separate elements in that state. The specific heat of a solid body and that of its saturated vapor both tend toward zero for absolute zero of temperature.

Light. Nature of White Light.—M. Planck (*Annalen der Physik*, February) considers that the two apparently contradictory views of Gouy and Carvallo on this subject may not be incompatible. The necessary feature is not the existence of interference of partials, but its regularity. The author concludes that normal white light of constant intensity is completely defined by the energy distribution in the various parts of the spectrum, and by the law that, within a small part of the spectrum in which the energy distribution may be considered uniform, the energies and phase constants of the single simple periodic partials into which the light vector can be broken up are absolutely irregular.

Velocity.—Cornu throws doubt upon the trustworthiness of results obtained by the revolving-mirror method of measuring the velocity of light, on the grounds (1) that the mirror may be expected to drag the beam with it, and thus make the deduced velocity too small; (2) that the beam incident on the fixed mirror moves across it with a velocity comparable to that of light; (3) that the aerial vortex around the revolving mirror may modify the path of the rays. H. A. Lorentz (*Archives Néerlandaises*, 6, 1901) takes up

these criticisms one by one. As regards the first, he shows, by geometrical optics, that the effect of the rotation is to alter slightly at each instant the distance between the center of the revolving mirror and the image formed by reflection, but not to alter the direction in which this image lies. As regards (2), he calculates the velocity with which the beam traverses the fixed mirror, and maintains that, even if much greater, it would not affect the directions of the reflected rays. As regards (3), the author maintains that as the vortex is symmetrically distributed round the axis of revolution it will not tend either to advance or retard the direction of either the incident or reflected beam. A. A. Michelson (*Philosophical Magazine*, March) discusses the accepted values of the velocity of light, the ratio of the two electrical units, and the velocity of Hertzian waves, and concludes that new determinations are necessary for accuracy. A new method free from the drawbacks of previous ones would be virtually a combination of the Foucault and Fizeau methods. Light passes from a slit through a lightly silvered glass-plate and a lens and falls on the upper half of a revolving mirror. It is reflected to a grating which reflects to the lower half of the mirror, and the beam passes by way of a lens to the distant mirror. The author hopes that the velocity may thus be measured to within about 5 kilometers.

Absorption.—G. E. Hale (*Astrophysical Journal*, April) believes that selective, like general absorption, is a function of wave-length. In his photographs of the spark spectrum of iron in water the reversals first appear at the more refrangible end of the spectrum, and as the conditions become more favorable, lines of greater wave-length are reversed. Similar results were obtained with other metals. This is interesting in view of Campbell's discovery that in the spectra of certain stars the ultra-violet lines of hydrogen are dark, while those of greater wave-length are bright, which may be explained on the assumption that the law of selective absorption resembles that of general absorption. E. Hagen and H. Rubens (*German Physical Society*, March 7) have examined the infra-red, visible and ultra-violet rays from an arc lamp, before and after interposition of chemically deposited metallic films, by means of a special spectroscope. For equal thicknesses gold is the most transparent to visible rays, platinum the most absorbent. At its maximum transparency silver is 1,200 times as transparent as platinum. The sequence of the metals as regards absorption is the same as for electric conductivity. R. S. Clay (*Royal Society*, London, Nov. 8, 1901) finds that in the production of color by successive absorption, the loss of light proceeds by geometrical progression, not by successive subtraction. This, he says, is important in "process" three-color printing, where the inks are always printed full strength, and the tint is regulated by the size of the dots. "It is practically impossible to control the relative placing of dots of different colors. This will be immaterial if the spectral absorption regions of the three inks do not overlap, but if they do overlap, then where dots of different colors coincide there will be blackness, and the coloring will only be correct when the dots fall clear of one another. Further reasons for using inks with abrupt absorption are that the colors will be purer, and that variation in the amount of ink from impression to impression will not be so important, thus avoiding a great practical difficulty." To make the luminosities balance, Mr.

Clay finds that the absorption band of the green-absorbing ink should be a good deal narrower than the region covered by the green sensation. Thus the tints of the inks will not be truly complementary to the three-color sensations.

Spectroscopy.—E. L. Nichols (Physical Review, August and September, 1901) has compared the visible radiation from incandescent carbon-rods *in vacuo* with the radiation from an acetylene flame, by means of a spectrophotometer. Since the radiation in both cases is from incandescent carbon, it was anticipated that similarity would be found in the two spectra. This anticipation, however, was far from being realized. The distribution of energy in the spectrum of the carbon rod, instead of approaching that of the acetylene flame, as the temperature of the rod is increased, assumes an entirely unexpected character. Even at low temperatures the change in the spectrum is not simple, and after passing $1,100^\circ$ the energy in the yellow, which from the beginning increases at a relatively more rapid rate than either the red or the blue, becomes unexpectedly great. G. Laubenthal (Annalen der Physik, April 8) has measured in various ways the bands in the absorption spectra of the lakes formed by alkanin and certain metallic salt solutions. In each of the two groups studied the bands shift toward the red with increasing atomic weights, in such wise that the ratio between the wave-lengths of the two bands of each spectrum is constant for each group of metals. If the wave-lengths of the absorption bands are plotted against atomic weights, the curves have almost identical shapes with those given in Ramage's paper on the emission spectra of the same groups of metals (London Royal Society, May 12). In both there is a break between sodium and potassium, and probably a similar break in the beryllium to calcium curve. This is interesting as correlating absorption spectra with emission spectra, and also the densities and melting-points, as having their origin in the same fundamental cause. J. Jeans (Philosophical Magazine, November, 1901) advances the following hypotheses concerning the structure of molecules and atoms to explain the phenomena observed in the spectroscopes. If each vibrating element of a gas were capable of rotation about an axis through its center, and if that axis were itself rotating, there would be in the spectrum generally only a bright line and a luminous band. If there is to be a line spectrum only, it is found that the secondary vibration must be small compared with the primary. From considerations of the law of equal partition of energy Jeans concludes that the atom, and not the molecule, is the vibrator, except in monatomic gases. He infers that in all gases giving line spectra the vibrating parts are dissociated atoms, approximately spherical, which would explain why pure line spectra are given only by elements. The atom is supposed by Jeans to consist of a great number of point electric charges arranged in spherical shells of alternate signs. The outer shell is assumed to be always negative, to account for the greater importance of negative ions, as shown by Zeeman and others. Incidentally the calculations lead to an estimate of the size of an atom, namely, the radius of an atom of atomic weight n should be, at least as regards order of magnitude $n^{1/3}10^{-8}$ centimeter. The molecule, which is a combination of atoms, is defined by Jeans as a system of ions of which the total charge is zero. It follows that no free ions can be liberated by chemical change, and that the force exerted by a molecule at external points falls off very rapidly with the distance. Each

molecule will have, generally, a rotational vibration about an axis, which will emit electromagnetic waves. Under certain circumstances this may be converted into continuous rotation, the atom or molecule thus becoming a permanent magnet.

Refraction.—B. V. Hill (ibid., November, 1901) has further investigated the property of dilute solutions of gelatin and gum-arabic by which when strained they become doubly refracting. The dilute jellies were placed in thin brass tubes closed by glass plates at the ends, and were strained by squeezing the tubes between clamps so that their cross-section was elliptical. The double refraction first increases with the compression, then remains stationary, and finally diminishes. The solutions thus behave like solids that can sustain only a small amount of strain. G. Kucera and C. Forch (Physikalische Zeitschrift, Jan. 1), having in mind the fact that the dielectric constant of a liquid decreases with the temperature, but in a different manner for different substances, have studied the temperature variation of the refractive index, which should be connected with the dielectric constant by Maxwell's law. The liquid is enclosed in a prism whose refracting edge is horizontal, and is then placed in a freezing mixture, where its refractive index is measured by total reflection. The results show that the refractive index, n , may be calculated from formulæ of the form $n = a + bt + ct^2$, where for alcohols a varies between 1.34 and 1.42 and b from 0.00046 to 0.000596. For carbon disulfid, $n = 1.64362 - 0.000733t + 0.000009t^2$. P. Zeeman (Archives Néerlandaises, 4, 1901) has determined the optical constants of platinum up to 200° to decide certain questions in dispute. Kundt found that the index of refraction of platinum increases by about 27 per cent. for a temperature rise of 100° , while Drude found for platinum, silver, and gold only very small variations. The author finds very small effects. F. Pockels (Annalen der Physik, April 8) has experimented on the effect of deformation on the optical properties of glass, and arrives at the following conclusions: (1) Double refraction due to thrust is negative for most glasses, but positive for flint glasses containing much lead. It should thus be possible to make a flint glass having no double refraction for light of a certain wave-length. Dispersion due to mechanical thrust is considerable only in the heaviest flint glasses. (2) Change of index, absolute or relative, due to hydrostatic compression increases with the density and index, but does not agree with any formulæ which have been put forward. (3) The pure temperature coefficient of the index (the result obtained by subtracting the portion of the coefficient due to change of density) is positive and increases rapidly with the percentage of lead. (4) Dispersion may either increase or decrease as the pure temperature coefficient increases.

Fluorescence.—Chaumet (Comptes Rendus, May 20) finds that the well-known fluorescence of the diamond in violet light is intimately related to its brilliancy in artificial light, especially candle-light. The most brilliant stones are those which are most clearly fluorescent in violet light; they exhibit a clear blue, very luminous fluorescence, while less brilliant diamonds simply assume a violet color. A brilliant yellow diamond when placed in violet light for a few minutes shone vivid red, and its color changed to dull brown, but it recovered color and brilliancy in twenty-four hours. The action of violet light also distinguishes the rubies of Siam, which exhibit

a scarcely appreciable fluorescence, from the greatly inferior rubies of Burma, which are very fluorescent and gleam brilliant red. W. Voigt (*Archives Néerlandaises*, 6, 1901) states that while a complete theory of fluorescence and phosphorescence on the electron hypothesis is at present impossible, owing to our scanty knowledge of the internal constitution of molecules, we may be able, by the aid of experimental results, to obtain certain generalizations. The author considers the two phenomena to be caused by irregular vibrations due indirectly to the incident light, although not directly excited by it. Free negative electrons would be more susceptible than the more massive portions of the molecules, and it might be assumed, therefore, that the latter are indirectly set in vibration by the former. It is more probable, however, that the molecules of a fluorescent substance can exist in two or more distinct states, to which correspond distinct intrinsic periods of the electrons. In such a medium, if there is sensibly less damping in the state corresponding to the longer period of the electrons, there will be sensible fluorescence, and in the other sensible absorption.

Colors of Films.—R. W. Wood (*Philosophical Magazine*, April) has made "metallic deposits on glass, which the microscope shows to be made up of particles smaller than the wave-lengths of light, and which by transmitted light exhibit colors quite as brilliant as those produced by aniline dyes." The deposits are obtained by heating fragments of the alkali metals in exhausted and sealed glass bulbs. Some of the more transparent films, examined microscopically, were seen to be composed of barely visible particles, lying close together. When air is admitted the color vanishes, but hydrogen has no effect. The diameter of the particles varies from 0.0003 to 0.0002 millimeters. The investigator finds that while coarse particles diffract or scatter the light, closely packed minute particles reflect those wave-lengths absent in the transmitted light, and minute particles far apart diffuse light of the same wave-lengths as those which are, to some extent, absent in the transmitted light. Heating and cooling both shift the absorption region of the spectrum in the direction of greater wave-lengths, but the effect due to cooling is temporary. A pale-green film becomes deep violet when cooled. In some films change and return of color may be effected by blowing, and then rubbing with the finger. The films are practically non-conductors of electricity, and the author suspects the phenomena to be due to a kind of electrical resonance.

Reversible Actions.—E. Goldstein (*German Physical Society*, 3, 14, 1901) finds that colors produced in glass by cathode rays are destroyed by ultra-violet light or by sunlight, and that changes produced by ultra-violet light are reversed by waves of greater length. The colors can also be destroyed by heating. Bromide of silver blackened by cathode rays and afterward exposed to sunlight in a closed tube for three-quarters of an hour has its original color entirely restored, except at the illuminated surface. In diffused light this result is reached in about two days, and with chlorid of silver months are required. Iodid of silver blackens and liberates iodine under cathode rays; but a few days' daylight regenerates the yellow iodid and a few seconds under the positive light of the discharge will do the same if the blackened iodid be warmed.

Action on Metallic Surfaces.—H. Buisson (*Journal de Physique*, October, 1901, and *Eclair Electrique*, Oct. 5, 1901) finds that when a metallic

surface is illuminated by sunlight, the rate of loss of negative electric charge steadily falls, until at length it ceases. In the dark this change to an insensitive condition does not occur, and the sensitiveness of a fresh surface is increased by keeping it in darkness. Under the same radiations, a metal becomes more negative by from 0.10 to 0.14 volt, with the exceptions of nickel, which is very slightly affected, and platinum, which is oppositely affected. This modification disappears gradually and completely in the dark, and under the continued action of light it reaches a limit after a few minutes. The change produced by light is superficial, the layer affected not being even thick enough to alter the polarization of a reflected beam. Probably the change is determined by an equilibrium between the surface of the metal and the adhering film of gas.

Radio-activity. (See also *Röntgen Rays* under *ELECTRICITY*.)—W. Crookes (*London Royal Society*, March 21) asserts that electrons from radio-active bodies are impeded by the molecules of the surrounding medium like material particles, while ether waves are not thus affected, except by absorption. Actinium and radium are found by the author to give electrons similar to a fog or mist. When not kept in by a thick metal screen, this diffuses away in the free air like odoriferous particles. Polonium, however, behaves somewhat differently. Radium emanation may be removed by a current of air. It will pass through aluminum and a considerable length of air, and then affect a sensitive film, but polonium differs here also in its action. Corpuscles from polonium may be heavy positive ions, and the author is now making experiments to test this inference. From a negative silver pole in a tube of very high vacuum with a perforated sheet of mica in front of it electrons shot in all directions, and, passing through the hole, formed a bright phosphorescent patch on the opposite side of the tube. After some hours silver had been deposited only on the mica screen and near the pole, while the glowing end of the tube was free of silver deposit. Electrons thus seem to have been shot off from the negative pole, causing the glass on which they impinged to phosphoresce, while at the same time the heavy positive ions of silver, freed from their negative electrons, also flew off, and were deposited near the pole. These metallic ions when deposited on a metal plate in all cases showed positive electrification, thus lending support to the view of Strutt that the non-deflectable Becquerel rays are streams of heavy positive ions. M. and Mme. Curie (*Comptes Rendus*, Jan. 13) look upon radio-activity as an atomic property of bodies. According to their latest hypothesis, each atom of a radio-active substance acts as a constant source of energy. The radiant activity seems to be rigorously the same whenever the radio-active body is brought back to the same chemical and physical state, and appears not to vary with time. Suppositions as to the origin of the energy of radio-activity group themselves round two hypotheses: (1) Each radio-active atom possesses in the condition of potential energy the energy which it sets in action; (2) the radio-active atom is a mechanism which draws at each instant from outside of itself the energy which it sends out. On the first hypothesis the potential energy should in the long run become exhausted, but the experience of years has hitherto not indicated any variation. On the second hypothesis radio-active bodies are transformers of energy. This might be taken, contrary to the principle of Carnot, from the heat of the surrounding medi-

um, which would experience cooling, or it might be furnished from radiations with which we are not acquainted or from other unknown sources. P. de Heen (*Revue Scientifique*, Aug. 10, 1901) states that nearly all foci of disturbance of the ether, such as flames, brush discharges, hot bodies, electric sparks, radio-active substances, etc., produce an emanation comparable to that of a Crookes tube; and when this reaches a surface the action is distributed on the surface just as a jet of elastic liquid would be. It is as if these foci emitted ether, which, on encountering matter of sufficiently small density, carried it along mechanically. When a thick card coated with a mixture of colophane and wax is first electrified by rubbing, then exposed to the actions under study, and finally dusted with sulfur, figures are developed which show the distribution of the charge on this plate. The charge has been driven into positions the same as those into which liquid would have been heaped up by a jet or jets. A long series of very curious experiments of this order is described under the influence of flames, brush discharges, sparks, radio-active substances, superficial chemical activity, surfaces modified by the impact of light, Röntgen rays, and incandescent bodies. As with heat, there seems to be both conduction and radiation, but the radiation originates not so much in oscillation as in emission. In electrolysis the emitted substance is matter; in Röntgen rays it is ether; and cathode and other rays seem to be intermediate forms. Ionization is a subatomic, not an atomic, phenomenon. H. Becquerel (*Comptes Rendus*, Dec. 9, 1901) has prepared by successive fractionations two varieties of uranium salts, one of which is more radio-active than uranium itself, while the other is almost inactive. After eighteen months the progressively enfeebled products thus prepared were found to be almost identical, and had regained their activity. On the other hand, the abnormally active salt was found to have become completely inactive. The author suggests that the deviable rays, identical with the cathode rays, are the cause of the emission of the non-deviable radiation, which would then be analogous to the Röntgen rays, this spontaneous emission being comparable with the evaporation from an odoriferous body. The energy would be furnished by the active body, but the loss of weight would be too feeble to be observed. There would be two kinds of particles, one about 1,000 times smaller than the other; on separating, the smaller would carry negative charges, and would attain such enormous velocities that they could pass through solids, while the larger ones would move more slowly, and behave somewhat like a gas, forming on all bodies, excepting those electrified positively, a material deposit, which would be capable of dividing itself in its turn into smaller particles. This would explain induced radio-activity, and it would be in consequence of this molecular subdivision that induced radio-activity would dissipate itself, even across an envelope of glass. The emanation which produces radio-activity must not, however, be considered as similar to an ordinary gas, for Curie has shown that equilibrium between active matter and the induced walls of an enclosure in which it is confined is a function of the quantity of active matter. There is thus no phenomenon analogous to the maximum tension of a vapor. Elster and Geitel (*Physikalische Zeitschrift*, July 6, 1901) believe that ordinary air contains a radio-active gas, since, in the presence of a negative charge, it makes other substances upon which it impinges radio-active. Certain anomalies in electrical dis-

persion in closed rooms, when bodies are introduced which have been long exposed to electrified air, are explained by them on the supposition that natural atmospheric air in contact with negatively charged bodies of any kind makes these bodies radio-active. P. Curie and A. Debierne (*Comptes Rendus*, Dec. 2, 1901) find that various solid bodies acquire induced radio-activity when placed in a closed vessel with a radio-active salt of radium, preferably in the form of an aqueous solution. This induced activity is independent of the pressure, and of the nature of the adjacent gas. Substances that become phosphorescent on exposure to light, and a few others, become luminous when placed in an activating enclosure. If a solution of an active barium salt containing a few milligrams of radium be put into a glass globe, and in another communicating with the first by a bent tube a substance such as sulfid of zinc, the latter becomes as brightly luminous as when it has just been exposed to intense light. This is due to the induced radio-activity communicated through the bent tube. This induced radio-activity of bodies placed in an enclosure depends essentially on the free space existing around them. An activating enclosure of glass is illuminated throughout, although not equally, the maximum of both light and activity being in the wider portions. E. Rutherford (*American Physical Society Bulletin* 2, 1901) finds that the excited radio-activity produced by thorium compounds is intimately connected with the power of giving off a radio-active emanation. The emanations from thorium and radium behave like radio-active gases or vapors, in that they diffuse rapidly through gases and through porous substances like cardboard. The author considers that these emanations are in some way the direct cause of excited radio-activity. The characteristic property of this form of radio-activity is that it can be confined to the cathode in a strong electric field. Probably the radio-activity is due to the transport in the electric field of positively charged carriers of some kind. The author describes experiments that support this view and shows that the carriers travel in an electric field about as fast as the positive ion. F. Henning (*Annalen der Physik*, March) imparted induced radio-activity to various wires and metal plates, and then measured their activity by their capacity of producing conductivity in air. One of his objects was to find the connection between the intensity of activation and the area of surface of the wires and plates. After the potential difference was raised to a certain value the increase of activity was small, though at first the activity rose rapidly in intensity as the potential difference was increased. The activity appears to be quite independent of the area of the surface with high tensions, but with small potential differences the intensity clearly increases with the surface. A condition of equilibrium appears to establish itself in which the particles or corpuscles to which the emanation is due disappear as rapidly as new ones are produced. H. Geitel (*Archives des Sciences*, February) concludes from experiment that any conductors placed in a large mass of air, on being charged negatively, become covered with a superficial layer possessing temporary radio-activity. In natural caves and in a large disused cellar the air showed a remarkable conductivity in these circumstances. In air, and in gases generally, ions may exist capable of forming combinations with the negative electrons at the surface of conductors, and this may be the primary phenomenon of radio-activity. The question arises if it is possible to combine the

negative ions of the air with the positive electrons of electrified conductors, but it has not been found possible to obtain on positive conductors layers analogous to those met with in negative conductors. T. Tommasina (*ibid.*, March) believes that the discharging action of the radioactive substance can not be adequately explained by ionization nor by emission of electrified particles. All the effects, he thinks, are to be traced to anode radiation of the undulatory type. Thus the flux from the anode arouses the cathode rays, which, on striking a metallic plate, or the glass walls of the tube, give rise to Röntgen rays; these again excite further secondary rays, and so on. All these radiations are complex, containing parts deviable by the magnetic field, parts non-deviable, rays of various penetrating powers, and so on. The author describes experiments to show that there are in the Becquerel radiation non-luminous rays which discharge electrified bodies and undergo reflection.

Electricity. Theory.—Kelvin (*Philosophical Magazine*, March) proposes a modification of the one-fluid theory, according to which the electric fluid consists of minute equal and similar atoms, which he calls *electricions*, smaller than the atoms of ponderable matter, and capable of permeating freely both the atoms and their interspaces. The atoms are assumed to be spherical, and repulsion is assumed between atoms and also between electricions, with attraction between atoms and electricions outside of them, both repulsions and attractions being according to the law of inverse squares. The attraction experienced by an electricion entering an atom undergoes no abrupt change, and decreases to zero simply as the distance from the center when the electricion is within the boundary of the atom. Corresponding suppositions can not, however, be made for the force between two overlapping atoms. The neutralizing quantum of electricions for any atom or group of atoms has the same quantity of electricity of one kind as the atom or group has of the opposite kind. On these hypotheses many of the phenomena of electricity are found to be capable of adequate explanation. E. Carvallo (*Comptes Rendus*, Jan. 20) claims to have discovered or rediscovered for bodies at rest the following laws: (1) The flux of the total electric current through any closed surface is zero. (2) The line integral of electromotive force round a closed curve is zero. He discusses the electromotive force of induction due to movement of matter, and says that in the case of conductors and electrolytes the force is equal to the velocity of matter, multiplied by the magnetic induction. M. Carvallo also claims to have extended the two fundamental equations established for bodies at rest to bodies in motion, and to have given the electrodynamic equations for bodies in motion. The equation of energy he deals with as in ordinary mechanics.

Contact Electricity.—N. Hesenius (*Russian Journal of Physics and Chemistry*, No. 1b), by extensive experiments on metal disks, shows that a polished surface is always positive to a mat surface of the same substance. This is equally true of non-metallic bodies; for instance, a plate of wood cut perpendicularly to the fibers will be negative to one cut parallel to the fibers. The author also shows that a metal will be more positive as its hardness is less. Apparent exceptions to this rule are easily explained, as by hygroscopic properties; for instance, a wet plate will be positive to a dry one. Viscid substances, or substances capable of giving off dust, will be positive to all bodies, and dust will exhibit a negative potential-difference with respect to the body it is taken

from, because its superficial density is less. The well-known fact that two pieces of quartz when struck together will shine in the dark is shown to be due to the fact that both pieces carry a positive electric charge, an almost invisible layer of dust negatively charged being interposed between them.

Conductivity.—G. di Ciommo (*Nuovo Cimento*, February) notes that the distinction between conducting and non-conducting liquids is only a matter of degree, for all liquids conduct to some extent. He finds that the resistance in mixtures can not be calculated from the respective percentages; it is generally less than would have been expected, but the divergences vary. The condition of the liquid becomes profoundly modified upon the mutual solution of two liquids. H. A. Wilson (*Philosophical Transactions*, Nov. 22, 1901), from experiments to obtain information on the variation of the conductivity of air and of salt vapors with change of temperature, concludes that Faraday's laws for the passage of electricity through liquids apply also to alkali salts in the state of vapor. This result supports the theory that the passage of electricity through salt vapors is analogous to the electrolysis of salt solutions. A. de Hemptinne (*Zeitschrift für Physikalische Chemie*, Dec. 13, 1901) has experimented on the conductivity of gaseous mixtures at the moment of explosion, using two glass tubes, joined to a T, and a galvanometer. The galvanometer is found to be noticeably deflected in mixtures of hydrogen and oxygen when the presence of air and dust favor the condensation of water vapor; the effect is much weaker when the apparatus communicates with a vacuum and when the experiments are made at temperatures above 100° C. Hardly any deflection is observed in mixtures of hydrogen and chlorine and of carbon monoxide and oxygen. The author regards explosions as instantaneous flames.

Discharge Phenomena.—G. A. Hemsalech (*Journal de Physique*, February), analyzing the work of Schuster and himself, concludes that an electric spark is produced in the following manner: The layer of air between the two electrodes is first pierced by the initial discharge; then the air near the path becomes incandescent; this is the "luminous path." Immediately afterward the space between the electrodes becomes filled with metallic vapor produced by the initial discharge; this is the "aureole." The oscillations following the initial discharge traverse this vapor and reheat it. Without self-induction the discharge is abrupt and the energy is confined chiefly to the initial discharge. K. R. Johnson (*Annalen der Physik*, 5, 1, 1901), in a discussion of the spark discharge, explains the production of a mixture of hydrogen and oxygen at the electrodes of a water-cell placed in the secondary circuit of an induction-cell as a result of oscillations set up at break. When the rise of potential at either electrode becomes great enough, the electrode becomes coated with a layer of gas, which stops the electric flow, and the difference of potential between electrode and electrolyte becomes great enough to cause a spark. The gas in the spark-gap is compared to a wall on which an enclosed gas exerts a pressure, the wall collapsing when the pressure reaches a certain value. The electric pressure required to break down the dielectric is proportional to the number of collisions on the wall—that is, to the frequency of the oscillations. A. Righi (*Atti dei Lincei*, May 4 and 31) finds that in a circuit containing a rarefied air-tube with adjustable alu-

minum electrodes, there may be produced an intermittent discharge with a sound, audible in a telephone. The pitch of the sound increases on diminishing the resistance, on increasing the number of accumulators in the battery, on diminishing the capacity of the condenser, on diminishing the distance between the electrodes in the tube, and on diminishing the pressure of air in the tube. A Bunsen flame will act like the tube if it be rendered conductive by salt vapor. The period of electric oscillations in the condenser circuit was far less than that of the sonorous oscillations. Certain pitches of sound seemed possible, others not, so that there were sudden transitions from one pitch to another; and in other cases the sound would not start spontaneously. J. Trowbridge (*Scientific American*, April 5) concludes from experiment that lightning never strikes the surface of the sea. When it seems to do so, the effect is an illusion of perspective. The author has endeavored to pass powerful sparks to the surface of water, in order to obtain a strong spectrum of water vapor, but in every case the sparks—6 inches in length, and resembling lightning discharges as far as possible—refused to strike the level surface of the water and passed to the edges of the containing vessel. He also found it difficult to pass powerful sparks from one stream of water to another, and probably lightning discharges do not pass through regions of heavy rainfall. To produce a spark under distilled water, it is necessary to use platinum wires sealed in glass tubes all but about half an inch. If these terminals are only dipped to a small depth in the water, a spark passes giving a very brilliant light resembling that of an enclosed arc-lamp, but having no lines in its spectrum. This spectrum is probably due to water vapor, and the different spectra of lightning seem to be due to different amounts of water vapor in the air.

Alternating Currents.—R. Weber (*Annalen der Physik*, November, 1901) utilizes manometric flames for studying changes in wave-form in alternating currents. In the center of the membrane of the chamber through which the gas passes on its way to the burner he places a short soft-iron cylinder in front of the laminated core of an electromagnet, and the core is polarized by being placed in contact with one end of a permanent bar magnet. The method does not give the actual wave shape, but changes in the wave shape may by its aid be rendered visible. Specimens are given of several flame pictures corresponding to different wave shapes.

Electric Convection.—Fitzgerald has suggested that a charged condenser moving edgewise through the ether should possess a magnetic field between the plates, in consequence of the motion. If, therefore, the earth is so moving, a condenser placed with its plates edgewise to the direction of the relative motion should experience a drag during charge and a forward impulse during discharge. Experiments made by F. T. Trouton (*Dublin Royal Society*, April) with a delicately suspended condenser gave only negative results. Crémieu (*Annales de Chimie et Physique*, November, 1901) has obtained results that strengthen the doubt already thrown on the existence of the electric field due to magnetic variations, and also upon the magnetic effect of electric convection. In a repetition of Prof. Rowland's work, with elimination of certain causes of error, the result was entirely negative. Rowland's and Himstedt's deviations are not due to a magnetic field produced by electric convection, but apparently to purely electrostatic causes. A

charged body in a field of magnetic variations is not subjected to any ponderomotive force, and a rotating disk does not produce, when its charge is varied, the effects of induction that a corresponding current subject to variations of the same order would produce. The same rotating disk charged in a constant manner does not produce the magnetic field of a conduction current carrying the same quantity of electricity. A. Righi (*Nuovo Cimento*, October, 1901) asserts that of the following four analogous phenomena, following on electromagnetic theory, none have yet been definitely verified by experiment: "(1) An electric charge in motion should produce a magnetic field. (2) A varying magnetic field should produce an electric field. (3) A magnetic pole in motion should produce an electric field. (4) A varying electric field should produce a magnetic field." Attempts have been made to verify the first two phenomena, but the last two have not yet been experimentally tested. The author reviews critically the various experiments made to test the truth of these supposed laws, and maintains that the second and third offer fewer difficulties than the first and fourth. He points out that the verification of any one entails the truth of all four.

Electrolysis.—E. Wilson (*Electrician*, April 18) has investigated the electrolytical effect of alternate currents, which, as such currents are employed in rail-returns for electric traction, has become of practical importance, especially in the case of lead. He finds that the diminution in weight is nearly twice as great at a low as at a high frequency, which shows that frequency plays an important part in the reaction. The effect is entirely due to the current, as plates immersed in the same electrolyte when no current is passing are only slightly discolored. R. Lorenz (*Electro-Chemist*, December, 1901) explains various phenomena of electrolysis in fused salts by an empirical formula which he also deduces from the first law of thermodynamics. According to this the counter-electromotive force in the electrolytic bath is proportional to the current yield. This is applicable to the commercial electrolytic production of potassium, sodium, and magnesium, and to the Héroult cell for the production of aluminum. It explains the increased yield obtained by cooling the cathode, and by adding certain substances; in both cases the solubility of the metal and the tendency to form the so-called "fog" are diminished, the polarization is diminished, and the current yield consequently increased. Diffusion of metal in the form of "fog" explains the results of electrolysis with diaphragms, through many of which the metal "fogs" are unable to pass.

Hall Effect.—H. A. Wilson (*Cambridge Philosophical Society Proceedings*, February) finds a very large Hall effect in the ordinary electric discharge in gases at low pressures, the electrodes being immersed in an apparently uniform positive column. The magnetic field always produces a transverse motion of the column, as if it were a flexible conductor carrying a current, and it becomes brighter along one side of the tube. The effect is proportional to the magnetic field, is probably nearly independent of the current at pressures down to 0.26 millimeter, and varies inversely as the pressure. The difference between the velocities of the negative and positive ions in the positive column is $4.95 \times 10^4 p$, where p is the pressure in millimeters of mercury. E. van Everdingen, Jr. (*Archives Néerlandaises*, 4, 1901), explains the dissymmetry of Hall's effect as due to a difference in the increase of resistance in

two principal directions, corresponding to the mean trend of the crystallographic axes of the metal (bismuth). The mean effect is not the same when an axis of symmetry lies directly between the electrodes and when it does not, owing to the state of aggregation of the bismuth. Another cause of apparent dissymmetry is the increase of resistance along the lines of force. G. Moreau (*Journal de Physique*, August, 1901) concludes from a series of experiments on films of silver and nickel that for films approaching 5×10^{-4} centimeters thickness the accepted law of the Hall effect does not apply. Apparently the outer layers of a film, to a depth of 2.5×10^{-4} centimeters, have properties differing from those of the interior. Thus the total thickness of a film is the sum of the outer layers together with the thickness of the homogeneous interior. For thin films the usual formula requires amendment so that it may express this fact.

Röntgen Rays.—P. Curie and G. Sagnac (*Journal de Physique*, January) find that secondary rays, from heavy metals struck by Röntgen rays, carry negative charges and leave positive charges on the metal. In a high vacuum these are independent of the distance, but in presence of air particles the charges dissociate the neutral electricity of the air into positive and negative particles, resembling in this property the cathode rays and the deviable radiations from radium. Röntgen rays carry no charges, while radium emits uncharged Röntgen rays and charged cathode rays mixed. It is probable that secondary rays present a similar mixture. R. K. McClung and D. McIntosh (*Philosophical Magazine*, January) have compared the absorbing power of different solutions for Röntgen rays by means of two parallel metal plates at different potentials, between which the rays were allowed to pass. A current is set up between the plates, which will be proportional to the intensity of the rays. In this way the relative amounts of rays which pass through different solutions were ascertained. The permeability of a substance was found to be the same for rays of different intensities. An increase in the amount of salt in solution produced an increase in the absorption of the rays, and in general increase of atomic weight causes increase of absorption. E. Villari (*Nuovo Cimento*, August, 1901) finds that when Röntgenized air is passed through an insulated zinc tube, and one pole of a dry pile is held near the wall of the tube at its outer end, the tube becomes strongly charged with electricity of the same sign as that of the pole, but there is no charge unless the air is Röntgenized. As the distance between the pole and the end of the tube increases the charge diminishes and practically no charge is perceptible when the distance is 30 centimeters. A screen between the tube outlet and the pole of the dry pile prevents the charging of the tube or ball. This tends to show that the air reaches the pole by diffusion, and communicates its charge to the tube, but this view is contradicted by other facts. (See also *Radio-Activity* under LIGHT.)

Hertzian Waves.—K. Wildermuth (*Annalen der Physik*, April 29) has experimented with an oscillator consisting of two spheres immersed in oil, the waves from which passed along a pair of parallel wires, which, in turn, were led through a glass vessel containing a liquid. Thus he has measured the absorption coefficients of comparatively good and bad conducting liquids. With water, sodium chlorid, and copper-sulfid solutions, using waves of a period 21×10^{-10} , the absorption coefficients are theoretically derivable

from the conductivities. Waves of a period 74×10^{-11} were more strongly absorbed by distilled water than would be expected from its conductivity. Lamotte (*Journal de Physique*, October, 1901) has studied electric waves propagated along wires proceeding from one of the ordinary oscillators, with a view to settling the question of whether electric oscillations of higher orders are present under such circumstances. He observed waves of different periods, their number being greater as the system is made longer, and among these he reports that he could distinguish two groups whose periods are comparable respectively to the period proper to the primary and to that proper to the secondary. In each of the groups the lengths of the waves form a set which tends more and more toward a harmonic series as the length of the vibrating system increases. C. Gutton (*Journal de Physique*, December, 1901) passed electric waves from a Hertz vibrator along two parallel wires which passed into a tub containing the resonator, and afterward extended for some distance within a long trough, being connected by a bridge. With first air, then water in tub and trough, the wavelengths were found to be invariable, with the resonator either in or perpendicular to the plane of the wires. But when the resonator was kept in air and the wires immersed in water the semi-wave-length was reduced from 145 centimeters in air to 17.5 centimeters in water, giving 8.3 as the refractive index of water for the waves. These experiments contradict Turpain's statement that the period of a resonator is independent of the medium in which it is immersed. C. A. Chant (*American Journal of Science*, January) has attempted to discover whether electrical oscillators with thin surfaces of metal are as efficient as similar ones made solid or with thicker skins. Oscillators of the cylindrical and of the spherical type were used, made of solid brass, solid Norway iron, copper tubing, solid electric-light carbon, sheet platinum on a wooden form, sheet silver, tinfoil on wood, gold-leaf on wood, silver-leaf on wood, copper deposited electrolytically, and silver deposited chemically on glass. The results show that, in the case of the cylindrical and spherical doublets, the various thin mantles, and even the excessively thin gold-leaf shells were as efficient as the solid metal bodies.

Coherence.—W. H. Eccles (*Electrician*, Aug. 23-30, 1901) finds, from various experiments, in opposition to the views held by several authorities, that electrical surgings, such as are produced in any circuit to which an electromotive force is abruptly applied, have no effect in producing coherence. The phenomenon, as Branly and others have maintained, is an effect of electromotive force merely. Coherence is a continuous phenomenon, and there can be no true "critical voltage." The author makes the typical coherer consist of flings free to move throughout the space of a narrow crevice, bounded at its ends by plane conducting surfaces. E. Branly (*Comptes Rendus*, May 26) has devised a coherer consisting of a steel disk with three legs ending in blunt oxidized points resting upon a polished steel disk. Decoherence is effected by a very slight tap, and there is a corresponding increase in speed. The author finds this form very regular and reliable in action, and that it will continue in working order for several months. When transmitting a message, the tripod of the coherer at the sending station is slightly raised from the lower disk by means of an auxiliary electromagnet, which prevents it from being effected by the transmitter

sparks. D. McIntosh and J. Graham-Willmore (*Electrical World and Engineer*, May 31) describe a series of experiments made to investigate a coherer effect described by A. F. Collins, as occurring in fresh brain substance. They report they were unable to obtain any evidence to show that such an effect existed. Trials were made with the brains of animals before and after death, and with a human brain quickly removed from a recently dead person. Tommasina (*Physical and Natural History Society of Geneva*, April 4, 1901) opposes Bose's theory that coherence is due to molecular distortion. He has succeeded in forming visible chains of particles suspended in petroleum between two electrodes. The dielectric particles formed chains first, and as the field increased in strength the metallic particles followed, being finally welded by minute sparks. Spontaneous decoherence is due, according to the author, to the interposition of non-conducting particles between the conducting particles.

Vacuum-Tube Phenomena.—H. Pellat (*Comptes Rendus*, Dec. 23, 1901) finds that when a long tube is laid through a magnetic field, at right angles to it, and the field is set up, not only is the anode light driven toward the strongest part of the field, but the stratifications seem to collect into the same region, and also become inclined to the axis of the tube. This crowding and slanting occurs in uniform or non-uniform, constant or variable fields, and best with fields of from 90 to 170 c.g.s. units. If the tube be put through the holes in pole-pieces made use of in rotary polarization, when there is no field the tube is between the pole-pieces filled with the anode light; but with a field of from 2,500 to 3,000 c.g.s. units the light shrinks to about one-third, and remains axial. The fact that the field is about 3 per cent. stronger along the axis between the holes than opposite the margins would explain a concentration of magnetic oxygen molecules along the axis of the tube, but would not explain the similar behavior of diamagnetic hydrogen. Possibly hydrogen may become magnetic in a Geissler tube. The same investigator in a later paper (*ibid.*, May 5) reports that when the part of a Geissler tube which is well illuminated by anode rays is placed so that the lines of a magnetic field are perpendicular to the rays, fields up to 425 c.g.s. units deviate the column and form on the wall of the tube a luminous strip which becomes thinner and more intense as the field becomes stronger. But for higher field strengths the luminous strip increases, and for strengths of 7,000 to 8,000 units the anode column once more fills the whole section of the tube almost uniformly. The resistance of the tube then becomes enormous. But if the lines of force be in the same direction as the anode rays, there is no such increase of resistance. Thus the anode stream, like the cathode stream, experiences a very large mechanical resistance perpendicular to the lines of force of an intense magnetic field, while the resistance to its progress in the direction of these lines of force is feeble. In the latter case, with the ends of the tube inserted into holes in the pole-pieces, the anode column becomes narrowed into a thin cylinder occupying only the axis of the tube, which is explained by the result noted above. J. B. B. Burke (*Philosophical Magazine*, 1, 342 and 455, 1901) finds that between certain limits of pressure, which vary for different gases, a brilliant phosphorescence follows the passage of the ring discharge in an electrodeless vacuum-tube, and lasts sometimes for one or two minutes. The author believes this glow to consist "of glowing particles or molecules which do not carry an electrical charge, which are not de-

stroyed or broken up by an electromotive force sufficiently small not to produce a discharge in the gas, and which are not created by the recombination of ions along the tube, but are particles or molecules that are produced in the bulb by the passage of the ring discharge and make their way down quite independently of the electrical condition of the tube." The presence of oxygen seems a necessary, though not a sufficient, condition for the glow. The phosphorescent particles "appear to consist of large molecular groups formed by the spark, and which may continue in existence for some time (notwithstanding the bombardment from the molecules of the gas) in consequence of the repulsion which they must exert on molecules that approach them." C. A. Skinner (*Philosophical Magazine*, 2, December, 1901) believes that he has demonstrated by experiment that the high potential required to produce a discharge between electrodes in a vacuum-tube is due to a drop of potential between metal and gas. He has examined the conditions controlling this drop, and finds that as the anode is moved toward the cathode, the drop at the anode remains constant along the positive column, while within the Faraday dark space it first increases to a certain maximum value, and then falls rapidly to a value approximately zero in the negative glow. It remains at zero through the negative glow, but increases rapidly on entering the cathode dark space. From investigation of the effect of the area of the cathode on the drop at that electrode, the conclusion is drawn that the cathode drop may be designated as a linear function of the current density. O. Lehmann (*Annalen der Physik*, December, 1901) describes experiments to ascertain what alterations take place in electrical discharges through rarefied gases when they take place in spacious receptacles instead of the usual narrow tubes. In two large bell-shaped air-pump receivers cemented together the normal form is the glow discharge, characterized by the absence of the so-called positive column of light. The cathode is surrounded by three strata, of which the first is a seam of yellow light, while about the anode is a film of pinkish positive glow-light. At a suitable air-pressure not more than 360 volts suffice for the discharge, and the dark space is more than 30 centimeters thick. Provided the air-pressure remains unaltered, the thickness of the dark space of the cathode section decreases when the electromotive force and currents are increased, and *vice versa*. When the current comes from a condenser of large capacity, and the conducting wires are of low resistance, the discharge at a low voltage appears to be continuous, while, on increasing the voltage, sparks fill the whole receptacle with blinding white light. Even at a voltage so low that the discharge does not occur spontaneously, a magnetic field of proper strength, in a suitable position, produces brilliant discharges accompanied by a loud crackling noise. The author asserts that the material so far collected will not explain these phenomena. Either of the following three theories may be the true one: (1) The older theory that discharge consists essentially in a sudden disappearance of the dielectric condition of polarization, while positive and negative discharges alternate in quick succession. (2) A theory corresponding to the newer electron hypothesis, according to which this process represents a combination of two or more open currents of different kinds, which appear simultaneously, and by combination form a closed current. (3) Radiance is merely an accompanying phenomenon, while the current itself passes continually,

and without the production of light, through the gas, as through an electrolyte, so that the observed strata and lines exactly represent the underlying reality.

Ionization.—J. A. McClelland (Cambridge Philosophical Society Proceedings, February) describes experiments on conductivity produced in gases by the action of incandescent metals in which there are many indications of the presence not only of ions produced from the molecules of the gas, but also of ions actually given off from the hot wire itself. Thus at a pressure of 1 millimeter or less, the current when the wire is negative may be 50 times what it is when the wire is positive. Such a difference from atmospheric pressure suggests that, at low pressure, there are numerous negative ions from the wire itself. J. S. Townsend (Nature, March 6) draws the following conclusions from various experiments: The negative ions set free from a zinc plate when ultra-violet light falls on it generate other ions by collisions with molecules of air, carbonic acid, or hydrogen. The negative gaseous ions thus generated have the same properties as those generated from the zinc. Thus ions given off by the zinc plate, and those of air, carbonic acid, and hydrogen are identical. The negative ions generated by Röntgen rays in a gas are also the same, being identical in mass, free path, and charge. Thus it is possible to detach from the molecules of gases negatively charged particles, which are small compared with the molecules, and are the same from whatever gas they are removed. F. Campanile and G. di Ciommo (Elettricista, March, 1902) have investigated the discharging effect of ionized air that has passed over a volatile liquid, as compared with the same air after passing over a non-volatile liquid. The results show that the discharging effect of the ionized air is increased by the vapor of the volatile liquid. Possibly the mingled vapor has a greater conductivity than the ionized air, or the mingled vapor may be ionized.

Electrification of Air by Glow Discharge.—O. Lehmann (Annalen der Physik, December, 1901) concludes from experiments in this phenomenon that convective transfer of electricity by glow discharge at a point is not due to conductivity of the air. He finds also that an electrically charged body brought into a unipolar electrical wind does not lose its charge if it is of higher and similar potential, while in the opposite case it loses its charge completely, and acquires the opposite one. Positive and negative electrified air diffuse in the same way, and the electrification can therefore not be conditioned by the presence of free moving electrons. The convective flow fills the space around the point, but behind an insulating plate perpendicular to the lines of flow, there is a space free from electrified air. In a region in which both positively and negatively electrified air is present, the air is apparently conducting. Electric winds proceeding from two oppositely charged points combine only partially, a greater part escaping unchanged to the walls of the room.

The Arc.—C. Féry (Comptes Rendus, May 26) has measured the temperature of the crater of the voltaic arc, which represents, according to Violle, the temperature of ebullition of carbon. By extrapolation of results obtained from various physical properties, Violle obtained values ranging from 3,500° to 4,100°. The author, by application of Stefan's law, reaches a result near the lower of these limits, and has tested it with an improved form of optical pyrometer, with which he gets the values 3,867° and 3,897°. This was higher than the value deduced above, but a repetition of the

observations with graphitic carbon gave concordant values. At the temperature of ebullition, therefore, carbon does not behave as a perfectly black body.

Leakage.—M. Mache (Vienna Academy, December, 1901) finds that leakage is directly proportional to the potential of the charged body, other things remaining the same. This is contrary to the results of Elster and Geitel. In a closed vessel, where the leak from the conductor in it is tested under the same conditions, it is found gradually to increase to about the fourteenth day, after which it remains constant. The leakage is proportional to the pressure of the surrounding gas, and a rise in temperature from 16° to 60° is without influence.

Magnetism. Theory.—W. Voigt (Göttingen Scientific Association, 3, 1901) investigates analytically the possibility of obtaining from the theory of electrons an explanation of paramagnetism and diamagnetism. He assumes that the translation velocities of the electrons are small in comparison with the velocity of radiation, and also, as a preliminary hypothesis, that the electronic motions are undamped. It is then found that changes in the velocities of the electrons in consequence of the formation of magnetic fields will not give rise to magnetic phenomena. The effects of damping are then considered, and the author shows that, on this hypothesis, in a constant magnetic field, if the energy dissipated is supplied by means of any completely irregular series of impacts, so that the mean value of the energy tends to a fixed limit, the body will exhibit paramagnetic or diamagnetic properties, according to whether the mean energy of the electrons after the impacts is mainly potential or mainly kinetic.

Effect of Field on Electric Resistance.—J. J. Thomson (Philosophical Magazine, March) concludes that, on the theory that the electric current in a metal is carried by charged particles moving freely through the metal, the resistance should be increased by a transverse magnetic force. The opposite is the conclusion of Van Everdingen, whose results are based on the assumptions that the corpuscles which carry the current behave like a perfect gas; that the collisions with the surrounding molecules are similar to those between hard elastic bodies; and that the corpuscle between two collisions is free from any force except that due to the external field. Thomson states that the second assumption of Van Everdingen is not likely to be true, but that a collision ought to be regarded as consisting of a deflection of the path of the corpuscle, due to the force exerted on it by a molecule near to which it passes; on this supposition it is highly improbable that the resistance should be diminished by the field. As to the third assumption, as the corpuscles are highly charged, and within distances of less than 10^{-7} centimeters of the molecules of the metal, it is almost certain, Thomson says, that the forces exerted on the corpuscle by surrounding molecules are enormously greater than those due to the external electric field, and that at the end of its free path the corpuscle rushes into or past the molecule with which it is colliding with a velocity very large compared with that with which it started.

Stability.—M. Ascoli (Nuovo Cimento, January) has investigated the conditions under which magnetization is not affected by shock. A permanent magnet perfectly stable to shock may always be obtained by adjusting magnetizations and demagnetizations. The percentage of permanent magnetism which must be sacrificed in order

to secure such stability is greatest for iron and least for tempered steel. It is practically independent of the magnetizing force, being about 65 per cent. in iron, where it does not depend on the form of the iron. With steel it varies from 7 to about 20 with the form of the metal; with tempered steel it varies from about 0.2 to about 0.9 per cent. In tempered steel, even though the magnetization be not uniform, it is possible to attain approximately perfect stability in all points of the metal. Klemencic (*Annalen der Physik*, August, 1901) observed the moments of three permanent magnets over a period of about five months, the magnets being kept in iron cases lined with cotton to protect the magnets from shocks. During the first few days the magnets showed a small change (less than 1 per cent.), but after this the moment of each magnet remained constant within the limits of error of the experiments. These changes the author attributes to magnetization or demagnetization of the case. The experiments show that there is a great advantage in keeping magnets in iron cases.

Magnetostriction.—C. Barus (*Physical Review*, November, 1901) asserts that accepted theories of magnetostriction are faulty in ignoring viscosity. From Kelvin's work we know that mechanical strain is accompanied in solids by viscosity and slip between the particles. But magnetization produces strain; hence we should expect the phenomena of magnetostriction to involve viscosity and slip. To test the matter Barus subjects a soft iron wire to a fixed torque, corresponding to a definite deflection on a scale. If the wire be magnetized the deflection changes, and when the field is removed the final deflection is found to differ from the original one. The author finds by investigation (1) that in the presence of an impressed strain a longitudinal field produces increased rigidity and temporary set; (2) temporary and permanent set occur in twisting, just as in magnetization. H. Nagaoka and K. Honda (*Comptes Rendus*, March 3) have experimented with nickel-steels having respectively 25 per cent., 29 per cent., 36 per cent., and 46 per cent. of nickel. The first was not sensibly magnetic, and showed no change of length on magnetization; the second was sensibly magnetic, and varied in length slowly with the field; the third was strongly magnetic, and varied at first rapidly, but soon approached a limit. The fourth was intermediate between the second and third in properties. The variation in volume becomes less as the alloys are more strong in nickel. Thermal changes influence these observations very little. Thus, although the third alloy has a coefficient of thermal expansion about one-tenth as much as the second and fourth, its variations in dimensions are intermediate between those of the other alloys.

Magneto-optics.—P. Zeeman (*Royal Amsterdam Academy*, May 31) notes that instead of a negative rotation in the interior of an absorption band, as required by Voigt's theory, Corbino has obtained a small positive rotation only. He has therefore tested the question by observing the alterations shown by the interference bands of a Fresnel prism system in the neighborhood of the sodium lines, the amount of sodium vapor in the magnetic field being gradually increased, while the field is kept constant. In a field of 18,000 units, a displacement corresponding to a negative rotation of approximately 400° was observed in the case of both lines. Increasing the magnetic field will produce a diminution of this negative rotation. For very high vapor densities, however, phenomena identical with those recorded by Corbino were noted. Further experimental

work appears to be necessary to account for the phenomena observed. C. Runge and F. Paschen (*Sitzungsberichte of the Berlin Academy*, April 10) have verified for five different metals Preston's observation that lines of elements corresponding according to the series laws, are so decomposed in the magnetic field that on a scale of vibration numbers the components of corresponding lines in equal magnetic fields stand at equal distances. When the lines are normal triplets it follows, from H. A. Lorentz's laws, that in the spectra of the different elements the relation of the charge to the mass of each particle is the same; and so the different spectra appear to be due to identical particles with an intermolecular material corresponding to the respective elements. Possibly similar charged particles oscillate round their centers of gravity while the chemical molecules determine the forces with which the particles are, in the absence of a magnetic field, drawn into equilibrium. This would make the spectrum different for each element; while the decomposition of corresponding lines in a magnetic field would be equal in different spectra.

PHYSIOLOGY. General and Theoretical.

—In an address on The Relation of Biology to Medicine, Prof. J. Rose Bradford, of University College, London, adduced a few instances to show how a knowledge of biology contributes to giving our knowledge of the facts of human physiology a wider grasp. Looking at the function of respiration from the point of view of the human organism, we would necessarily conclude "that lungs are necessary, that muscles are necessary, that blood-corpuscles are necessary, that hemoglobin is necessary, and that therefore iron is necessary. If you look at this function from the point of view of biology, or of comparative anatomy, you will be able to find illustrations in the animal kingdom in which each of these several structures that I have mentioned may be absent. There are large groups of organisms without lungs, but having branchiae; there are organisms with lungs, but with no diaphragm or an incomplete diaphragm; there are animals which breathe with their skin; there are animals which have hemoglobin dissolved in the blood plasma instead of the corpuscles; and there are animals which have no hemoglobin, as, for instance, in the crustacea, where the iron-containing hemoglobin is often replaced by a copper compound. Facts such as these, which, as I say, can be acquired without any great labor, and which are of no distinct practical utility, are at the same time of immense importance to a properly educated medical man from the point of view of enlarging his conception of physiological processes in general. There are similar illustrations to those adduced as regards respiration to be adduced as regards circulation, but I will not take up your time by going into that, and I will not delay you with the very large question which is of great interest to the physiologist and to the zoologist as to whether many of the micro-organisms in the alimentary canal are not really instances of complicated symbiosis, of which one has so many illustrations both in the vegetable and the animal kingdom. It is a vexed question which this is not the place to enter into. I simply mention it as an illustration of the wider grasp afforded by an intelligent study of biology."

Prof. W. C. Halliburton, in his physiological address at the meeting of the British Association, said that the revival of the vitalistic conception in physiological work appeared to him a retrograde step. To explain anything we are not fully able to understand in the light of physics and

chemistry by labeling it as vital was a confession of ignorance and a bar to progress. It might be that there is a special force in living things that distinguishes them from the inorganic world. If this is so, the laws that regulate this force must be discovered and measured; and the author had no doubt that these laws when discovered would be found to be as immutable and regular as the force of gravitation. He was hopeful, however, that the scientific workers of the future would discover that this supposed vital force is due to certain chemical and physical properties of living matter that have not yet been brought into line with the known chemical and physical laws that operate in the organic world, but which as our knowledge of chemistry and physics increase will ultimately be found to be subservient to those laws. Where a scientific man says this or that vital phenomenon can not be explained by the laws of chemistry and physics, and therefore must be regulated by laws of some other nature, he most unjustifiably assumes that the laws of chemistry and physics have all been discovered. The recent history of science gives emphatic denial to such a supposition.

Concerning the effect of extremely low temperatures on the life of living organisms, Prof. James Dewar observed in his presidential address before the British Association that experiment indicates that moderately high temperatures are much more fatal, at least in the lower forms of life, than exceedingly low ones. In a series of typical bacteria exposed to the temperature of liquid air for twenty hours vitality was not affected and its functional activities remained unimpaired, while the cultures which were obtained were normal in every respect. The same result was obtained when liquid hydrogen was substituted for liquid air. A similar persistence of life in seeds has been demonstrated even at the lowest temperatures. The seeds were frozen for one hundred hours in liquid air, with no other result than to affect their protoplasm with a certain inertness from which it recovered with warmth. Barley, peas, vegetable marrow, and mustard-seeds were steeped for six hours in liquid hydrogen without their properties of germination being disturbed. A recent research by Prof. Macfayden had shown that many varieties of micro-organisms could be exposed to the temperature of liquid air for six months without appreciable loss of vitality, although at such a temperature the ordinary chemical properties of the cell must cease. At such a temperature cells could not be said to be either alive or dead, in the ordinary acceptance of those words. It is a new and hitherto unobtained condition of living matter—a third state. Certain species of bacteria during the course of their vital processes are capable of emitting light. If, however, the cells be broken up at the temperature of liquid air and the crushed contents are brought to the ordinary temperature, the functions of luminosity are found to have disappeared. This fact indicates that luminosity is not due to the action of a ferment—*luciferase*—but that it is essentially bound up with the vital processes of the cells, and dependent for its production on the intact organization of the cell. The attempts to study by frigorific methods the physiology of the cell have already yielded valuable and encouraging results.

The results of statistical investigations undertaken to determine—regarding the common belief that men of great ability have larger heads than the average population—whether any head meas-

urements, and if so, which ones, are correlated with intellectual capacity, were communicated to the Royal Society by Prof. Pearson in January. The author pointed out that though the professional classes are more intellectual and have larger mean head capacity than the hard-working classes, this did not lend any support to the current notion; for the professional classes are better developed physically, and the difference is probably due only to difference of nurture. In order to investigate the matter, a homogeneous class should be taken. The author had pursued his investigations among the undergraduates of the University of Cambridge. The men were divided into two groups—honors men and poll men—and fourfold tables were made from, 1, cephalic index and degree; 2, length of head and degree; 3, breadth of head and degree. No marked correlation was disclosed between ability and the size or the shape of the head. The problem was next worked out in the light of measurements made in schools, the measurements being all reduced to correspond with an identical age, the twelfth year being chosen as the standard. The pupils were divided, according to the records furnished by their teachers into the two classes of intelligent and slow. The results were in complete agreement with those drawn from the studies of the Cambridge undergraduates. The comparisons were continued in more complete detail with the Cambridge men, with the conclusion, from the whole study, that there is in the general population very insignificant correlation between ability and either the shape or the size of the head.

In his lecture on Catalysis and Catalysts, Prof. Wilhelm Ostwald spoke of enzymes as to be looked upon as catalysts which are in the organs during the life of the cell, and by the action of which it discharges the greatest part of its duties. Digestion and circulation were from beginning to end regulated by enzymes; and the fundamental life-activity of most bodies—the acquisition of the necessary chemical energy by combustion in atmospheric oxygen—takes place with the definite cooperation of enzymes, and without this would be impossible; for free oxygen is very inert at the temperature of organisms, and without an acceleration of the reaction the maintenance of life would be impossible. Emphasis was placed by Prof. Ostwald upon catalysis as a very important physiological factor. The older chemistry had proved unproductive in the explanation of physiological phenomena, and it seemed as if chemistry and physics were unable to contribute anything decisive toward solving the riddle of life. But it was the author's full conviction that by means of the later advances of chemistry, there lay before physiology a department no less important than that which was brought about by Liebig through his first applications of chemical science.

Circulation.—Hemoglobin and its derivatives in the animal system have for many years been regarded by physiologists as occupying a somewhat analogous position with that of chlorophyll and its derivatives in the vegetable kingdom. The view may be said to be the outcome of recent chemical and spectroscopical research. Thus these complex organic pigments produce characteristic absorption bands in the ultra-violet part of the spectrum. It has lately, however, been shown by MM. L. Bier and L. Marchlewski that this fact is not apparent in the spectra of all the derivatives of the coloring matter of the blood (hemoglobin); for these observers have demonstrated by photographs of the spectra of bili-

rubin, biliverdin, urobilin, and proteinchrom that the characteristic bands in the violet part are absent. But from this observation it must not necessarily be inferred that these organic pigments are not derivatives of hemoglobin, for, as the investigators named point out, the characteristic absorption bands in the violet area of the spectrum produced by the complex molecule of hemoglobin may not depend on the constitution of the nucleus forming the basis of this completed mother substance, but may arise from certain atomic groups which do not appear in some of the derivatives.

In a paper read before the British Medical Association on the Action of Certain Hemolytic Agents on Nucleated Blood-Corpuscles, Prof. Stewart observed that mammalian red blood-corpuscles presented certain properties which at first sight appeared to be vital phenomena, and yet were certainly of physical origin; for example, selective absorption. Thus ammonium chlorid was taken up by the corpuscles, while sodium chlorid was not; and this happened in formaldehyde-hardened corpuscles as well as in living ones. In this research, the author had shown that similar phenomena were found in the nucleated corpuscles of amphibia, birds, fetal mammals, and the corpuscles of bone-marrow. Of special interest were the observations on the corpuscles of *Necturus*, a tailed amphibian with very large corpuscles.

Experiments are described by Swale Vincent and William Sheen which go to show that nervous, muscular, glandular, and other animal-tissue extracts produce a fall of blood pressure when injected into the circulation. Whether or not the depressor substance or substances are identical in the different extracts, the authors are not prepared to say.

Appearances in liver which had been injected with acid carmine gelatin from the portal vein are described by E. A. Schäfer as seeming to offer objective proof of the conclusion of Browicz that a network of nutritive canals exists within the hepatic cells, which are in direct communication with the lobular blood capillaries. Browicz had not been able to verify his conclusion by injection, as Schäfer believes has been done in this case.

A method of estimating the oxygen and carbonic acid in small quantities of blood and the apparatus through which it is applied are described by Joseph Barcroft and J. S. Haldane in the *Journal of Physiology*, vol. xxviii, No. 3.

From investigations of the local reaction of the arterial wall to changes of internal pressure, W. M. Bayliss demonstrates that the muscular coat of the arteries reacts, like smooth muscle elsewhere, to a stretching force by contraction, and to a diminution of tension by relaxation. These reactions are of myogenic nature, are independent of the nervous system, and can be observed not only in the living state, but in expired arteries several hours after death.

Digestion.—Prof. W. C. Halliburton, in his address to the section of physiology of the British Association, cited, in illustration of the value of bold experimentation, the work of Pawlow, who had, by the introduction of new and bold methods of experiment, thrown a new light upon the processes of digestion. He had shown that digestion is not a succession of isolated acts, but each act is related to its predecessor and to the act that follows it. The process of digestion is thus a continuous whole; for example, the acidity of the gastric juice provides for a delivery of pancreatic juice in proper quantity into the intes-

tine; the intestinal juice acts upon the pancreatic, and so enables the latter to perform its powerful actions. Further, the composition of the various juices is admirably adjusted to the needs of the organism; when there is much proteid to be digested, the proteolytic acidity of the juices secreted is correspondingly high, and the same is true for the other constituents of the food.

In experiments on the nerve movements and innervation of the stomach, Dr. Page May found that a short time after the taking of food by the animal movements of a rhythmic character arose in the wall of the organ. These movements were waves of contraction, each of which began near the esophageal end of the stomach. The waves succeeded each other at the rate of about three per minute; and slowly increased in strength as they passed toward the pylorus. The contractions originated in the wall of the organ itself; for they continued for half an hour or more after removal of the viscus from the body and its preservation in a bath of warm saline solution. The small ganglia in the wall of the stomach probably coordinated the contractions. Although the gastric contractions were of autochthonous origin, they were subject to the control of the central nervous system by means of the vagus nerve, especially of the left vagus nerve. On stimulating the peripheral end of the vagus nerve, the tone of the gastric muscle was usually at once much diminished. Any gastric contractions were then usually abolished. Shortly after this, on the contrary, renewed movements set in, often very vigorous in character, and usually about four times as powerful as the contractions during ordinary digestion activity. Thus the first effect of stimulation of the vagus was inhibition of the gastric tone, the second increase of tone and augmentation of movement. Substitution of the central end of the vagus produced a slight inhibitory effect upon the stomach if the other vagus nerve was intact. The splanchnic nerve was not found to exert any influence upon the musculature of the stomach, either in the direction of augmentation or of inhibition. Occasionally some inhibition of gastric movement was excited by the stimulation of the splanchnic. Anemia of the stomach experimentally produced by blocking the thoracic aorta cut short the normal contractions of that organ. The cerebral centers for the gastric movements and tone, which have been described by many observers, notably by Bechterew and Opendowsky, were not found, although diligently searched for. No definite effect upon the movement of the stomach seemed to result from any central stimulation.

The researches of W. Ramsden indicate that urea has a potent influence upon proteids. Its presence up to saturation prevents the coagulation by heat of all proteid solutions examined. Globulin, caseinogen, acid and alkali albumin, copper albuminate fibrin, and even heat-coagulated proteids swell up and dissolve in a saturated aqueous solution of pure urea. Dry gelatin is dissolved at room temperature until 40 per cent. is in solution. If the urea is removed by dialysis the gelatin sets solid again. Coagulable proteids are converted at room temperature into a substance possessing all the properties of acid or alkali albumin according as the reaction of the original proteid solution was alkaline or acid. The presence of urea enormously accelerates the conversion of proteids into either acid or alkali albumin, and even causes such conversions when none would take place in its absence. Similarly urea facilitates the conversion of hemoglobin into alkaline hematin or acid hematin. The

presence of urea has a marked accelerating effect, greater as the amount increases up to about 10 per cent., upon the digestion of fibrin by pepsin, HCl (0.3 per cent. HCl), or by trypsin. In much larger quantities it has a retarding influence. A saturated solution of urea is a valuable histological reagent. By its reaction on the connective tissues it greatly facilitates the separation of a tissue into its individual elements—that is, cardiac and skeletal muscle, lens-fibers, fat cells—and except in the case of the connective tissue and possibly of the nerve-fiber, there is no danger of its action being too energetic or going too far. The properties of urea combined with palmitic acid are considered in the paper. The basic character of urea shown by its combinations with various acids suggests that it is acting as a base; but the fact that even in markedly acid proteid solution urea exerts a specific effect upon proteids makes this explanation improbable. The numerous definite crystalline compounds formed by the union of urea and mineral salts suggest that it may act by combining with the natural salts of a proteid and so give us an ash-free proteid. Electrolytes exert an influence antagonistic to some of the effects of urea upon proteids. The effects of urea upon proteid may be described as: 1. Those of a substance *sensibilisatrice*, rendering the proteid more prone to zymolysis, conversion into acid or alkali albumin. 2. Protective, since coagulable proteids are not heat-coagulable in its presence, but reacquire their coagulability when the urea is removed by dialysis. 3. Solvent.

Continuing the account of his investigations at the meeting of the British Medical Association, Dr. Ramsden said that a dead frog placed in saturated urea solution soon became transparent and shortly fell to pieces. The myeline sheath of nerve was rapidly altered and presented similar appearances to that of degeneration. Urea converted native egg-white into a jelly. The author at first supposed that urea in these reactions was active as a base, but further experiments negated this view—for example, urea was equally active on proteid in acid solution. Dr. Ramsden considered that it might act by rendering the proteid more sensitive to the action of any acid or alkali present. He had prepared crystalline compounds of urea with proteids and palmitic acid.

An inquiry by Messrs. Atwater and Benedict into the nutritive value of alcohol, reported in the proceedings of the National Academy of Sciences, concerned the value of alcohol as a fuel in the human body, and a comparison of it as to this point with sugar, starch, fats, and other nutritive matters in ordinary foods; and also the effect of alcohol upon the proportion of nutritive substance digested from food with which it was taken. More than 98 per cent. of the alcohol taken by the subjects was found to be oxidized in the body, and its potential energy to be converted into kinetic energy as completely as that of ordinary nutritive matters. Alcohol seemed to be effective in protecting the body fat from consumption, but less so in the protection of body protein. A slight advantage was found by the authors in favor of the non-alcoholic diet as regards the utilization of the total energy of the food, especially in cases involving hard muscular exertion, but the difference was very small, and did not exceed the possible limits of experimental error.

Dr. Arthur Cloppatt, of Helsingfors, has reported to the Congress of Finland Physicians concerning a series of experiments he has made on the

effects of alcohol upon the weight of the body. His conclusions were: 1, That alcohol, when the system has become accustomed to it, supplies the place of both nitrogenous and non-nitrogenous food by rendering a smaller amount necessary; and 2, that it has no demonstrable action in promoting the absorption of food from the intestine. The author in his paper cites the older authorities on the subject, such as Tiedemann, Gmelin, and Lallemand, as having believed that alcohol was excreted unburned from the economy; and the later experiments, including those of Anstie, Binz, and Strassmann, as having shown that it is to a certain extent destroyed in the body by oxidation.

From the researches of Drs. Osborn and Zobel, as communicated to the British Association, it appears that glycogen when hydrolyzed by a diastase ferment gives rise to bodies very similar to those derived from starch. Among these is the body called isomaltose, which was shown by Brown and Morris to be a mixture of maltose and a dextrin-like body. When acted upon by saliva glycogen gave dextrin, dextrose, and maltose.

The experiments of E. Weymouth Reid on the intestinal absorption of solutions go to show that a physical explanation of absorption is not admissible.

Glands and Secretions.—A crystalline body of constant composition has been obtained from the suprarenal gland by Jokishi Takamine, who, on account of its extremely potent action as a vasomotor constrictor, was led to believe it the active principle of the gland, and named it adrenalin. It is a white, light, microcrystallized body; assumes fine forms; has a slightly bitter taste; is sparingly soluble in its dry form; has a faintly alkaline reaction; and combines with various acids to form salts. It is a powerful reducing agent in alkaline and neutral solutions, and absorbs oxygen from the air. It may be used as a photographic developer. The author observes that the isolation of the active principle of the gland seems to point toward the fact that the wonderful physiological actions of the various glands may depend upon the effects of apparently simple chemical substances. Such isolation would naturally give an impetus to the search for active principles of the various organs concerning which we know but little.

Experiments illustrating the importance of the adrenal glands to life are described by Dr. Hans Stehl and Dr. Otto Weiss in Pfüger's Archiv. The investigations of Tolstoi and Nothnagel, who thought these glands were not essential, were regarded as liable to criticism, because the authors had not made sure of the absence of accessory adrenals. The authors found structures of this kind in rabbits. Operations of total extirpation were performed on dogs, cats, mice, a hedgehog, a weasel, and frogs. Experiments made on animals from which only one adrenal was removed were uniformly fatal in guinea-pigs, but other animals did not seem to suffer much inconvenience. In animals that died after both glands had been removed, the symptoms were great muscular weakness and apathy; the gait was vacillating, the legs were strangled, and the head was depressed, the temperature fell slowly, the blood-pressure was diminished, and where both adrenals were removed, it fell till the death of the animal. Transplantation of the adrenals, even into parts that were highly vascular, was never successful. It was difficult to determine certainly the cause of death. Some attributed it to loss of nervous power; others to the failure of supply of a substance secreted or produced by the adrenals which, entering the blood, keeps up the blood-

pressure; and others to the accumulation in the blood of some deleterious substance, and weakening of the blood-pressure, which is ordinarily destroyed by the adrenals.

Prof. Schäfer and Dr. Magnus, of Heidelberg, have found as to the effects of intravenous injection of extract of pituitary body upon the activity of the kidneys, that the epithelial part of the pituitary body causes a marked increase in urinary secretion. That part of the gland had always previously been supposed inert. It is urged that the diuretic action now proved to be excited by the gland has a direct bearing upon the disease called acromegaly, in which the pituitary body is enlarged and diuresis is present.

In an investigation of the histological and chemical position of iron in the spleen, Dr. W. Brodie, of Edinburgh, by the use of microchemical methods, found the metal contained in the cells and also in bodies not of a cellular nature. Three varieties of iron-containing elements are described in the author's paper as belonging to the latter class; and besides these, three proteid bodies containing iron which had been obtained by means of purely chemical methods.

The conclusions drawn by Prof. Ludwig Aschoff, of Göttingen, from experiments concerning the origin of urine albumin tend to confirm Merten's researches and to support the view that the albumin present in nephritic urine is derived from the blood, and is different from the specific kidney albumin. According to the results hitherto obtained a difference appears to exist between the blood serum albumin and the kidney epithelium albumin. On the other hand, the investigations of von Dungern, Moxtet, Metchnikoff, Schützen, and others, point to the existence of a relationship between the proteid constituents of the different epithelial cells as well as of the blood-cells, inasmuch as the injection of one kind of cell may yield a serum that acts on several species of cells.

In a paper read at the annual meeting of the British Medical Association, July 30, after pointing out that the formation of lymph might be considered in its relation either to the blood or to the tissues, Mr. F. A. Bainbridge passed on to deal with the relation existing between the tissue activity and lymph formation. He said that in the case of the submaxillary gland, the liver and the pancreas increased accretion—that is, increased metabolism invariably led to increased lymph formation. The possibility of the formation of lymph being due to altered capillary pressure and permeability was excluded, and it seemed probable that the lymph was formed as a direct result of the metabolism. The author supposed that during metabolism crystalloid bodies were formed in the tissues; these passed by diffusion into the lymph, raised its osmotic pressure, and therefore attracted water from the blood, the result being an increased flow of dilute lymph.

Among the results obtained in other experiments by Bainbridge respecting the formation of lymph in the liver was the fact that the intravenous injection of moderate quantities of sodium taurocholate or of pure hemoglobin leads to an increased flow of lymph from that organ, and to increased metabolic activity of the liver cells.

Representations having been made by some authors that sugar in recognizable quantities had been found in liver after it had been boiled free of that substance, and the conclusion seeming a difficult one to understand, experiments were made by F. W. Pavy and R. L. Siau with the liver of the cat and of the rabbit. The results in both cases were the same, and induced the conclusion that in a sterilized state no sugar is formed in

liver substance when it has been subjected to thorough boiling.

The Muscular System.—Two kinds of muscular soreness have been determined in the ergographic experiments of Mr. Theodore Hough. One kind is very marked during work, and may be noticeable for two or three hours afterward. It then passes entirely away. The other kind is not noticed at all at the time of the tracing and for some time afterward. It usually begins about eight hours after the work, increases to a maximum which may occur from ten to twenty-four or even more hours later. Indeed this soreness may not make its appearance till the second day after the tracing. It gradually passes away, but may be noticeable for four or more days. The first kind of soreness would seem to be due to the same causes as those which produce fatigue, namely, the presence of the diffusible waste products of exertion. There are reasons for supposing that the second kind of soreness is fundamentally the result of ruptures within the muscle.

Presenting the results of a series of experiments relating to the mechanism connecting the muscular apparatus with the centers for willed movement having their seat within the brain, Prof. Schäfer compared the relative effects of transection of the pyramidal tracts and of the vertical columns of the spinal cord. His observations had been made upon monkeys. Section of the vertical column of the spinal cord had been found to produce paralysis of voluntary movement in the parts of the body lying behind the segmental level of the lesion. The descending fibers of the vertical column of the cord were in the main derived from the cells of the nucleus of Deiters in the bulb, a group of fibers that were, on the other hand, related to the impulses entering the brain from the labyrinth organ, namely, the semicircular canals and the otolith organ. It had been proved by Ewald and others that the destruction of the labyrinth organ entailed diminution and impairment of the tonus of the voluntary muscles of the body.

The Nervous System.—In his presidential address before the American Neurological Association, Prof. Joseph Collins reviewed the most important work done in neurology during the year. The neuron theory, he said, which to-day stood as the basis of all neurology and neuropathology, in spite of criticisms and of the most elaborate histological investigations, had become more firmly established than ever. Recent researches, notably those of Apáthy and Bethe, were explained as not really antagonistic to it. All investigations tended to show that ontologically the nervous (or nerve elements) became more intimately united in series, and that such intimacy was structurally heightened by use. There were, however, many obscurities still surrounding the question of the growth of axis-cylinders in relation to the cell bodies or trophic centers, which required to be cleared up. There also remained for solution the question whether in the human cerebral cortex the presence of the dendritic cell-processes and the neuroglia sufficed to account for the relatively large separation of the active cell-bodies, or whether a certain amount of intercellular substance remained which accounted for the appearance in question.

In the field of central localization, the results obtained by Horsley and Beevor through the methods of local electric stimulation of the cortex in the higher anthropoid apes had been corroborated and extended by Sherrington and Grünbaum. Flechsig, in the latest of his wonderful researches on the association centers of the human brain,

was able to show that from thirty to forty "areas" or centers could be mapped out in accordance with their times and rates of development. Important confirmation of the same had come from the researches of Schäffer, of Budapest, and Storch, of Breslau, on general paralysis. Much attention had been devoted to the study of tendon reflexes, the most important and valuable discovery in this direction being the so-called Babinski reflex, which is now accepted as a definite indication of degeneration of the pyramidal tract. The subjects of toxemia and of internal secretion were receiving more attention, and further investigations in these directions were needed to elucidate the pathology of exophthalmic goitre, acromegaly, and allied disorders. Quite recently, Prof. Mills, of Philadelphia, had shown that the Röntgen rays were of use in determining the site and occurrence of certain cerebral tumors. Dr. Henry Head had published a suggestive report upon visceral diseases and the mental changes accompanying them, and there was still great room for the further elucidation of such neuroses as hysteria, neurasthenia, and hypochondriasis, in which mental diseases coexist. On the whole there had been more than usual activity in the realm of neurology; and questions of vastest importance were still awaiting solution.

An important research has been published by Prof. Karl Schäffer, of Budapest, on the Topography of the Cortical Degeneration in General Paralysis of the Insane. The author regards his observations as tending to support Flechsig's Association Centers of the Brain, and concludes that the morbid process (degeneration of medullated nerve-fibers) affects chiefly those centers, viz.: those in the prefrontal, parietal, insular, and supracallosal regions of the hemisphere. "The cortical degeneration in general paralysis is not an irregular, diffuse process, but, on the contrary, a regular, localized, selective, morbid affection of the cortex."

At the suggestion of Prof. Halliburton, a research was undertaken by R. H. C. Gumpertz into the specific gravity of the brain. It had especially in view the statement made by Sir James Crichton Browne "that he had found the specific gravity of the female brain less than that of the male brain, the difference being in the gray matter. The most complete previous research on the subject appeared to be that of Danilewsky, who found the specific gravity of the brain to be 1.038; that of the gray matter, 1.033; and that of the white matter, 1.041; and the average thickness of the gray matter, 2.5 millimeters. The author, experimenting upon a larger number of cases of healthy men and women who had suffered from no brain disorder, found as the average specific gravities in the respective parts of the brains of seven men—frontal, 1.0352; Rolandic, 1.0365; occipital, 1.0356; the whole brain, 1.0361; and in six women—frontal, 1.0360; Rolandic, 1.0368; occipital, 1.0365; the whole brain, 1.0364. These results are somewhat lower than those given by Danilewsky; they show considerable variations between the specific gravities of different parts of the same brain and of different brains in both sexes; and indicate that the average specific gravity is practically identical in both sexes. A low specific gravity of brain does not imply poor quality, for the part which is most important and most active—the gray matter—has a lower specific gravity than the white matter.

Specimens exhibited to the British Association by Dr. John Turner in illustration of a paper on some new features in the intimate structure of the human cerebral cortex showed: 1, A beaded

network enveloping the pyramidal cells of the cortex and the dendrites; and 2, an intercellular plexus of the nerve-fibers not previously demonstrated to exist. The preparations demonstrating these points had been made by placing pieces of the brain tissue directly on removal from the body, and without previous hardening or fixing, into a strong solution containing methylene blue and hydrogen peroxid. From this mixture, after a sufficient time had elapsed, the tissue was transferred to a solution of molybdate of ammonia. The tissue was then, after this fixation, dehydrated, embedded in paraffin, and cut into sections. The beaded network was a network, not of neurological fibers, but of processes of true nerve-cells. It loosely invested the pyramidal cells and their dendrites. It was made up of the fiber ramifications of stouter fibers which could be traced from certain pyriform dark cells in the cerebral cortex. The cells were generally small, and exhibited no signs of any network around them. There seemed, in fact, to be in the cortex of the cerebrum at least two systems of nerve-cells—the pyramidal variety, which were pale under the method of examination employed in the experiments, and the smaller darkly stained pyriform nerve-cells. The latter possessed branches which ramified and produced by a fusion a true network formed by actual anastomosis. The system of dark cells constituted a *continuum*.

The hypophysis cerebri is described by E. von Cyon in Pflüger's Archiv as having a double function; it controls intracranial blood-pressure and regulates metabolism. The former function is affected mechanically by the circumstance that every increase of blood pressure in the brain constitutes a stimulus to the hypophysis and is followed by an increase in the strength and a slowing of the cardiac beats with a slight rise of extracranial pressure. Those rarer and stronger beats of the heart which Cyon names "action pulse," augment the rapidity of the venous blood current, especially in the veins of the thyroid body, and thus remove from the brain the abnormal quantity of blood. There is reason to believe that the same effect is in part due chemically to the production of substances which are probably two in number, one of which excites vagal centers, while the second excites the accelerators. The action-beats caused by these coincident and harmoniously acting antagonistic agents are highly favorable to the rapidity of the venous blood-current. The influence exerted by the hypophysis and its secretions on metabolism is also probably effected by their action on the vagi and the sympathetic nerves, and is indicated by increased circulation and a diminution of the body weight. Persistent stimulation of the hypophysis, especially by electric currents, is followed, as a secondary effect, by violent epileptiform convulsions, which are most easily explained by regarding them as disturbances of the circulation in certain parts of the brain. A great increase in the secretion of urine is observed in all cases of stimulation of the hypophysis.

Prof. W. C. Halliburton and Dr. T. W. Mott introduce a paper on the regeneration of nerves by referring to two opinions prevailing on the subject: one that the new nerve-fibers sprout out from the central stump of the divided nerve; the other that they are of peripheral origin. Those who held the latter view relied on histological evidence. But a strand of cells that looks like nerve-fiber might not be physiologically nerve-fiber, inasmuch as it might not be capable of being excited as true nerve-fiber is, or of conducting nerve-impulses as a nerve-fiber can do. These

functional performances were the true criteria for nerve-fibers. Among recent observers, Howell and Huber, who had used both histological and experimental methods, had arrived at the conclusion that the axis-cylinder, the essential portion of a nerve-fiber, had an exclusive central origin; they admitted that the peripheral tissues in which it was embedded were active in preparing and generating a nutritive scaffolding for it. The authors had obtained experimental results which, so far as they at present went, confirmed these views.

The truth of the view, which has long been generally held, that repeated or excessive activity caused fatigue of nerve-endings, but had no effect upon the fibers that conduct the nervous impulses, has been questioned by Herzen, who asserted that after a nerve-trunk had been subjected to repeated stimuli the subsequent response of the nerve showed signs of impairment when examined by electric tests. Observations of this impairment made by Prof. Gotch have shown that it was a change confined in its situation to the neighborhood of the place of the electrodes by which the electric currents used for fatiguing the nerve were applied to it. Were the effect a true fatigue effect, its locus should not be confined to the electrode region, but should be distributed throughout the nerve; because the process of conduction of nerve-impulses occupying the whole length of the nerve, the true fatigue which arose as their after-effects must have a similar distribution. The changes which were confined to the immediate neighborhood of the electrodes by which the long series of fatigue-producing currents were introduced, were those to which much attention has long been devoted as electrotome. Probably the process involved was one of electrolysis, and certainly its relation to fatigue in the true sense was at most extremely remote.

T. Grigor Brodie and W. D. Halliburton, having observed that the assertion that the nerve fibers are incapable of fatigue rests on the excitation for long periods of time of medullated fibers, determined to repeat the experiments, with some modification, on non-medullated fibers. Selecting the nerves leading to the spleen, they found that even after many hours of stimulation no evidence of fatigue could be demonstrated. Nevertheless, they obtained proof that certain non-medullated as well as medullated fibers are injuriously affected by prolonged faradic stimulation, and that the spot which has been excited is no longer excitable until a considerable period of rest has elapsed.

Prof. C. S. Sherrington and Dr. A. S. Grünbaum, describing before the British Medical Association the experiments they had made upon the motor cortex in anthropoid apes (13 chimpanzees, 2 orangs, and 1 gorilla), mentioned as a most important point brought to light in their researches that the excitable motor region, though extending deeply into the Rolandic or central sulcus, did not extend on to the free surface of the post-central convolution—an observation that was in opposition to the results of previous observers. The authors gave the movements obtained from their different areas broadly as follow: In the face area—eye, eyelid, nose, jaw, vocal cords, mastication, and also movements of the mouth and tongue; in the arm area—shoulders, elbow, wrist, fingers, and thumb; in the leg area—toes, ankles, knee, hip; in each case from above downward. Movement of the arms was obtained by stimulation just at the border between the external and mesial surfaces of the hemisphere. A further difference from the result of other observers on the anthropoids was the case with

which epileptiform convulsions were obtained from the cortex. The authors had first studied the results of ablation of parts of the cortex and found that marked paralysis occurred from even a small lesion, but that this was recovered from; and they had also observed almost complete recovery after double extirpation of the arm area. Prof. Sherrington had also investigated the direct pyramidal tract in the anthropoids, and found that in the chimpanzee a vertical pyramidal tract occurred as in man, and was also, as in man, of a very variable individual character.

The paper of Prof. Sherrington and Dr. Grünbaum was followed by an account by Dr. Campbell of his studies of the histological features of the cortex of anthropoid apes. The author enumerated as special characters which he had found in the motor region: 1. The possession of a well-marked zone or tangential field. 2. A supradiating field. 3. A radiary zone of great depth and richness in nerve-fibers, or of great "fiber wealth"; further, there were large ganglion-cells or cells of Betz in this region. These histological results were in complete accord with the experimental results of Sherrington and Grünbaum, as the motor type of structure was bounded posteriorly by the fissure of Rolando and did not extend into the post-central convolution.

The importance of cholin in blood in cases of nerve degeneration, not only in such diseases as general paralysis, but in various diseases of the central and peripheral nervous system, is shown by Dr. T. W. Mott and Dr. W. D. Halliburton in an article on *The Chemistry of Nerve Degeneration*. The detection of cholin, which is a product of the decomposition of lecithin, is effected by a chemical test—the obtaining of the yellow octahedral crystals from the blood; and also by a physiological test, viz., a temporary fall of pressure when it is injected intravenously in animals. Degenerate nerves of animals were examined by the Marche reaction, which consists of a mixture of osmic acid and Miller's fluid, by which degenerate nerve-tissues are stained an intense black, while healthy fibers are not stained.

Almost all the experimental evidence with regard to the localization of cortical centers has been obtained from observations on monkeys and lower animals; and except for the work of Beevor and Horsley upon the orang-utan no observations have been made on anthropoids. Sherrington and Grünbaum, however, as a result of some more extensive work on the same subject, have recently in part confirmed and in part modified our previous knowledge.

The presence of a facial reflex, sometimes known as the extraorbital reflex, has of late attracted considerable attention. The manifestation is produced by striking some part of the forehead, and is followed by contraction of the orbicularis, with more or less movement of the eyelids. It is generally found that on tapping the frontal region contraction of the orbicularis takes place on both sides. The path for the reflex passes centripetally through the fibers of the supraorbital nerve to the sensory nucleus of the fifth nerve, and thence to the nucleus of the upper branches of the seventh nerve on both sides. Macarthy, in the *Neurologisches Centralblatt*, says that he found the reflex present in 100 normal persons investigated. Further observation is required to decide whether this is a true reflex or not, and also to show what significance may be drawn from its presence or absence. Dr. Walker Overend has called attention to the fact that he had previously described this reflex in the *Lancet* of March 7, 1896.

The idea has often been put forward that where an organ has a nerve-supply from two sources, the two sets of nerves must have actions which are physiologically antagonistic. The results made known in a paper by C. H. Fagge detailing researches on the innervation of urinary passages in the dog, taken in conjunction with previous work by other observers on the same subject, show that, in the case of those organs, the difference between the two sets of nerves (sympathetic and sacral) is morphological rather than physiological.

Narcotic effects have been found by Dr. Hermann Beyer to be exerted by odorous substances on the sensory and motor nerves of the frog. When the animal was made to breathe air charged with odors, the succession of events resembled that of chloroform narcosis in there occurring a preliminary state of excitation followed by motor and sensor paralysis. A considerable number of the substances experimented with, which are named in the author's paper, acted quickly and strongly, while others were less active. The frogs were placed near a sponge or wad wet with the odorous substance, but not in contact with it. Heat, respiration, and muscular power were affected. Special experiments indicated that the absorption of vapor is effected to a larger extent by the skin than by the lungs, and that the impaired excitability and coordinating power resulting have a central origin. Experiments on the direct action of odorous substances showed a loss of excitability on the part of the nerve exposed, extending gradually upward and more slowly downward.

Special Senses.—A communication has been published in the New York Medical Record by Prof. G. E. de Schweinitz on Deleterious Results of Certain Common Drugs and Narcotics on the Organs of Sight, in which the results of observations of the author's practise during recent years in the ophthalmological department of the Philadelphia Hospital are recorded. The most important form of functional visual defect or amblyopia noticed was produced by quinin. It was manifested in different ways and degrees varying with the doses and with the idiosyncrasies of the patient. With moderate doses, temporary dimness of sight occurred. When the doses were large (60 to 80 grains a day), the affection assumed a second and more serious form. Blindness of sudden onset and almost complete in degree resulted, and lasted several days. Ophthalmoscopic examination showed great pallor of the optic disks and blanching of the retina. Quinin in large doses also had toxic effects on the ganglion-cells of the retina. This quinin blindness is described as similar to that caused by salicylates or by antifebrin, and the actual changes are very similar. Iodoform when absorbed from dressings of wounds and burns, or after administration by the mouth, occasionally produced amblyopia. Alcoholic amblyopia was produced by ordinary alcohol, and in a more intense degree by methyl alcohol; and substances in which methyl alcohol was an ingredient had a similar effect. Certain strong forms of tobacco, particularly if smoked in a pipe or on an empty stomach, were specially liable to give rise to amblyopia. Usually, however, several years passed before the vision was thus affected; while an indescribable haze or fog seemed to obscure the view. Pallor of the optic disk and central scotoma for red and green in the field of vision were observed. If the patient was intemperate, the disease progressed more rapidly. The histological investigation showed that the retinal ganglion-cells in the macula lutea

underwent degeneration; and some change could be detected in the macular fibers of the optic nerve. Which of the active principles in tobacco was the actual agent was not determined. Among the forms of amblyopia due to occupation were those occurring among lead-workers and india-rubber workers (in whom the effect was produced by the carbon disulfid used as a solvent for the rubber). Amblyopia was also met with as a result of being exposed to or inhaling fumes of nitrobenzene or dinitrobenzene, a substance which is produced in chemical factories, and is commonly known as essence of almonds.

The photosensitive pigment, or visual purple, which is supposed to belong to the rods only, and not to be present in the cones, has been found by Dr. F. W. Eldridge Green present in the central region of the retina, in which there are cones only and no rods. On examining the retina of the monkey when the animal had been kept in the dark for twenty-four hours in order to increase the amount of visual purple, the central region of vision, the yellow spot, instead of being free from the pigment, was the most purple spot of the whole retina. The purple was, however, seen by microscopical examination to be around and not actually within the cone. The author advanced the theory that the cones were sensitive only to changes in the visual purple, not to light itself.

At the annual meeting of the British Medical Association Dr. F. W. Eldridge Green described his view of the origin of a visual impulse as being that light falling upon the retina liberated visual purple from the rods, and this, being acted on by light, stimulated chemically the cones and an impulse was transmitted along the visual path to the brain and received by a light perceptive center which did not appreciate color but simply light and shade. Color perception was due to a special center separate from the visual center, but closely connected with it, a color being simply a point of difference capable of being seen by this center.

Observations are described by Dr. C. S. Myers as having been made by means of tuning-forks concerning the smallest musical tone-difference perceptible to the people of Scotland and those of Torres Straits. But little difference in the original capacity to distinguish tones was found between the children of Murray island and those of Aberdeenshire; but with practise the Scottish children improved very rapidly and uniformly. The adult Murray Islanders for the most part failed to detect intervals of a semitone. The average difference of frequency of vibration just distinguishable by them was 15 vibrations per second; while for the adult Scotch examined it was 9 vibrations.

In the third volume of the Journal of Physiology, p. 22, Sir W. R. Gowans described a case of disease which suggested strongly that the path for taste reaches the brain by the roots of the fifth nerve, both as regards the front and the back of the tongue. Since the article was published the author has met with strong confirmatory evidence from cases of disease. But he regards such evidence as unimportant when compared with the proof of the fact supplied by the modern surgical procedure of the removal of the Gasserian ganglion and the adjacent part of the fifth nerve, known as Krause's operation for neuralgia. Five cases of operations are adduced in the author's paper in the Journal of Physiology (vol. xxviii, No. 4), 4 cases by Mr. Horsley and 1 by Mr. Ballance, these being the last consecutive cases in which the operation was

performed. In some earlier cases taste was not tested, so that as far as the observations of this group of authorities go the result has been constant. Mr. Horsley is quoted as representing that in the cases he has operated on in private in which he has afterward tested taste, he has in each case found it lost. These facts are regarded as constituting strong evidence that the suggestion of disease was correct, and that all the fibers of taste, at least in most persons, reach the brain by the fifth nerve. The path by which the taste impressions reach the fifth nerve deserves further investigation, but hardly lends itself to experimental research.

Miscellaneous.—The results of studies of the effect of marching and carrying of loads, as in military service, upon 5 students of the Kaiser Wilhelm Academie have been published by Prof. Zuntz, of the Royal Agricultural College, Berlin, and Chief-Surgeon Schomberg. The experiments were made during April, May, June, and July, under stated and uniform regulations, and the condition of the subjects was examined before and after, and sometimes during the march and on days of rest, with reference to all organs and functions likely to be influenced by carrying heavily loaded knapsacks. The tests included sphygmographic tracings, enumeration of blood-corpuscles, estimation of the specific gravity of the blood, reaction of the muscles and nerves, measurements of vital capacity, and records of variations in urinary constituents. A second and more complicated investigation was carried out with two of the students to determine the effect of marches on metabolism. Experiments were also made with lighter weights and with loads of 22, 27, and 31 kilograms. The general condition of the students improved, excessive fat disappeared, and the body weight was reduced by from 1.5 to 3.5 kilograms; the cardiac systole was prolonged and the diastole was shortened as the weights carried were increased. The pulse increased to 140 and 150 beats a minute, and diastolism became marked as the duration of the diastole and systole approached equality.

Among 89 observations the cardiac area of dullness showed marked increase in 64, and the hepatic area in 67 instances after march. The increase in the area of dullness was found due to dilatation of the right and not of the left side of the heart, and to be produced by a general stagnation of the venous circulation. The phenomenon is designated by the authors as "march dilatation of the left side of the heart." Observations on other organs and functions did not produce so interesting and positive results. The specific gravity of the blood increased only by 0.006, and the red blood-corpuscles by 9 per cent. after the heavier march. An apparent increase in the white corpuscles was due to polynuclear cells being carried into the circulation from the walls of the larger veins in consequence of increased cardiac action; but the blood resumed its normal condition on the day following the march. The vital capacity of the lungs was increased up to a certain point by graduated training, but marked diminution occurred in the marches with the heaviest loads, the result being associated with the dilatation of the heart and liver and the venous stagnation already noticed. The increase in frequency of respiration associated with exercise gradually fell to normal during halts, but when dilatation of the right side of the heart had become well marked the increase remained as high as 40 per cent. above normal even after a halt of thirty minutes. The heat production of the work done in marching

was estimated to be enough to raise the bodily temperature 1° C. in 8.7 minutes. From experiments on the influence of marches on nervous energy-producing material, the authors conclude that in continuous heavy marching the carbohydrates consumed in the rations are not sufficient to replace the waste; and that a day's rest is required after every three days' marching to enable the blood to recover its normal power. It is understood that the German military authorities have accepted the investigators' conclusions as authoritative; and the regulations on physical training in Germany are evidently inspired by them.

A general review of the results of the researches of Ehrlich and his colleagues and followers on the subject of immunity was given by Prof. W. C. Halliburton in his address at the British Association, who said that the power the blood possesses of slaying bacteria was first discovered when the effort was made to grow various kinds of bacteria in it, it having been looked upon as probable that the blood would prove a suitable medium for the parasite. Instead, the blood was found in some instances to have exactly the opposite effect. The chemical characters of the substances which kill the bacteria were not fully known; but absence of knowledge on this particular point had not prevented important discoveries from being made. So far as was known at present, the substances in question were proteid in nature. The bactericidal powers of blood were destroyed by heating it for an hour to 56° C. Whether the substances were enzymes was disputed; so also was the question whether they are derived from the leucocytes. The substances are sometimes called alexins, but the more usual name now applied to them is *bacterio-lysins*. Closely allied to the bactericidal power of blood or blood-serum, was its globulicidal power, by which it is meant that the blood-serum of one animal has the power of dissolving the red blood-corpuscles of another species. The bactericidal power of the blood was closely related to its alkalinity and increased with it. Normal blood possessed a certain amount of substances which were inimical to the life of our bacterial foes. When a person gets "run down," as it is called, and is weak against attacks of disease, it is coincident with a diminution in the bactericidal power of his blood. But even a perfectly healthy person has not an unlimited supply of bacterio-lysin, and if the bacteria are sufficiently numerous, he will fall a victim to the disease they produce. But in the struggle he will produce more and more bacterio-lysin, and if he gets well it means that the bacteria are finally vanquished, and his blood remains rich in the peculiar bacterio-lysin he has produced, and so will render him immune to further attacks from that particular species of bacterium. Every bacterium seems to cause the development of a specific bacterio-lysin. Immunity can more conveniently be produced gradually in animals, and this applies not only to the bacteria, but also to the toxins they form.

In the hypothesis by which he seeks to explain the phenomena of immunity, Ehrlich supposes that the toxins are capable of uniting with the protoplasm of living cells by possessing groups of atoms like those by which nutritive proteids are united to cells during normal assimilation, and which he terms heptophor groups; while the groups to which these are attached in the cells are termed receptor groups. The introduction of a toxin stimulates an excessive production of receptors, which are finally thrown out

into the circulation, and the free circulating receptors constitute the antitoxin. The comparison of the process to assimilation is justified by the fact that non-toxic substances like milk introduced gradually by successive doses into the blood-serum cause the formation of antistances capable of coagulating them. Evidence is gradually being collected that other cells than those of the blood may by similar measures be rendered capable of producing a corresponding protective mechanism.

In connection with some experimental researches in the metabolism of pulmonary tuberculosis Dr. Francis W. Goodbody, Dr. Noel D. Bardswell, and J. E. Chapman made studies of the metabolism of ordinary individuals, and of the effect of a greatly increased diet on them. Three cases were experimented upon, the conditions of which and their treatment and regimen are described in detail in the paper of the authors in the *Journal of Physiology* (vol. xxviii, No. 4). The conclusions which seem to the authors justified by the results are expressed by them as follows: 1. The lasting bad effects of an excessive diet on normal individuals. 2. The very small quantity of nitrogen retained except when extreme forced feeding is employed. 3. The increased quantity of urine passed and of very high specific gravity, more or less proportional to the increased intake of fluids, this being contrary to what has been observed in pathological conditions. 4. The marked increase in the quantity of total nitrogen in the urine on forced feeding, the portion of this substance passed as urea remaining normal all through, and there being no marked difference in the proportion of uric acid and ammonia. 5. The marked increase in the inorganic constituents of the urine analyzed during the period of forced feeding. 6. The fact that, contrary to what was to be expected, there was no marked increase in the total quantity of nitrogen in the feces on the forced feeding except in case 3, while, as a rule, there was an enormous increase in the quantity of fats. 7. The temporary increase in the absorption of nitrogen on forced feeding as against the tendency to diminution in the rate of absorption of fats during the same period. 8. The very rapid increase in weight during the period of forced feeding and the very striking rapidity with which this increase disappeared. 9. The marked deterioration of health caused by forced feeding.

In studies regarding the depth of sleep, Dr. Sante de Sanctis and Dr. U. Negroz applied a method of tactile and pressure stimuli for six consecutive months, on each of 9 subjects, 4 of whom were normal and 5 psychopaths, afflicted with some form of nervous disorder, the tests being made at different hours on successive or irregularly recurring nights. It was found that the maximum depth of sleep was attained within one hour and a half after falling asleep, and generally in the third half-hour; after which the curve of sleep became shallower. Hourly oscillations in the depth of sleep occurred thereafter with a maximum and a minimum for each hour, the curve, however, descending on the whole for a while until a second deepening of sleep occurred. This secondary deepening lasted about an hour and a half, and occurred during the middle period of the total duration of sleep. In all the 5 pathological subjects the depth of sleep was far greater than in normal persons. It was found that dreams occurred in every period of sleep, and even in the earlier hours when the depth of sleep was greater; but they were more frequent and more vivid in the later hours of

sleep, especially toward morning. The dream activity of psychopathic persons was slight as compared with normal subjects, and the memory of the dreams was less marked or definite.

A prize of 600 kronen, or about \$1,050, is offered by Prof. Joseph Seegen, under the auspices of the Mathematical and Natural Science section of the Imperial Academy of Science of Vienna, for the best answer to the question: Whether any part of the nitrogen of the albuminates which have undergone metabolism in the animal body is eliminated either by the lungs or the skin in a gaseous form. Essays may be sent in before Feb. 1, 1904, in the German, French, or English language.

In experiments on skin currents, Dr. Augustus D. Waller found that in freshly removed human skin the normal current was always ingoing, and the response to electrical excitation by the induction-coil was always outgoing. This response, which the author calls "the blaze," was a sign of the vitality of the skin, was independent of the normal current, and amounted to from 0.0100 to 0.0400 volts. Moribund skin and skin from the post-mortem room gave small reactions of variable direction, amounting to not more than 0.010 of a volt. In all cases the electrodes were carefully tested and the skin was subsequently killed by boiling, tested, and found to give negative results. A remarkable feature brought out in the experiments was the great diminution of resistance of living skin by tetanization. The resistance of dead skin was far below that of living skin, and was not altered by tetanization. Fatigue was exhibited more in human skin than in frog's skin. As regards the locality of the reaction, the blaze currents were found to arise exclusively from the Malpighian layer of the epithelium, not from the superficial keratinized cells, or from the subcutaneous tissue and the corium. The blaze reaction was quite local, and was not propagated to any considerable distance from the excited spot, and adjacent portions exhibited different degrees of vitality. The apparent duration of vitality was surprising, and lasted as long as ten days after excision. Alternations of temperature produced alteration of resistance as in any moist conductor. In the case of living skin, Dr. Waller witnessed at the moment of congelation (-40° to -60° of the cooling chamber) a sudden electromotive discharge of 0.0080 volt, attributable to the sudden excitation of living matter in the act of congelation. On the return of the frozen skin to the original temperature, the resistance was found to be much reduced, and the response to excitation was abolished.

Indications were found by Uhlenbarth, and the discovery has been confirmed by Levene, of the existence of a biological relationship between the blood and the muscle proteids—a similarity in the biological sense having been observed between proteids having a different chemical individuality, but obtained from the same animal. It was found that the serums of rabbits immunized for two months with milk would form precipitates with milk, casein, milk-albumin, and beef-serum, but not with the entire white of an egg, egg-albumin, egg-globulin, chicken-serum, and sheep hemoglobin. Serums of animals that had been treated with injections of the white of an egg for two months formed precipitates with egg-albumin, egg-globulin, yolk of egg, chicken-serum, and turkey-serum. No precipitate was formed on the addition of milk proteids, beef-serum, or of the different proteids of the latter, of guinea-pig serum, or of serum of the normal rabbit.

In the meeting of the National Academy of Sci-

ences, April, 1902, Prof. J. McKean Cattell read a paper showing that Mosso's method of experimenting upon psychophysical fatigue by causing the subject to lift a dead weight from the ground and calculating the amount of work according to the product of the mass into the height to which it is lifted, is open to the objection that much effort is exerted before the weight is stirred. The author had avoided this objection by experimenting upon pulls against a spring. Under this method, the strange anomalies in Mosso's results had completely disappeared.

The nature of the cerebro-spinal fluid has been the subject of an investigation by Prof. E. Cavazzani, of the University of Ferrara, who has published his first results in the Italian Archives of Biology, 1902, fasciculus 1. The determination of alkalinity by lacmoid gave as the mean in the dog, 0.093 per cent. of NaOH, and in the ox, 0.104 per cent., the blood being obtained from animals killed by bleeding. In other cases the fluid was obtained during life by aspiration through the atlanto-occipital ligament. In dogs that were curarized, the mean was 0.089 per cent. NaOH, and in two normal rabbits it was 0.099 and 0.085 per cent. These numbers are important for the evidence they afford that the cerebro-spinal fluid is not a mere filtration of the plasma of the blood, since it presents less than half the alkalinity of the blood. The evidence afforded by the effects of various reactions, such as those of tincture of guaiacum, hydrochinone, gallic and pyrogallie acids, peroxid of hydrogen, and orthotolidine led the author to the conclusion that the cerebro-spinal fluid contains a ferment, to which he has given the name of cerebro-spinose. This ferment possesses the power of destroying the reducing agent which is normally present in the cerebro-spinal fluid, and is capable of oxidizing glycose. Prof. Cavazzani adduces reasons for supporting the views of Knoll, attributing variations of pressure in the cerebro-spinal fluid to various influences. At the beginning of asphyxia there is a diminution, but subsequently an increase occurs, of pressure in the fluid; and if the central stump of the vago-sympathetic nerve is stimulated in the dog, the fluid ceases to flow through a fistula. The results of the author's investigations have convinced him that the cerebro-spinal fluid is a true secretion and is not lymph in the ordinary sense of the word. As additional evidence he has studied the action of the substances termed "lymphagogues" by Heidenhain—namely, peptone and the extract of the heads of leeches, glycose, and chlorid and iodid of sodium. In no instance was there any acceleration in the flow of the cerebro-spinal fluid from fistulous openings.

An investigation of the cerebro-spinal fluid was suggested to St. Clair Thomson, M.D., of the Throat Hospital, London, by the observation of a young woman in good health suffering from its escape through the nose. The author examined the literature of the subject and found about 20 similar observations recorded. The liquid was not diagnosed in all the cases as cerebro-spinal fluid, but its identity with it seemed indubitable in 9 of the cases, very probable in 12, and possible in 18. In many of the cases the hydrorrhea was associated with cerebral symptoms and with optic neuritis. In particular cases under the author's own care, cerebro-spinal fluid was determined by analysis by Dr. Halliburton. Accounts of these cases, with observations on the composition and functions of the cerebro-spinal fluid, are given by the author in a book which he has recently published on the subject.

A preliminary report on Heredity in Alcoholism, by Dr. T. D. Crothers, chairman of a committee of physicians appointed at a Medical Temperance Congress in 1888, embodies the results of the investigation of 1,744 cases of inebriety carried on during thirteen years. The facts were carefully ascertained and collected, and the inquiry, besides the question of heredity, included every condition and circumstance which could have an etiological bearing in the development of inebriety. Of the 1,744 inebriates with trustworthy histories, 1,080 had a direct history of alcoholic heredity; 390 cases were traceable to bodily diseases, injury, or shocks; 180 were attributable to starvation and poisoning; while 85 cases were due to ignorance, bad surroundings, and imitation (or mental contagion). In only 9 cases were the causes so complex or so obscure that no classification could be made of them. The central conclusion from the study was "that the injury from alcohol to the cells and nerve-tissues is transmitted to the next generation in some form or other—as a drink-craving, a neurosis, or a mental defect, etc.—with absolute certainty." Regarding the 1,080 patients with a direct alcoholic heredity, the report says: "In most there seemed to be largely transmitted a special predisposition to find relief in spirits, or a mental diathesis [instability] with want of self-control, and often a species of psychical pain and unrest, which found the greatest relief from the use of spirits." In 430 of the cases no heredity was traced.

A study by Dr. R. Hunt, of Johns Hopkins University, of the relative toxicity of methyl alcohol and the special pathological changes produced by its action on the nervous system gave results indicating that while coma of ethyl alcohol lasts perhaps not longer than six hours, or twenty hours at the most, that from methyl alcohol may last two, three, or even four days. Experiments on lower animals showed that this was not due to impurities, but that the pure drug would produce the same effect. In lethal doses methyl alcohol produced death more speedily than ethyl alcohol. But in chronic intoxication methyl alcohol was retained longer in the nerve-tissues than ethyl alcohol. Hence small doses taken a few times acted very poisonously owing to their cumulative effect. Dogs to which measured doses of pure and commercial methyl alcohol were given died, as a rule, while those treated with equal doses of ethyl alcohol recovered. Dr. Hunt was able to establish proofs of degenerative changes in the optic nerve and blindness in the fatal cases, a result which might occur also in the human subject from small and non-fatal doses of methyl alcohol. The whole series of experiments showed that however pure methyl alcohol may be it is totally unfit for use as a substitute for ethyl alcohol in any preparation that is to be taken medically or dietetically.

PORTO RICO, a dependency of the United States, ceded by Spain to the United States by the treaty signed by peace commissioners at Paris on Dec. 10, 1898. Representative government was conferred on the people on May 1, 1901, and a Legislative Assembly was elected by popular suffrage limited by moderate property and educational restrictions. A tariff of 15 per cent. on imports from Porto Rico into the United States and imports from the United States into Porto Rico was imposed by the United States Congress by an act passed on April 12, 1900, the proceeds to be applied to the necessities of the government of Porto Rico. The Legislative Assembly enacted a system of local taxation suf-

ficient for the needs of government, and after it had gone into operation passed on July 4, 1901, a joint resolution notifying the President of the United States that the aid was no longer needed, in consequence of which the President on July 25, 1901, proclaimed the cessation of all tariff duties between Porto Rico and the United States. The Governor of Porto Rico is appointed by the President of the United States. Charles H. Allen, appointed Governor on May 1, 1900, at the institution of local self-government, was succeeded on July 23, 1900, by William H. Hunt, whose official staff at the beginning of 1902 was composed as follows: Secretary, Charles Hartzell; Attorney-General, James S. Harlan; Treasurer, W. F. Willoughby; Auditor, John R. Garrison; Commissioner of Education, Martin G. Brumbaugh, succeeded by Samuel M. Lindsay; Commissioner of the Interior, William H. Elliot. The Resident Commissioner of Porto Rico in Washington is Federico Degetau, reelected Nov. 4, 1902. The Executive Council is the upper house of the Legislative Assembly and the popularly elected House of Delegates the lower. The Governor and the chief American officials with 5 native Porto Ricans appointed by the President constitute the Executive Council. The House of Delegates has 35 members. A Supreme Court was instituted, with José S. Quinones as Chief Justice and Louis Sulzbacher, of Missouri, and José C. Fernandez, José M. Figueras, and Rafael Nieto y Abeille, Porto Ricans, as associate judges. A United States district court was created, and William H. Holt was appointed Federal district judge. The Spanish code of laws was continued, with modifications recommended by a special commission bringing it into harmony with the laws of the United States. Gov. Allen resigned, and William H. Hunt, of Montana, was on July 23, 1901, appointed his successor. The Governor and the Secretary receive instructions from the State Department at Washington, the Treasurer and Auditor from the Treasury Department. A battalion of native troops organized in 1899 has been retained in the United States service, and forms the only military force on the island with the exception of detachments of artillery in the sea forts. These native troops are to be disbanded.

Area and Population.—The area of the island is estimated at 3,600 square miles. The population in 1900 was 953,243. Many workers on the sugar plantations were induced to emigrate with their families to the Hawaiian Islands and to Cuba, and others employed in the tobacco industry went to the latter island, but this emigration was counterbalanced by immigration from Santo Domingo, Cuba, and other West Indian islands. The density of population is 264 to the square mile and the increase in population was 16 per cent. from 1887 to 1900 according to census returns. Of the inhabitants of the island 589,426, or 61.8 per cent., are white, though many of these show an infusion of African blood. The number of black and colored inhabitants is 363,817, or 38.2 per cent. The number of foreigners in 1900 was 13,872, or 1.5 per cent. of the population, and these include 7,690 Spanish residents, the great majority of the Spaniards having elected to retain their nationality. The proportion of the totally illiterate to the population in 1900 was 83.2 per cent. Education is making good progress. There were at the end of 1902 in the schools, on which \$192,896 had already been expended for buildings, 1,126 teachers, and over 55,000 pupils. The annual expenditure for education is fixed at \$600,000. Two industrial schools

were opened in the fall of 1902. San Juan, the capital, has 32,048 inhabitants; Ponce, 27,952; Mayaguez, 15,187.

Finances.—The insular revenues are sufficient for the needs of the administration, and in his message to the Legislature the Governor advised no increase in direct taxation in 1903. The sum of \$600,937 raised by tariff duties up to the time of the cessation of the special tariff on Porto Rican products was set apart as a fund for permanent public improvements in Porto Rico. Its expenditure for this purpose gave employment to native laborers and imparted an impulse to the commercial and industrial energies of the country which had been paralyzed by the interruption of the former trade with Spain and Cuba and by the effects of the hurricane of 1899. At the close of 1902, besides \$885,635 of trust funds, there was a balance on hand of \$378,670 from insular revenues and \$431,128 due from the United States.

Commerce and Production.—The most valuable product is coffee, of which 60,000,000 pounds are gathered annually from 200,000 acres. The coffee finds a ready demand in Austria, France, and other Continental countries and its superior quality is beginning to be appreciated in the United States. Coffee has constituted 63 per cent. in value of the total export trade, and sugar 28 per cent., after which come tobacco, honey, molasses, cattle, timber, and hides. The yield of coffee has been increased from 200 to more than 500 pounds an acre. The crop in 1901 was 200,000 bags. In 1902 it approximated 350,000 bags. Oranges, bananas, and pineapples are exported in increasing quantities. There is a variety of pineapple that attains the weight of 25 pounds. Bananas grown without cultivation are of fine quality. Limes and lemons grow wild in abundance. Silkworms have been raised experimentally that produce cocoons twice or thrice the ordinary size and of the finest quality, fed on a plant growing in abundance on which silkworms were already raised in Venezuela. A company has been organized to grow Sea Island and Egyptian cotton, for which the soil and climate have been found well adapted. Rice is grown on the island, but more is imported. Corn and vegetables of all kinds are raised. The sugar plantations cover 50,000 acres, yielding nearly 100,000 tons in 1900. The yield of tobacco was 3,000,000 pounds in 1901 and nearly 8,000,000 pounds in 1902. The principal mineral product is salt, of which 10,000,000 pounds are annually produced by the salt-works of Guanico, Salinac, and Cape Rojo. Gold is found, and carbonate and sulfids of copper and magnetic iron ore are abundant. Lignite, amber, and marble are other mineral products. There were 260,000 cattle in 1899. Oxen do the heavy hauling. About 50,000 cattle are slaughtered or exported annually. The grazing on the island is unexcelled. There are 130,000 acres of blue grass. Cattle are shipped to Trinidad, St. Lucia, Martinique, and Guadeloupe. Hogs thrive particularly well. Poultry is easily kept. Sugar, rum, cigars, and cigarettes are now the principal manufactures. Wood manufactures, matches, soda, and vermicelli are newer industrial products. There is unlimited water-power and cheap fuel. The plaiting of hats is a house handicraft which has expanded into a commercial industry since prices rose. Prof. S. A. Knapp examined the agricultural resources of Porto Rico with a view to the establishment of an experiment station in connection with the United States Department of Agriculture, and one has been started near Mayaguez and one

under the direction of Frank D. Gardner at Rio Piedras, near San Juan. Experiments have been begun for improving the quality and yield of coffee by selection and by proper shading of the shrubs; also in exterminating the mole cricket, which destroys young tobacco and sugar plants. Selection and fertilization of sugar-cane, rice cultivation, the fermentation and grading of tobacco, dairying, forestry methods, culture and marketing of fruits, and introduction of cacao and fiber plants are other problems that are studied. The chief imports are cotton goods, rice, provisions, codfish, and hardware and tools. The total value of imports in 1901 was \$9,367,000, and of exports \$8,634,000. Of the imports, \$7,415,000 came from the United States, \$808,000 from Spain, \$375,000 from Great Britain, \$167,000 from France, and \$152,000 from Germany. Of the exports, \$5,661,000 went to the United States, \$1,110,000 to Cuba, \$596,000 to Spain, \$473,000 to France, and \$141,000 to Germany. The total value of exports in 1902 was \$12,889,925, showing an increase of 54.7 per cent. in exports to foreign countries and 48.6 per cent. in exports to the United States. The increase was mainly in sugar, cigars and cigarettes, straw hats, and coffee. A demand sprang up in the United States for straw hats, which were shipped to the amount of \$204,500. While over \$3,000,000 worth of Porto Rican coffee went to Europe, the takings of the American market were only \$29,000. Among the imports were codfish of the value of \$400,000 from Nova Scotia and \$500,000 worth of potatoes from Spain.

Railroads and Telegraphs.—There are 159 miles of completed railroads in Porto Rico, and 170 miles are building. The telegraphs have a length of 470 miles, connecting the principal ports with San Juan, the capital, which is connected by cables with St. Thomas and Jamaica. Since the extension of the telegraphs under American administration they have yielded a profit to the insular treasury.

Government and Legislation.—Porto Rico became a Territory of the United States on July 25, 1901, but not subject to the United States Constitution. By a decision of the United States Supreme Court rendered on Dec. 2, 1901, which sustained the right of Congress to impose customs duties on Porto Rican products imported into the United States and a separate tariff for Porto Rico, the natives and citizens of Porto Rico are not citizens of the United States unless they become naturalized like any aliens eligible for citizenship. Culebra and a site at San Juan have been taken and fitted as United States naval stations, and the title, still remaining in the insular government, will be transferred to the United States by act of the Legislature.

A general election was held throughout Porto Rico simultaneously with the elections in the United States on Nov. 4. The Republican party won a victory everywhere over the Federal Democrats, obtaining every seat in the House of Delegates. In most districts the Federals, as in 1901, refused to register, complaining that the election judges would not permit free and full registration, and in some places disturbances occurred on registration day. An epidemic of smallpox caused excessive mortality among the population until the Government made vaccination compulsory, a measure that reduced the death-rate from this disease to almost nothing. Anemia has become much less prevalent with the general improvement in public and private sanitation. There were 13,000 fewer deaths in the year end-

ing June 30, 1902, than in the previous year. The criminal code adopted for Porto Rico, modeled largely on the penal laws of California, has worked satisfactorily. A new corporation law went into effect on July 1.

PORTUGAL, a kingdom in southwestern Europe. The throne is hereditary in the family of Saxe-Coburg-Braganza. The reigning sovereign is King Carlos I, born Sept. 28, 1863, successor to his father, Luiz I, who died Oct. 19, 1889. The heir apparent is Luiz Philippe, Duke of Braganza, born March 21, 1887. The legislative power is vested in the Cortes, which consists of a Chamber of Peers, containing 52 hereditary, 13 spiritual, and 90 nominated members, and a Chamber of Deputies, containing 120 members elected by the direct votes of all adult male citizens who possess an elementary education or an income of 500 milreis. The Cabinet at the beginning of 1900 was composed as follows: Prime Minister and Minister of the Interior, E. R. Hintze Ribeiro; Minister of Foreign Affairs *ad interim*, Ferdinando Mattoso; Minister of Finance *ad interim*, Ferdinando Mattoso; Minister of Justice and Public Worship, A. Campos Henriques; Minister of War, L. A. Pimentel Pinto; Minister of Marine and the Colonies, A. Teixeira de Sousa; Minister of Public Works, Industry, and Commerce, Manuel A. de Vargas.

Area and Population.—The area and population of the kingdom according to the preliminary reports of the census of Dec. 1, 1900, are given in the following table:

DIVISIONS.	Square miles.	Population.
Provinces:		
Entre Minho e Douro.....	2,807	1,173,106
Tras os Montes.....	4,393	439,170
Beira.....	9,348	1,518,406
Estramadura.....	6,876	1,232,598
Alentejo.....	9,431	413,531
Algarve.....	1,873	254,851
Islands:		
Azores.....	1,005	256,474
Madeira.....	505	150,528
Total.....	36,088	5,428,650

The population consisted of 2,597,270 males and 2,831,389 females. The increase of population in ten years was 378,930, showing an annual rate of 0.75 per cent. The number of emigrants in 1900 was 21,306, of whom 18,908 went to America, chiefly Brazil, 1,928 to Africa, 445 to European countries, and 25 to Asia and Oceania. The population of the chief towns in 1900 was as follows: Lisbon, the capital, 357,000; Oporto, 172,421; Braga, 24,309; Setubal, 21,819; Coimbra, 18,424.

Finances.—The revenue for 1902 was estimated at 53,269,747 milreis, and expenditure at 55,269,747 milreis. For 1903 the estimate of revenue was 53,991,074 milreis from ordinary and 922,000 from extraordinary sources; total, 54,913,074 milreis. The estimate of expenditure for ordinary purposes was 54,416,810 milreis, and for extraordinary purposes 1,445,128 milreis; total, 55,861,938 milreis, showing a deficit of 948,864 milreis. Of the ordinary receipts according to the estimates 13,180,960 milreis are derived from direct taxes, 6,323,000 milreis from stamps and registration, 25,172,030 milreis from indirect taxes, 1,107,750 milreis from additional taxes, 3,609,176 milreis from national property and miscellaneous sources, and 4,598,158 milreis are *recettes d'ordre*. Of the ordinary expenditures 9,716,008 milreis are for the civil list, the Cortes, etc., 20,739,311 milreis for the consolidated debt, 400,000 milreis for loss on exchange, 3,839,852 milreis for the Ministry of Finance, 2,850,692

milreis for the Ministry of the Interior, 1,076,458 milreis for the Ministry of Justice and Worship, 6,403,757 milreis for the Ministry of War, 4,188,518 milreis for the Ministry of Marine and the Colonies, 350,732 milreis for the Ministry of Foreign Affairs, 4,782,144 milreis for the Ministry of Public Works, Commerce, and Industry, 69,338 milreis for the deposit office. The receipts of the Government for the financial year 1903 showed a slight falling off, being estimated late in 1902 at about 50,000,000 milreis. The expenses increased enormously over the previous budget and over the estimates, being at the rate of 65,000,000 milreis a year. There were 2,000 more officials to be paid and the expense of the public debt was increased to 30,000,000 milreis. The bank-notes in circulation amounted to 80,000,000 milreis, and the Government intended to issue more in spite of a rising *agio*.

The public debt in 1901 consisted of £41,727,171 sterling of external 3-per-cent. consolidated bonds, £1,813,148 of 4-per-cent. and £12,745,154 of 4½-per-cent. redeemable external bonds, and £9,388,621 of tobacco bonds paying 4½ per cent., making the total external debt proper £65,874,094, besides which there were £99,922,768 of internal 3-per-cent. bonds largely held abroad, which gives a total sum of £165,596,862, not including £6,126,640 of 4- and 4½-per-cent. internal bonds and the floating debt, which on Jan. 1, 1901, amounted to 51,537,484 milreis.

The Army and Navy.—All young men are liable to military service for three years in the active army, five years in the first reserve, and seven years in the second reserve. The annual contingent fixed by the Cortes for 1900 was 16,000 for the army and 1,000 for the navy. There are 24 conscription and reserve districts in Continental Portugal and 3 in the islands. The army consists of 24 infantry regiments of 3 battalions; 3 regiments of 2 battalions, and 6 battalions of rifles, each battalion having a section of sappers, cyclists, and machine-guns attached; 10 regiments of cavalry, each of 4 squadrons; 6 regiments of field-artillery, each of 6 batteries; 2 batteries of horse-artillery; 6 groups of fortress-artillery, each of 3 batteries; 4 independent batteries; 1 regiment of engineers, consisting of 6 companies of sappers, 2 of pontonniers, 1 of telegraphists, and 1 of railroad troops; and independent of these 1 company of fortress sappers, 1 of fortress telegraphists, and 1 of torpedoists. The army under the new organization enacted on Sept. 7, 1899, and Dec. 24, 1901, has under arms 77 officers and 1,967 men in the engineers, 294 officers and 5,467 men in the artillery, 270 officers and 4,920 men in the cavalry, and 1,146 officers and 18,927 men in the infantry and rifles; total peace effective, 1,787 officers and 31,281 non-commissioned officers and men, with 160 guns and 6,479 horses and mules. There are besides 81 infantry officers and 297 men in reserve depots, 80 officers and 2,176 men in the municipal guards, and 100 officers and 4,622 men in the fiscal guard. The war effective of the active army comprises 80 engineer officers and 3,740 men, 420 artillery officers and 12,319 men, 330 cavalry officers and 7,260 men, and 1,779 infantry officers and 85,209 men; total, 2,609 officers and 108,528 men, with 240 guns and 14,487 horses and mules. The reserve troops number 1,447 officers and 62,796 men, with 96 guns and 5,113 horses and mules, making the total war strength 4,056 officers and 171,324 men, with 336 guns and 19,600 horses and mules.

The navy consists of the reconstructed iron-clad Vasco de Gama; the protected cruiser Don Carlos, of 4,253 tons, armed with 4 6-inch, 8 4.7-

inch, 12 three-pounder and smaller quick-firers and machine-guns and having a speed of 22 knots; the protected cruisers São Gabriel and São Raphael, of 1,800 tons, and the smaller Adamaster and Dona Amelia; 2 old cruisers; 20 gunboats, of 100 to 800 tons; the destroyer Tejo, of 530 tons; 18 river gunboats; the royal yacht Amelia; and 3 training-ships. The third-class cruiser Patria, built at Lisbon, was completed in 1902.

Commerce and Production.—Only 54.2 per cent. of the area of Portugal is productive. Vineyards cover 2.2 per cent. of the total area, fruit orchards 7.2 per cent., forests 2.9 per cent., pasture 26.7 per cent., cereal crops 12.5 per cent., and legumes and other crops 2.7 per cent. Wine is the chief product of the country. The wine-crop in 1902 was excessive, causing loss to growers and merchants. The Government and the wine-growers have made extraordinary efforts in recent years to produce and find foreign markets for light red and white wines, good and uniform in quality and cheap in price. Olive-oil, figs, tomatoes, onions, oranges, and potatoes are exported. The mineral products include copper, sulfur, iron, lead, tin, manganese, arsenic, anthracite coal, salt, gypsum, and marble. The total value of ores mined in 1900 was 2,116,718 milreis. There were 4,000 fishing vessels in 1900. The annual value of sardines, tunny, and other fish caught is about 3,750,000 milreis. Since the adoption of high protection in 1891 a multitude of factories has sprung up around Lisbon and Oporto, and these have increased wages and raised the general standard of living, while making the cost of living much higher and for the agricultural classes hard to bear.

The total value of imports in 1900 was 60,221,713 milreis, and of exports 32,564,035 milreis. The imports of coal were 5,547,049 milreis in value; of wheat, 4,972,665 milreis; of cotton, 4,475,926 milreis; of cotton goods and yarn, 2,996,048 milreis; of codfish, 2,821,347 milreis; of iron, 2,601,877 milreis; of sugar, 2,243,750 milreis; of leather and hides, 1,711,162 milreis; of wool, 1,457,410 milreis; of woolen goods and yarn, 1,298,086 milreis; of cattle, 1,126,036 milreis; of tobacco leaf, 569,328 milreis; of coffee, 565,818 milreis. The exports of wine were 10,628,534 milreis in value, consisting of 52,290,370 liters of ordinary wine and 30,575,720 liters of liqueur wine, this last comprising 27,575,720 liters of port and 2,620,240 liters of Madeira. Brazil, Great Britain, and Portuguese colonies take nearly all the wine. The exports of cork in 1900 were 2,464,184 milreis in value; of cotton goods, 2,136,583 milreis; of sardines, 1,228,159 milreis; of copper ore, 1,092,731 milreis; of olive-oil, 694,557 milreis; of cattle, 468,160 milreis; of eggs, 417,889 milreis; of almonds, 354,020 milreis; of horses, 346,294 milreis; of tunny, 302,513 milreis; of figs, 275,294 milreis; of pineapples, 220,797 milreis; of onions, 152,585 milreis. Imports of animals were valued at 2,831,514 milreis in 1900, and exports at 3,846,426 milreis; imports of raw materials at 27,398,746 milreis, and exports at 5,800,481 milreis; imports of textiles at 6,514,690 milreis, and exports at 2,542,418 milreis; imports of articles of food at 15,367,495 milreis, and exports at 16,365,438 milreis; imports of machinery at 3,522,438 milreis, and exports at 155,472 milreis; imports of manufactured articles at 4,016,552 milreis, and exports at 2,217,512 milreis; imports of packing material at 87,997 milreis; imports of coin and bullion at 482,281 milreis, and exports at 1,636,288 milreis. Of the total imports in 1899, amounting to 51,538,465 milreis, 33 per cent. came from Great Britain, 16 per cent. from the United

States, 14 per cent. from Germany, 8 per cent. from France, 7 per cent. from Spain, and 22 per cent. from other countries. Of the total exports, valued at 30,020,204 milreis, 27 per cent. went to Great Britain, 20 per cent. to Brazil, 19 per cent. to Portuguese colonies, 12 per cent. to Spain, and 22 per cent. to other countries. Germany and other Continental countries have displaced England in some branches of the import trade. In spite of the chronic financial difficulties of the Government foreign trade is expanding.

Navigation.—The number of vessels engaged in foreign commerce entered at Portuguese ports during 1900 was 6,226, of 9,981,765 tons; cleared, 6,224, of 9,978,553 tons. Of these the number entered with cargoes was 4,115, of 6,365,911 tons; cleared with cargoes, 4,132, of 1,256,048 tons. The number of coasting vessels entered was 4,211, of 1,301,949 tons; cleared, 4,132, of 1,256,048 tons.

The merchant navy on Jan. 1, 1900, consisted of 292 vessels, of 95,775 tons, excluding all below 50 tons.

Railroads, Posts, and Telegraphs.—The railroads in operation in 1901 had a total length of 1,464 miles, of which the Government owned 507 miles. The number of passengers carried in 1899 was 11,404,764; tons of goods, 2,430,881; net earnings, 3,539,700 milreis.

The number of internal letters, newspapers, and other mail-matter carried by the post-office during 1900 was 54,955,714; of international and colonial mail-matter, 12,275,272.

The telegraph-lines on Jan. 1, 1901, had a total length of 5,180 miles, with 11,460 miles of wire. The number of internal despatches in 1900 was 2,117,611; international despatches, 1,302,842.

Political and Financial Situation.—The Government in 1902 made an arrangement with the foreign bondholders for the conversion of the external debt by which the reduced interest on the bonds was again increased by 50 per cent. Great commotion was produced by this and the alleged general financial mismanagement of the Government. Riots were started at Oporto, and from there disturbances spread to other parts of the country. At Coimbra the students created a tumult, and the troops were insubordinate when called upon to interfere. The university was closed on May 2. Although shouts were raised for the republic, the movement was mainly directed against the ministry. The conversion bill finally passed the House of Peers by 49 votes to 35 on May 10, after which the Cortes were closed, to meet again on Jan. 2, 1903.

Colonies.—The Portuguese possessions in Asia and Africa were acquired when Portugal was a great maritime and commercial power. The colonies that remain are not commercially important and are a financial burden which is borne, as was that of Spain, from sentiments of national honor and historical pride. In recent times the Government has resorted to the plan of entrusting the development of the natural resources of the colonies to chartered companies, to which foreigners have contributed capital though their charters contain restrictions intended to safeguard their Portuguese nationality. The Minister of Finance estimated in 1899 that the Government had expended in thirty years at least 67,500,000 milreis on the colonies.

Portugal possesses Goa on the Malabar coast, Damao on the coast of Bombay, and the island of Diu west of it. Goa has an area of 1,390 square miles and a population of 494,836, among whom there is a considerable infusion of white blood. The production of salt by evaporation is the main industry, and the annual production is

about 12,200 tons. There is a railroad, 51 miles long, connecting the port with the network of British India, and grain and pulse brought in coasting vessels are conveyed into the interior. The imports by sea and land amounted to 5,483,924 rupees in 1900; exports, 1,562,287 rupees; transit trade, 5,719,122 rupees. The revenue for 1902 was estimated at 1,019,868 milreis; expenditure, 1,028,420 milreis. The military force is 1,082 men, of whom 786 are natives. *Damao* and *Diu*, which also produce salt, have a combined area of 168 square miles and 77,454 inhabitants. They are governed from Goa. *Macao* is an island at the mouth of the Canton river, where 3,106 indigenous Portuguese, 615 European Portuguese, 171 Portuguese from other colonies, 161 foreigners, and 74,568 Chinese live on an area of 4 square miles. A lively junk trade is carried on with China. The smuggling of opium and other articles has been checked by the establishment of a Chinese custom-house in the port. The manufacture of smoking opium for export to the United States and Australia was long a profitable industry, but this is now declining. The value of manufactured opium exported in 1898 was 1,387,202 taels. Most of the trade of the port is carried on by Chinamen. There is a military force of 488 men, including 164 natives. The revenue for 1902 was estimated at 627,534 milreis, and expenditure at 426,342 milreis. The total value of imports in 1900 was \$17,920,339 in silver, and of exports \$14,068,269. The colony of *Timor* was administered until 1896 from Macao, which in 1902 contributed from its revenue 32,400 milreis, making the total revenue of Timor 113,382 milreis, while the expenditure was 164,396 milreis. The Portuguese part of the island of Timor not having been delimited from the Dutch part, although a joint delimitation was provided for in the treaty of 1859, a new convention was recently concluded on this matter. The Portuguese part is estimated to contain 7,458 square miles, with a population of 300,000. There is a military force of 323 men, of whom 212 are natives. The imports in 1899 were 195,461 milreis in value; exports, chiefly consisting of coffee and wax, 134,220 milreis.

The *Cape Verde Islands*, off the west coast of Africa, have an area of 1,480 square miles, with 147,424 inhabitants according to the census of Dec. 31, 1900, of whom 68,793 are males and 78,631 females, the total comprising 3,856 whites, 94,639 colored, and 48,929 negroes. The number of foreigners was 245. The military force is 264 men, of whom 168 are natives. Coffee, medicinal plants, and millet are the chief products. The revenue for 1902 was estimated at 419,200 milreis, and expenditure at 362,328 milreis. The value of imports in 1900 was 2,843,314 milreis; that of exports, 351,948 milreis. The number of vessels that visited the ports during 1900 was 3,841, of 4,786,609 tons, inclusive of 1,424 coasting vessels. *Portuguese Guinea*, on the Senegal coast opposite the Cape Verde Islands, has an area of 4,440 square miles, with about 820,000 inhabitants. The revenue for 1902 was estimated at 126,040 milreis, and expenditure at 208,080 milreis. The military force is 247 men, of whom 143 are natives. The value of imports in 1899 was 950,828 milreis; the exports, consisting of rubber, wax, oil-seeds, ivory, and hides, were valued at 332,979 milreis in 1899 and 401,455 milreis in 1900. The number of vessels, excluding coasters, that visited the ports during 1900 was 150, of 57,007 tons. The island of *St. Thomas* and *Principe*, in the Gulf of Guinea, have an area of 360 square miles and a population, as shown by

the census of Dec. 31, 1900, of 42,103, of whom 37,776 were in St. Thomas and 4,327 in Principe, the total including 597 foreigners and comprising 1,185 whites, of whom 1,095 were males and 90 females, 279 colored, of whom 145 were males and 134 females, and 40,639 negroes, of whom 21,881 were males and 18,758 females. Principe produces about 600,000 kilograms of cacao, St. Thomas 2,250,000 kilograms of coffee. Another product is cinchona. The imports of St. Thomas for 1900 were valued at 2,037,961 milreis, and exports at 3,525,773 milreis. The number of vessels that visited the ports of the islands during 1900 was 186, of 380,115 tons. The revenue of the islands in 1902 was estimated at 526,140 milreis, and expenditure at 372,254 milreis. The military force is 240 men, of whom 181 are natives. The most important and extensive of the colonial possessions of Portugal are in the southern part of the African continent, Angola on the western and Portuguese East Africa on the eastern side (see SOUTH AFRICA).

PRESBYTERIANS. I. Presbyterian Church in the United States of America (Northern).

—The following is a summary of the statistics of this Church as they were reported to the General Assembly in May, 1902: Number of synods, 32; of presbyteries, 233; of churches, 7,748; of ministers, 7,017; of candidates, 810; of local evangelists, 123; of elders, 28,938; of deacons, 10,274; of communicants, 1,045,338; of members of Sabbath-schools, 1,063,683; of members added on examination during the year, 65,889; of baptisms, 23,279 of adults and 26,043 of infants; net increase of members during the year, 19,950; amount of contributions for the year—for home missions, \$1,203,453; for foreign missions, \$898,079; for education, \$105,301; for Sabbath-school work, \$136,757; for church erection, \$261,034; for the Relief fund, \$107,718; for the freedmen, \$145,611; for synodical aid, \$100,062; for aid for colleges, \$425,421; for the General Assembly, etc., \$84,926; for congregational expenses, \$12,575,456; miscellaneous contributions, \$1,036,373; total contributions, according to the footing of the tables, \$17,080,191.

The Board of Education reported to the General Assembly that it had met all its financial engagements without incurring any debt, but had a somewhat diminished balance. The receipts from churches, Sabbath-schools, and Young People's Societies had amounted to \$44,179, as compared with \$43,940 in 1901. The number of candidates for the ministry having been unusually small, they had been given the highest rate of allowance since 1894, and \$55,530 had been paid to 572 beneficiaries. One hundred and forty new recommendations had been favorably acted upon, and 432 recommendations renewed. Of the candidates under care, 217 were theological students, 220 college students, and 35 preparing for college. One was a Bohemian, 77 were colored men, 29 Germans, and 4 Spanish speaking. There had been a decided falling off in the number of Spanish-speaking students.

The Board of Aid for Colleges had received \$222,836, and had aided 24 institutions to meet current expenses, given interest on trust funds to 3, and helped 16 in their endowment.

The Board of Relief for Disabled Ministers and the Widows and Orphans of Ministers reported that it had had on its roll 906 cases of ministers, widows, orphan families, missionaries, and guests at its home in Perth Amboy, N. J., and had paid \$43,075 to honorably retired ministers. The names of 29 ministers had been added to the honorably retired roll, making 151 in all, of whom 11 had died. Eighty new names had been added to the

roll of annuitants. The average amount paid to annuitants on the honorably retired roll was \$285.26, and the average to annuitants not on the roll was \$180. The receipts for the year had been \$231,447, and the expenditures \$223,441. The balance in the permanent fund was \$44,801. The annuity fund amounted to \$42,385. The whole amount of investment funds was \$1,564,935.

The Board of Publication and Sabbath-School Work had 97 missionaries and 2,134 schools, in 31 of the United States, and in Cuba. The sale of books and periodicals had amounted to \$488,542, of which \$175,749 were devoted to the missionary work of the department. The report recommended the printing of literature in the Hungarian language for the instruction of parents in the training of their children.

The Board of Church Erection reported to the General Assembly that its total receipts for the year had been \$193,275, and its disbursements \$205,269. Aid had been given in the building of 259 new churches. Since the board's work was started, in 1845, 7,159 churches had been aided, with a total sum of \$4,353,492. The report embodied a recommendation that churches asking for appropriations should regard the sums granted to them not as gifts, but as loans, to be paid back in a fixed annual proportion, without interest.

The Board of Home Missions reported that the whole amount of contributions to its funds for the year had been \$884,692, and that the sums used by the self-supporting missions would bring the total sum applied to this work to \$940,295. A balance of \$4,000 remained at the end of the year. Eighty-nine churches that had been assisted had ceased to ask for aid from the board, and 430 churches had asked for smaller sums than they had received during the preceding year. Including 26 Mexican and Indian helpers, 1,350 missionaries and 490 missionary teachers had been employed, who returned 7,885 additions on profession of faith with a total church-membership of 74,457; an attendance of 84,354 in the congregations; 3,383 baptisms of adults and 3,256 of infants; 1,850 Sabbath-schools, with 116,497 members; 70 churches and 223 Sabbath-schools organized; 89 churches reached self-support; and \$120,409 of church debts canceled. The board was commended by the General Assembly for its policy of promoting efforts toward self-support by home mission churches; and the churches were advised, so far as they are able, to undertake to provide for the support of at least one home missionary.

The Woman's Presbyterian Board of Foreign Missions of the Southwest held its twenty-fifth annual meeting in St. Louis, Mo., April 24. The report showed that the board had 22 missionaries in the field, 18 of whom were supported by single societies or by individuals as a special work.

The Board of Missions to the Freedmen reported that the receipts for the year had been \$185,804, and that a balance of \$4,057 remained on hand. The freedmen's schools and churches had besides contributed \$88,254 for self-support. The receipts had been larger than for any of the eight years preceding. Nearly 11,000 pupils had come under Presbyterian influence. The number of ministers in the field had increased from 201 to 209, and the number of churches and ministers from 342 to 353.

The Board of Foreign Missions reported that its receipts for the past year had been \$1,097,636, being the largest in its history. For five years the board had reported "no debt," and each year the receipts had been larger than in the year preceding. There had also been received \$244,782

toward the payment of the mortgage on the Presbyterian Building in New York, on which only \$150,000 were now unpaid. The building was yielding a gross income, exclusive of the quarters occupied by the two boards, of \$118,130 a year. The force in the field was growing year by year, and now comprised 745 missionaries and 1,882 native helpers, with 610 organized churches, 769 schools and colleges, and 84 hospitals and dispensaries. In 77 hospitals and dispensaries under the care of the board 340,878 patients had been treated at a net cost of \$22,009. Forty-eight newly appointed missionaries had been sent out, besides 58 returning to the field, and 56 were under appointment to go out.

The General Assembly met in the city of New York, May 15. The Rev. Henry Van Dyke, D. D., was chosen moderator. The Special Committee on Revision of the Confession of Faith presented a report covering two divisions: I. Certain revisions of the Confession of Faith, in certain special parts of it, and concerning certain specified subjects, by the method of textual modification or by declaratory statement, or additional statements, to be passed upon by the Assembly for submission to the presbyteries. II. A Brief Statement of the Reformed Faith, to be submitted to the Assembly for such disposition as might be judged to be wise. In the first division, 11 overtures were proposed, to be set down to the presbyteries, as follows:

"Overture No. 1. Shall the following preamble to a declaratory statement be adopted, viz.?

"While the ordination vow of ministers, ruling elders, and deacons, as set forth in the Form of Government, requires the reception and adoption of the Confession of Faith only as containing the system of doctrine taught in the Holy Scriptures, nevertheless, seeing that the desire has been formally expressed for a disavowal by the Church of certain inferences drawn from statements in the Confession of Faith, and also for a declaration of certain aspects of revealed truth which appear at the present time to call for more explicit statement, therefore the Presbyterian Church in the United States of America does authoritatively declare as follows:

"Overture No. 2. Shall the following declaratory statement be adopted as to chapter iii of the Confession of Faith?

"First, with reference to chapter iii of the Confession of Faith; that concerning those who are saved in Christ, the doctrine of God's eternal decree is held in harmony with the doctrine of his love to all mankind, his gift of his Son to be the propitiation for the sins of the whole world, and his readiness to bestow his saving grace on all who seek it. That concerning those who perish, the doctrine of God's eternal decree is held in harmony with the doctrine that God does not desire the death of any sinner, but has provided in Christ a salvation sufficient for all, adapted to all, and freely offered in the Gospel to all; that men are fully responsible for their treatment of God's gracious offer; that his decree hinders no man from accepting that offer; and that no man is condemned on the ground of his sin:

"Overture No. 3. Shall the following declaratory statement be adopted as to chapter x, section 3, of the Confession of Faith?

"Second, with reference to chapter x, section 3, of the Confession of Faith, that it is not to be regarded as teaching that any who die in infancy are lost. We believe that all dying in infancy are included in the election of grace, and are regenerated and saved by Christ through the Spirit, who works when and where and how he pleases.

"Overture No. 4. Shall foot-notes be appended to chapter iii and chapter x, section 3, of the Confession of Faith, reading (as above)?

"Overture No. 5. Shall section 7, chapter xvi, of the Confession of Faith be changed so as to read—

"Works done by unregenerate men, although they may be for the matter of them things which God commands, and in themselves praiseworthy and useful, and although the neglect of such things is sinful and displeasing unto God, yet because they proceed not from a heart purified by faith, nor are done in a right manner, according to his Word, nor to a right end, the glory of God; they come short of what God requires, and do not make any man meet to receive the grace of God.

"Overture No. 6. Shall the last clause in section 3, chapter xxii, of the Confession of Faith, which reads as follows, be stricken out? "Yet it is a sin to refuse an oath touching anything that is good and just, being imposed by lawful authority.

"Overture No. 7. Shall the following sentence be substituted for section 6, chapter xxv, of the Confession of Faith?

"VI. The Lord Jesus Christ is the only head of the Church, and the claim of any man to be the vicar of Christ and the head of the Church is unscriptural, without warrant in fact, and is a usurpation dishonoring to the Lord Jesus Christ.

"Overture No. 8. Shall the following preamble be adopted, viz.?

"Whereas, It is desirable to express more fully the doctrine of the Church concerning the Holy Spirit, missions, and the love of God for all men, the following chapters are added to the Confession of Faith.

"Overture No. 9. Shall a chapter be added to the Confession of Faith, to be numbered chapter xxxiv, and entitled Of the Holy Spirit, as follows?

"CHAPTER XXXIV. OF THE HOLY SPIRIT.

"I. The Holy Spirit, the third person in the Trinity, proceeding from the Father and the Son, of the same substance, and equal in power and glory, is together with the Father and the Son, to be believed in, loved, obeyed, and worshiped throughout all ages.

"II. He is the Lord and Giver of Life, everywhere present in nature, and is the source of all good thoughts, pure desires, and holy councils in men. By him the prophets were moved to speak the Word of God, and all writers of the Holy Scriptures inspired to record infallibly the mind and will of God. The dispensation of the Gospel is especially committed to him. He prepares the way for it, accompanies it with his persuasive power, and urges its message upon the reason and conscience of men, so that they who reject its merciful offer are not only without excuse, but are also guilty of resisting the Holy Spirit.

"III. The Holy Spirit, whom the Father is ever willing to give to all who ask him, is the only efficient agent in the application of redemption. He convicts men of sin, moves them to repentance, regenerates them by his grace, and persuades and enables them to embrace Jesus Christ by faith. He unites all believers to Christ, dwells in them as their comforter and sanctifier, gives to them the spirit of adoption and prayer, performs all those gracious offices by which they are sanctified and sealed unto the day of redemption.

"IV. By the indwelling of the Holy Spirit all believers being vitally united to Christ, who is the head, are thus united one to another in the Church, which is his body. He calls and anoints

ministers for their holy office, qualifies all other officers in the Church for their special work, and imparts various gifts and graces to its members. He gives efficacy to the word and to the ordinances of the Gospel. By him the Church will be preserved, increased until it shall cover the earth, purified, and at last made perfectly holy in the presence of God.

"Overture No. 10. Shall the following chapter on the Gospel be added to the Confession of Faith and numbered xxxv?

"CHAPTER XXXV. OF THE GOSPEL.

"I. God, in infinite and perfect love, having provided in the covenant of grace, through the mediation and sacrifice of the Lord Jesus Christ, a way of life and salvation sufficient for and adapted to the whole race of man, doth freely offer this salvation to all men in the Gospel.

"II. In the Gospel God declares his love for the world, and his desire that all men should be saved; reveals fully and clearly the only way of salvation; promises eternal life to all who truly repent and believe in Christ; invites and commands all to embrace the offered mercy; and by his Spirit accompanying the Word pleads with men to accept his gracious invitation.

"III. It is the duty and privilege of every one who hears the Gospel immediately to accept its merciful provisions; and they who continue in impenitence and unbelief incur aggravated guilt and perish by their own fault.

"IV. Since there is no other way of salvation than that revealed in the Gospel, and since in the divinely established and ordinary method of grace faith cometh by hearing the Word of God, Christ hath commissioned his Church to go into all the world and to make disciples of all nations. All believers are, therefore, under obligation to sustain the ordinances of religion where they are already established, and to contribute by their prayers, gifts, and personal efforts to the extension of the kingdom of Christ throughout the whole earth.

"Overture No. 11. Shall any change in the numbers appearing in the declaratory statement, in the numbering of the new chapters, and in the wording of the preamble proposed in Overture No. 8, made necessary by the adoption of any or some of the above overtures, be committed to the chairman of the Revision Committee under the direction of the General Assembly?"

The understanding of the committee of the work enjoined upon it in the preparation of the Brief Statement of the Reformed Faith found expression in the following resolution, which appears in its records:

"Resolved, That it is the sense of this committee that the Brief Statement of the Reformed Faith which the Assembly has ordered us to prepare should be made with the view to inform and enlighten the people in regard to the significance and religious meaning of the Reformed Faith, and not with the view of becoming a test of orthodoxy for ministers, elders, and deacons."

The following is the Brief Statement of the Reformed Faith constituting the second part of the report:

"ARTICLE I—Of God.—We believe in the ever-living God, who is a spirit, and the Father of our spirits; infinite, eternal, and unchangeable in his being and perfections; the Lord Almighty, most just in all his ways, most glorious in holiness, unsearchable in wisdom, and plenteous in mercy, full of love and compassion, and abundant in goodness and truth. We worship him, Father, Son, and Holy Spirit, three persons in one God-

head, one in substance and equal in power and glory.

"ART. II—Of Revelation.—We believe that God is revealed in nature, in history, and in the heart of man; that he has made gracious and clearer revelations of himself to men of God who spoke as they were moved by the Holy Spirit; and that Jesus Christ, the Word made flesh, is the brightness of the Father's glory and the express image of his person. We gratefully receive the Holy Scriptures, given by inspiration, to be the faithful record of God's gracious revelations and the sure witness to Christ, as the Word of God, the only infallible rule of faith and life.

"ART. III—Of the Eternal Purpose.—We believe that the eternal, wise, holy, and loving purpose of God embraces all events, so that while the freedom of man is not taken away, nor is God the author of sin, yet in his providence he makes all things work together in the fulfilment of his sovereign design and the manifestation of his glory; wherefore, humbly acknowledging the mystery of this truth, we trust in his protecting care and set our hearts to do his will.

"ART. IV—Of the Creation.—We believe that God is the creator, upholder, and governor of all things; that he is above all his works and in them all; and that he made man in his own image meet for fellowship with him, free and able to choose between good and evil, and forever responsible to his maker and Lord.

"ART. V—Of the Sin of Man.—We believe that our first parents, being tempted, chose evil, and so fell away from God and came under the power of sin, the penalty of which is eternal death; and we confess that, by reason of this disobedience, we and all men are born with a sinful nature, that we have broken God's law, and that no man can be saved but by his grace.

"ART. VI—Of the Grace of God.—We believe that God, out of his great love for the world, has given his only begotten Son to be the Saviour of sinners, and in the Gospel freely offers his all-sufficient salvation to all men. And we praise him for the unspeakable grace wherein he has provided a way of eternal life for all mankind.

"ART. VII—Of Election.—We believe that God, from the beginning, in his own good pleasure, gave to his Son a people, an innumerable multitude, chosen in Christ unto holiness, service, and salvation; we believe that all who come to years of discretion can receive this salvation only through faith and repentance; and we believe that all who die in infancy, and all others given by the Father to the Son who are beyond the reach of the outward means of grace, are regenerated and saved by Christ through the Spirit, who works when and where and how he pleases.

"ART. VIII—Of Our Lord Jesus Christ.—We believe in and confess the Lord Jesus Christ, the only mediator between God and man, who, being the Eternal Son of God, for us men and for our salvation became truly man, being conceived by the Holy Ghost and born of the Virgin Mary, without sin; unto us he has revealed the Father, by his Word and Spirit, making known the perfect will of God; for us he fulfilled all righteousness and satisfied eternal justice, offering himself a perfect sacrifice upon the cross to take away the sin of the world; for us he rose from the dead and ascended into heaven, where he ever intercedes for us; in our hearts, joined to him by faith, he abides forever as the indwelling Christ; over us, and over all for us, he rules; wherefore, unto him we render love, obedience, and adoration as our prophet, priest, and king forever.

"ART. IX—Of Faith and Repentance.—We be-

lieve that God pardons our sins and accepts us as righteous, solely on the ground of the perfect obedience and sacrifice of Christ, received by faith alone; and that this saving faith is always accompanied by repentance, wherein we confess and forsake our sins with full purpose of, and endeavor after, a new obedience to God.

"ART. X—Of the Holy Spirit.—We believe in the Holy Spirit, the Lord and Giver of Life, who moves everywhere upon the hearts of men, to restrain them from evil and to incite them unto good, and whom the Father is ever willing to give unto all who ask him. We believe that he has spoken by holy men of God in making known his truth to men for their salvation; that, through our exalted Saviour, he was sent forth in power to convict the world of sin, to enlighten men's minds in the knowledge of Christ, and to persuade and enable them to obey the call of the Gospel; and that he abides with the Church, dwelling in every believer as the spirit of truth, of holiness, and of comfort.

"ART. XI—Of the New Birth and the New Life.—We believe that the Holy Spirit only is the author and source of the new birth; we rejoice in the new life, wherein he is given unto us as the seal of sonship in Christ, and keeps loving fellowship with us, helps us in our infirmities, purges us from our faults, and ever continues his transforming work in us until we are perfected in the likeness of Christ, in the glory of the life to come.

"ART. XII—Of the Resurrection and the Life to Come.—We believe that in the life to come the spirits of the just, at death made free from sin, enjoy immediate communion with God and the vision of his glory; and we confidently look for the general resurrection in the last day, when the bodies of those who sleep in Christ shall be fashioned in the likeness of the glorious body of their Lord, with whom they shall live and reign forever.

"ART. XIII—Of the Law of God.—We believe that the law of God, revealed in the Ten Commandments, and more clearly disclosed in the words of Christ, is forever established in truth and equity, so that no human work shall abide except it be built on this foundation. We believe that God requires of every man to do justly, to love mercy, and to walk humbly with his God; and that only through this harmony with the will of God shall be fulfilled that brotherhood of man wherein the kingdom of God is to be made manifest.

"ART. XIV—Of the Church and the Sacraments.—We believe in the Holy Catholic Church of which Christ is the only head. We believe that the Church Invisible consists of all the redeemed, and that the Church Visible embraces all who profess the true religion together with their children. We receive to our communion all who confess and obey Christ as their divine Lord and Saviour, and we hold fellowship with all believers in him. We receive the sacraments of baptism and the Lord's Supper, alone divinely established and committed to the Church together with the Word, as means of grace; made effectual only by the Holy Spirit, and always to be used by Christians with prayer and praise to God.

"ART. XV—Of the Last Judgment.—We believe that the Lord Jesus Christ will come again in glorious majesty to judge the world and to make a final separation between the righteous and the wicked. The wicked shall receive the eternal award of their sins, and the Lord will manifest the glory of his mercy in the salvation of his people and their entrance upon the full enjoyment of eternal life.

"ART. XVI—Of Christian Service and the Final Triumph.—We believe that it is our duty, as servants and friends of Christ, to do good unto all men, to maintain the public and private worship of God, to hallow the Lord's Day, to preserve the sanctity of the family, to uphold the just authority of the state, and so to live in all honesty, purity, and charity that our lives shall testify of Christ. We joyfully receive the word of Christ, bidding his people go into all the world and make disciples of all nations, and declare unto them that God was in Christ reconciling the world unto himself, and that he will have all men to be saved, and to come to the knowledge of the truth. We confidently trust that by his power and grace, all his enemies and ours shall be finally overcome and the kingdoms of this world shall be made the kingdom of our God and of his Christ. In this faith we abide; in this service we labor, and in this hope we pray."

The discussion over this report was short and showed a preponderance of sentiment in the Assembly in favor of the propositions embodied in it. The Assembly resolved that so much of the report as related to the 11 overtures be adopted with a view to the sending of the overtures to the presbyteries in due form; and that the Brief Statement be adopted and printed with the approval of the Assembly for use in the Church, "to instruct the people and to give a better understanding of our doctrinal beliefs." A report containing proof-texts of the doctrines affirmed accompanying these papers was also adopted.

The present being the one hundredth year since the institution of mission work by the General Assembly, the annual appointment of a Committee of Missions having been first provided for by the General Assembly of 1802, the anniversary was commemorated with special services, supplemented by a public meeting which was addressed by the moderator, the Rev. Dr. Charles L. Thompson, and President Theodore Roosevelt. The report on temperance mentioned a growing demand for temperance literature, increased attention to the cause of temperance in the Young People's Societies, and continued interest in temperance teaching in the Sabbath-school. The Assembly's resolutions suggested a memorial to Congress in behalf of legislation to prohibit the sale of intoxicating liquors at old-soldiers' homes and in Government buildings. The report on the Sabbath called attention to the tactics of the friends of the secularization of the day and embodied resolutions, which were adopted, reprobating all games and sports on the Lord's Day; deprecated the use of that day for traveling, "either for business or pleasure, by private individuals or public officials, notably such as occurred during the recent entertainment of a foreign guest"; disapproved of political conferences on the Lord's Day; and urged the captains of industry and all corporate officials and employers of labor to safeguard the men under their employ in the right to their day of rest. In the matter of vacancy and supply, the committee on the subject were agreed in recommending a plan for bringing vacant churches and unemployed ministers together, but a proposition in the minority report for the appointment of a permanent advisory committee of 3 ministers and 3 elders was not accepted by the Assembly. A committee was appointed to confer with the committee of the Protestant Episcopal Church and committees that may be appointed by other churches, "with a view to securing some concerted opinion and action by the churches of America relative to divorce and remarriage, and so to affect public

opinion that uniform legislation may be enacted by the States that will conserve the family institution and preserve the sanctity of the marriage bond." Ministers were urged to instruct their congregations on the subject, and to "exercise due diligence before the celebration of a marriage to ascertain that there exist no impediments thereto, as defined in our Confession of Faith." A committee was appointed to report to the next General Assembly as to plans for encouraging Young People's Societies in the Church. As to theological seminaries, the Assembly resolved, "that in view of the restless spirit of the times in which we live and the dangerous influence exerted by some revolutionary theories, we do affectionately exhort the governing boards of all our seminaries to exercise the utmost caution in the election of professors. And in view of the assaults recently made on that which we regard as the vital truth as to the nature and inspiration of the Scriptures, and particularly in view of the assaults on the integrity and authority of the Old Testament, we do reaffirm the historic faith of the Church in the oracles of God as the veracious record of his dealings with men from the beginning of human history. It is our unshaken belief that these sacred books were written by holy men of old, who spoke as they were moved by the Holy Spirit, and that this fact has the solemn witness of the apostles and of the Lord Jesus Christ himself."

II. Presbyterian Church in the United States (Southern).—The following is the summary of the statistics of this Church as published with the minutes of the General Assembly for 1902: Number of synods, 13; of presbyteries, 79; of candidates, 291; of licentiates, 62; of ministers, 1,501; of churches, 3,017; of communicants, 239,642; of members added on examination during the year, 10,405; of baptisms during the year, 3,624 of adults and 4,868 of infants; of baptized non-communicants, 42,312; of teachers in Sabbath-schools, 20,784; of pupils in Sabbath-schools, 149,482; of ruling elders, 9,130; of deacons, 7,887; amount of contributions—for home missions (Assembly), \$31,145; for evangelistic work (local), \$130,469; for Ministers' Relief, \$19,401; for foreign missions, \$131,756; for education, \$132,521; for publication, \$9,087; for colored evangelization, \$12,743; for the Bible cause, \$4,767; presbyterial, \$16,932; for pastors' salaries, \$820,193; congregational, \$807,383; miscellaneous, \$111,252; total, according to the footing of the tables, \$2,227,649; average contribution per member, \$9.70. The figures show an increase for the year of 16 ministers, 26 churches, 1,651* communicants, and 1,693 teachers in Sabbath-schools; a decrease of 85 pupils in Sabbath-schools; and an increase of \$61,960 in total contributions. A comparison with the statistics of 1882 shows a gain in twenty years of 39 per cent. in the number of ministers, 50 per cent. in that of churches, 85 per cent. in communicant membership, and 97 per cent. in the total amount of contributions.

The Executive Committee of Ministerial Relief, instituted by the General Assembly of 1901, reported that it had completed its organization and had been incorporated under the laws of Virginia. The sum of \$4,475 had been contributed toward an endowment fund, and was bearing interest. A plan had been presented to the churches asking their cooperation for obtaining an adequate endowment through systematic contributions of an

average of 10 cents per member per month for five years; but the responses had not as yet been liberal. Toward the Annual Support fund of \$20,000 asked for by the General Assembly of 1901, \$14,897 had been contributed. The committee had made appropriations averaging \$100 each to 145 beneficiaries, but had been able to pay only 90 per cent. of the amounts.

Seventy-six out of the 77 white presbyteries, and a number of societies and individual friends were cooperating with the Executive Committee of Education for the Ministry. The total receipts of the committee had been \$13,509, as compared with \$11,579 in 1901. One hundred and sixty-two beneficiaries had been aided, as compared with 166 in the previous year. The maximum of aid given had been raised from \$75 to \$85. The report noted a continued decline in the number of beneficiaries.

The total receipts of the Executive Committee of Home Missions had been \$35,294. The previous year's deficiency of \$6,526 had been removed. Including six missionaries employed among the Mexicans, 132 ministers and teachers had been supported in whole or in part, and 325 churches aided. Circumstances had permitted but little to be appropriated for church erection, of which 6 cases had been aided, with \$1,545. The fund of \$5,000 known as the Moore fund, left by the testator for the aid of feeble churches in the erection of houses of worship by loans at 3 per cent., had been very helpful to at least 20 or more churches, 4 churches having taken advantage of it during the past year. There were now of it \$2,506 secured by mortgage and \$2,717 in cash. Of the 8 schools in the Indian Territory, aggregating 17 teachers and nearly 900 pupils, about half had developed into self-sustaining schools. Durant College returned 6 professors and nearly 300 students, and had erected a new brick building. Two evangelists and 3 native preachers were engaged in the Mexican work in Texas, which returned 11 churches and 10 Sabbath-schools. More native preachers were needed there.

The Executive Committee of Colored Evangelization had paid to colored ministers and churches \$4,231, and reported more than 2,000 communicants in 84 churches. Its work was "characterized by encouraging development in every part of it, rather than by the conspicuous growth of any one department." Five new churches had been organized, 8 church buildings erected or purchased, the committee aiding in the cases of 5 of the number, and 35 colored mission Sabbath-schools maintained, with 170 teachers and 2,270 pupils. In the case of the Sabbath-schools, the difficulty was said to be "not to gather the children, but to find Christians willing to teach them." The committee had decided to put the students of Stillman Institute upon a self-supporting basis, and to purchase the Ferguson-Williams College, at Abbeville, S. C. Besides these institutions 2 other schools for colored pupils were mentioned in the report.

The Executive Committee of Foreign Missions reported that although it had been very much embarrassed by the lack of sufficient funds, it had closed the year without debt. The receipts from all sources had been \$164,883, being \$1,827 more than the receipts of the previous year. Among the principal events in the foreign field noted were a larger number of professed conversions in Africa than in any previous year, although the force of workers had been reduced; the warm welcome given by the people to the returning missionaries in China; a spirit of self-help among the native Christians in Korea; revival in Japan; the organization of an independent synod

* After making up the tables an error in the addition was discovered by which the increase in membership was made to appear 1,013 less than it actually was. The true increase was 2,664.

in Mexico; and progress in independence in Brazil, where the secretary of the committee had visited the missions.

The Committee on the Twentieth Century Fund reported that ten of the synods had undertaken to raise \$1,720,000 for the fund, while no report had been received from the Synod of Kentucky; and that \$423,000 had been contributed and subscribed up to April 1. About 50 colleges, high schools, presbyterial schools, etc., were expecting to be aided by the fund. The report was hopeful of the ultimate success of the enterprise, and represented that the interest in it, while not universal, was "wide-spread and deepening wherever any means are used to awaken and foster it."

The General Assembly met at Jackson, Miss., May 15. The Rev. W. T. Hall, D. D., of Columbia Theological Seminary, was chosen moderator. Upon the presentation of the report of the Kentucky Theological Seminary, an institution formed by the consolidation of the Louisville Theological Seminary of this Church and the Danville Theological Seminary of the Northern Presbyterian Church, to be under the jurisdiction of the Northern Presbyterian and Southern Presbyterian Synods in Kentucky and the two General Assemblies jointly, the question was raised as to what should be the future relations of the General Assembly to the institution. Could the General Assembly with propriety sanction a division of its control? Upon the report and recommendation of the Committee on Theological Seminaries, the Assembly decided that the action of the previous General Assembly, assenting to the consolidation, be left undisturbed; that questions relative to the teaching of the Standards as they now are, or as they might be modified in the future, are not germane to the present matter, as it lies within the power of the controlling synods; and that the rights of the Assembly to grant authority to another denomination to pass upon the orthodoxy of its ministers and to receive reports from a seminary in whole or in part under the control of another denomination, which had been questioned, were involved in the constitutional right of the General Assembly to cooperate with other denominations in the prosecution of Christian work. It was shown in the debate on this subject that by the terms of the consolidation of the seminaries the General Assembly was vested with power to insist upon the teaching of its present Confession of Faith for all time. A number of overtures had been sent up expressing dissatisfaction over the action of the previous General Assembly on the subject of infant salvation, some of them asking the Assembly to rescind parts of it, and others desiring that some declaratory or explanatory statement be made that shall clear the Church of the imputation of teaching that some dying in infancy are eternally lost; while others sought the amendment of the Confession so that it shall teach in unmistakable terms the salvation of all who die in infancy. The Assembly of 1900, in view of the use of the words "elect infants" in it, had ordered a footnote appended to the section declaring that it could not, by any fair interpretation, be construed to teach that any of those who die in infancy are lost. The Assembly of 1901 rescinded this action, and gave five reasons why it should not act to modify the paragraph containing the words, the fifth of which was "because, while we have a well-grounded hope, founded on Scripture, that all infants dying in infancy are saved, yet the Confession of Faith goes as far as the Scriptures justify a positive creedal statement upon this subject." By the action of the present

Assembly this fifth reason was rescinded; a declaration was made that "this Assembly is fully persuaded that the language employed in chapter x, section 3, of our Confession of Faith, touching infants dying in infancy, does not teach that there are any infants dying in infancy who are damned, but is only meant to show that those who die in infancy are saved in a different manner from adult persons who are capable of being outwardly called by the ministry of the Word. Furthermore, we are persuaded that the Holy Scriptures, when fairly interpreted, amply warrant us in believing that all infants who die in infancy are included in the election of grace, and are regenerated and saved by Christ through the spirit." For the more efficient provision of ministerial relief, all the presbyteries and all the churches were requested to appoint committees on that cause; a secretary was appointed over this business, to devote his whole time to it; a collection was advised to be taken every year in July in every church for the cause; and the work of the home and school at Fredericksburg, Va., being regarded as virtually a branch of ministerial relief, its Board of Trustees and the Executive Committee on Ministerial Relief were directed to consider the wisdom and feasibility of consolidating those two branches of the domestic work of the Church under one management. Provision was made for the equitable apportionment of the debt of the home and school for its payment among the 79 presbyteries. The Permanent Committee on the Church and Christian Education reported concerning the collections and the organization and projection of schools under the Twentieth Century fund scheme, and that the day school had been made a part of the home mission work in some of the presbyteries; and the Assembly reaffirmed its belief that the synods and presbyteries and congregations "must bend every energy to maintain and extend the system of Christian education established by the founders of the Presbyterian Church. To this end the support and patronage of this Assembly will be given only to those academies and colleges in which Biblical and spiritual instruction is combined with the usual courses of study in classical, scientific, and literary subjects." A committee was appointed to prepare a catechism on the history of the Church. Ministers were urged to keep the subject of the sanctity of the Sabbath constantly before the people; members to keep the day holy "according to the teaching of God's Word," abstaining from all forms of Sabbath desecration, and to build up in every way a healthy public sentiment on the subject; sessions to take steps to bring the question home to the minds and hearts of the members; and each presbytery to hold a popular service for the consideration of the subject. An amendment to the Book of Church Order was approved, to be sent down to the presbyteries, omitting the requirement of a Latin thesis on the examination of candidates for ordination.

Afro-American Synod.—The Independent Afro-American Synod received a charter in 1901 from the State of South Carolina. At the meeting of the synod in that year, at Abbeville, S. C., a report on Narrative and Prospects was adopted, recognizing the great need of a separate and distinct negro Presbyterian Church and work, for the more effectual reaching of the colored people and the developing in them of "those higher principles of morality and religion and a more stalwart Christian manhood and womanhood"; they would therefore make the greatest efforts to establish, at the earliest time compatible with

good judgment, reason, and the demands of their growing work as an aggressive church, an Afro-American Presbyterian General Assembly. The fifth meeting of the Synod was held near Roulard, N. C., Nov. 20 to 23, 1902. Much interest was manifested in education and Sabbath-school work. The report of the treasurer showed a decided increase in revenues over all previous years. A fund for foreign missions was in hand, which would be augmented till the church had sufficient to put a missionary of its own in the foreign field. The mortgage on Ferguson and Williams College, Abbeville, had been paid, and the institution was free from debt.

The colored churches under the care of the Southern Presbyterian Assembly's Committee of Evangelistic Labor include churches in two presbyteries in organic relations to the Southern Church; churches in three presbyteries in connection with the Afro-American Synod; and 8 or 10 inchoate synods—all containing 53 colored ministers and 86 churches, with 2,204 communicants, 3,147 members of Sabbath-schools, and returning 212 additions on profession during the past year, with collections of \$1,046 for the maintenance of their pastors and \$1,965 for congregational and miscellaneous purposes. In four years these churches had added about 50 per cent. to their membership and doubled the amount of their contributions. Instruction was provided for their people at three institutions.

Independent Synod of Mexico.—The statistical report of the Independent Synod of Mexico shows that it has 4 presbyteries, 73 organized churches, 190 congregations, 63 Mexican preachers, and 5,508 communicants.

III. United Presbyterian Church in North America.—The following is the summary of the statistics of this Church for 1902, as published in May: Number of synods, 13; of presbyteries, 68; of ministers, 1,019; of pastoral charges, 843; of congregations, 989; of members, 132,476, of whom 117,874 were in America and the rest in the foreign mission synods; of Sabbath-schools, 1,226, with 13,498 officers and teachers and 120,133 pupils; of mission stations, 30 in America and 637 in the foreign field; of baptisms during the year, 4,048 of infants and 1,973 of adults, of which 3,030 of infants and 1,221 of adults were in America; of members received on profession, 7,332, of whom 5,846 were in America; of Young People's Societies, 1,036, with 39,715 members. Amount of contributions (in America): For salaries of ministers, \$626,780; for congregational purposes, \$652,710; for the boards, \$357,595; for general purposes, \$206,150; total for America, \$1,843,235; total for the Church (including the foreign stations), \$1,874,514. Average contribution per member in America, \$15.87; average salary of pastors in America, \$1,010. Of the ministers recorded in the tables, 730 were classed as pastors and stated supplies, and 289 as without charge; of the congregations, 820 as provided with pastors or stated supplies, and 169 as vacant.

The Board of Education reported to the General Assembly that it had been able during the year to pay the beneficiaries only two-thirds of the allowance authorized. To the college and seminaries the full amount was paid, \$10,000—a sum equal to the income of an endowment of \$200,000. The presbyteries were requested by the General Assembly to assist the board in every effort to obtain from ministers withdrawing from the Church a return of what they had received. The board was advised to enlarge as rapidly as possible the department of work in behalf of the Church's higher institutions of learning.

The Board of Ministerial Relief reported that the number of beneficiaries had increased to 80, of whom 33 were ministers and the others widows and orphans. Of these, 14 had been added during the year.

The Board of Home Missions had expended \$91,385, an increase of \$3,232 over the preceding year, and reported no debt to be provided for. It had 229 stations under its care, with an average attendance of 19,429 on preaching services and 23,120 on Sabbath-schools. The net gain in membership of the Church was 1,614, making a total enrolment of 18,285. The stations had contributed \$24,842 to the boards and \$95,112 to their own local work. Twelve congregations had become self-sustaining. The whole amount of grants of aid was \$103,000, \$15,450 of which were for 38 cases of new work. The Assembly recommended that the suggestion of "volunteer service" on the home field on the part of students just leaving the theological seminary be put in operation as far as practicable; and that the work among the mountain whites of the South be kept under advisement in the hope that means may be granted for engaging in it.

The Board of Freedmen's Missions closed the year with a debt increased to \$25,052. The average of contributions of the freedmen for church purposes had been \$4.82 per member.

The Board of Church Extension had expended \$52,857 in aid given to congregations, an increase of \$12,857 over the preceding year. The General Assembly directed that statistics of church indebtedness be collected and reported to the next Assembly. The assignment of the entire department of parsonage work to the Woman's Board was approved of.

The report of the Board of Foreign Missions showed that the Egyptian mission, urged by a necessity, had overdrawn its allowance \$5,848. The General Assembly, recognizing an exceptional case, authorized the payment of the amount, with a reservation against the action being taken as a warrant for the contraction of debts by a mission without the knowledge of the board. The projects of establishing a high school or college at Cairo and of erecting a house for the theological seminary in India were commended, provided funds are supplied from outside the regular channels of contribution.

The mission in India returned for 1901 56 foreign workers, 14 ordained native ministers, 346 native helpers of all sorts; 22 organized congregations, 4 of which were self-supporting and 10 had pastors; 60 unorganized circles; 1,036 members received on profession during the year, 468 baptisms of adults and 744 of infants—a total of 7,722 church-members, with 5,159 pupils in Sabbath-schools and 7,549 in other schools; and contributions for all purposes of \$10,300. The net year's increase of members was 851. Increase appeared also in most of the other items. The Gujranwala boys' high school had the largest attendance in its history, with more than 1,000 pupils on its rolls, and was practically self-supporting.

The report of the Woman's Board of Missions showed that during the year \$93,844 had been raised by the women of the Church, \$40,000 of which were denominated a thank-offering. It was represented that 100 per cent. of all money contributed for missionary purposes was expended on the objects designated. Twelve missionaries were employed in the home field and 21 industrial teachers and matrons had labored among the freedmen. In the parsonage work, with more than \$25,000 received and more than

\$24,000 expended, 18 congregations had been assisted—a larger number than ever in one year before. In the foreign missions the board supported 44 unmarried woman missionaries, besides providing for the entire maintenance of 2 boarding-schools, 3 hospitals, and 3 dispensaries. Special features mentioned in the report were the beginning of work on the new Martha J. McKown Hospital, at Tanta, Egypt; the girls' boarding-school at Seakote, India; a new school at Luxor, Egypt; and in America the Home for Aged People, the Orphan Home, the Memorial Hospital, and the Home for Missionaries' Children at New Wilmington, Pa.

The forty-fourth General Assembly met in Allegheny, Pa., May 28. The Rev. James C. Wilson, D. D., of Erie, Pa., was chosen moderator. The committee appointed by the previous General Assembly (see *Annual Cyclopædia* for 1901, p. 555) to prepare a revised and amended form of membership covenant for overture to the presbyteries, if it should prove acceptable to the Assembly, reported a form of covenant, and with it a new formula for the reception of members. The form embodied a declaration that the Scriptures are received as the revelation of the truth and the law of life; an expression of unqualified faith "in the one living and true God, the Father, the Son, and the Holy Spirit," and the personal acceptance of each person of the Godhead in his relation to us and our salvation; and a promise of submission in the Lord to the authorities of the Church, a willingness to receive with meekness instruction in the divine truth as set forth in the accepted Standards of the Church and a resolution to renounce the world, the flesh, and the devil, and to conform the life to the will of God; a promise of fidelity in attendance on public worship and in the observance of the sacraments, of personal service and financial support, a disposition to promote the peace, purity, and prosperity of the congregation, and a promise of daily prayer, Bible reading, and worship. These propositions were opposed in the debate by those who were satisfied with the present conditions of receiving members and desired no change, and the motion to overture the report to the presbyteries was lost by a vote of 103 to 118. A new committee was appointed to consider the subject further and report to the next Assembly. The General Assembly was asked by the Synod of the Punjab, India, in respect to the attitude to be taken and the course to be pursued regarding the proposed union of all the Presbyterian churches of India into one church, the "Church of Christ in India, Presbyterian." The answer of the Assembly was given in resolutions "that we approve of the principle of Presbyterian union in India, when in the providence of God the way is opened up and the time is ripe for such a movement; that reposing the utmost confidence in the wisdom and loyalty of our missionaries in India, we authorize them to take part in the work of preparation for the proposed union; and that when the whole scheme of doctrine and administration is completed, it be submitted in overture to the presbyteries in India, and reported, together with the vote on the same, to the General Assembly for approval or rejection." Relations were resumed with the General Synod of the Reformed Presbyterian Church after an interval of twenty years, and a fraternal delegate was appointed to the General Synod. The General Synod had withdrawn its mission from the Gujranwala district in India in favor of the United Presbyterian Church, and had sent its salutations by delegate

to the General Assembly. Progress was reported in the preparation of a uniform metrical version of the Psalms, which is in the hands of a joint committee of Psalm-singing churches, and the gratification of the Assembly was expressed. The overture on the limitation of appeals, having been approved by a majority of the votes cast in the churches, was declared adopted and ordered incorporated in the Book of Church Government.

The report of the Board of Publication noted an increased interest in Sabbath-schools. Their contributions had increased \$48,000 since 1890. In its resolutions on reform the Assembly advised that only such papers be admitted into home and school as would uplift and ennoble and tend to arouse to higher ideals; commended the curfew ordinances wherever enacted, and urged their enforcement; and asked the presbyteries to hold conferences and conventions on Sabbath observance. A committee was appointed in anticipation of the fiftieth year of the existence of the Church, six years hence, to prepare and report a plan for a suitable celebration of the event.

The Associate Reformed Synod of the South, at its ninety-ninth meeting in Pisgah Church, Gaston County, North Carolina, Nov. 6 to 10, appointed a committee on union to confer with a similar committee of the United Presbyterian Church for agreement on a basis of union of the two bodies, to be submitted to the next meeting of the synod and be handed down to the presbyteries in overture. This synod has 104 ministers, 151 churches, and 11,903 members, and sustains Erskine College, Due West, S. C., and a foreign mission in Mexico.

IV. Reformed Presbyterian Church in North America. Synod.—The following are the statistics of this body as reported at the meeting of the Synod in May, 1902: Number of congregations, 112; of mission stations, 9; of ministers, 126, 1 of whom is a native Syrian; of licentiates, 19, 5 of whom are Syrians; of theological students, 10, 1 of whom is a Syrian; of communicants, 9,722, showing a decrease of 77; of attendants at Sabbath-schools, 10,644; attendance upon Young People's Societies, 2,162; total amount of contributions, \$199,079.

The resources of the Board of Church Erection for the year had been \$2,896, and its disbursements \$1,900, leaving a balance of \$996. An appropriation of \$4,000 was asked for for the coming year. The applications on hand called for \$1,300, and steps were being taken toward making others.

The Board of Sustentation reported \$3,585 in its treasury, with 12 congregations asking for aid to the amount of \$3,785.

The Central Board of Missions reported the receipt of \$7,744 and the expenditure of \$8,049 on the account of the domestic mission and the receipt of \$4,668 and expenditure of \$4,574 for the Southern mission, with an enrolment of 543 in the school of the latter. The Indian mission in Oklahoma had received \$4,044, and returned 55 pupils in the schools. The accounts of the Chinese mission gave receipts \$1,229, and expenditures \$725; and of the Jewish mission, \$1,119 of receipts and \$1,080 of expenditures. The discontinuance of the Chinese mission was recommended.

A satisfactory report was made by the Board of Foreign Missions. Among the favorable features noted were the passing away of the hostile Russian influence, the increased attendance at the schools, the growth in the membership of the Church, and manifest blessing upon the labors

of the missionaries. The missions were in China, Asia Minor, Syria, and Cyprus.

The Synod met at Syracuse, N. Y., May 29. The Rev. W. W. Carrithers was chosen moderator. The reading of a letter from the Western section of the Presbyterian Alliance led to a discussion of the relations of the Synod and the alliance. The purpose of the alliance was held to be good, if it could be made sure that the principles of purity in worship would not be submerged. It was observed that the Western section had recently adopted papers advocating things to which the Church was opposed, and the question was raised whether comity required silence on those things or whether the Synod should protest. In the letter adopted to be sent to the alliance the Synod expressed itself as constrained to refer to certain passages in the reports of the Committee on Religious Liberty in the New Possessions and of the Committee on Moral Conditions in the New Territories. It disclaimed any responsibility for such expressions in those passages as might be quoted as favoring the divorce of religion and the commonwealth, and of religion and the schools, though they were acknowledged to be "mainly directed against the papal idea of the domination of the state by the Church. There is a failure herein to assert the true doctrine of the Reformed faith on these questions. As to a third report, that of the Committee on Cooperation in Foreign Missions, while this Synod favors the union in one native church of the missions in the foreign field that are one in doctrine, polity, and worship, yet we do not favor this step on the part of those missions which may differ in doctrine or worship, though they agree in polity. This subject of Church union, we believe, is in the province of the churches themselves, rather than of the alliance." In a paper on Peace and Arbitration, the Synod declared its belief in the wisdom and righteousness of the principle of peace between nations as among men, earnestly favoring the policy "that will draw nations nearer to each other and that will lead all peoples to cultivate a common friendship and a peaceful brotherhood. We urge arbitration as the proper method of settling difficulties between nations, and hold that the weakness of one party in a dispute should not work a forfeiture of its right to a fair hearing and an impartial judgment." The Synod pledged its support to all true temperance work; advised that the children be taught true temperance in the home and the Sabbath-school; approved of temperance institutions in Sabbath-schools; reaffirmed its former declarations against the use or sale of tobacco; and reiterated its protest against the Government protecting the evil of intemperance by law and receiving revenue therefrom. The work of the American Sabbath Union was commended, and the resolutions of the Synod required members of the Church to abstain from selling or delivering or receiving milk on the Sabbath Day, or from holding stock in Sabbath-breaking creameries and other Sabbath-breaking corporations; from working in any mill or factory and from any other unnecessary labor on that day; urged sessions to proceed with the enforcement of proper discipline upon those guilty of violating these rules; and enjoined presbyteries to see that sessions are faithful in the discharge of this duty. A letter was read from the Reformed Presbyterian Church, General Synod, in reference to closer cooperation.

V. Reformed Presbyterian Church, General Synod.—This body has 33 ministers, 37 churches, and 500 members. The meeting of the synod was

held in Philadelphia, Pa., in May. A resolution declaring that the General Synod "leaves to the wise discretion of the direction of the worship of their particular congregations" was discussed at some length, and defeated by a vote of 18 to 12.

VI. Cumberland Presbyterian Church.—Statistical reports are published in connection with the minutes of General Assembly of this church for 1902, of which the following is a summary: Number of synods, 16; of presbyteries, 118; of churches, 2,944; of ordained ministers in the presbyteries, 1,695; of licentiates, 187; of candidates, 219; of members, 184,493, of whom 145,473 are enrolled as resident members; of ruling elders, 10,481; of deacons, 4,140; of members enrolled in Sunday-schools, 111,722; of members of Christian Endeavor Societies (senior and junior), 22,001; of ministers ordained during the year, 67; of additions to the church by examination, 11,588; of baptisms, 7,837 of adults and 1,652 of infants. Total amount of contributions, \$923,660—including among others, \$62,524 for synodical and home missions, \$3,361 for church erection, \$20,620 for foreign missions, \$20,171 for the Woman's Board of Missions, \$10,068 for education, \$7,495 for ministerial relief, \$411,111 paid to pastors or for supplies, and \$278,211 for building and repairing churches; value of church property, \$5,025,873.

The contributions to the Educational Society of this Church were reported to the General Assembly to have been \$8,586, and its total available funds had been \$10,025. The sum of \$5,317 had been given, and \$2,113 loaned, to students. The whole number of probationers for the ministry was 468, not more than half of whom had been to school, having been kept away by lack of funds. Progress was reported in the movement for the endowment of institutions, and much had been accomplished toward raising the educational standards for ordination.

The Board of Ministerial Relief had received \$12,545. Fourteen persons had been added to the list of beneficiaries, which now included about 100 names. The endowment fund of Thornton Home was growing every year, and was now \$24,024.

The Board of Managers of the Orphanage and Industrial School, appointed by the previous General Assembly, recommended that the enterprise be abandoned. The recommendation was approved by the General Assembly.

The Board of Publication reported an increase in the volume of business to \$107,497; an increase in the volume of net profit to \$11,083; a reduction of \$13,843 in the debt of the house; a surplus of assets over liabilities of \$126,666; and other elements of improved condition.

The Board of Missions reported that the foreign mission receipts for the past year had been \$20,620, a gain of \$6,105 over the preceding year; and that the home mission receipts had been increased \$1,469, and amounted to \$10,026, besides special gifts of \$6,505. Material reduction had been made in the indebtedness of the board, which was now \$21,600. Two thousand dollars had been received through the will of the Rev. Jacob Gillespie, to be appropriated as a permanent endowment, the interest to be used for foreign missions. The total receipts of the board for current accounts had been \$46,984; but adding other funds which had passed through the office and the contributions to the Woman's Board and to church extension, the whole sum contributed to missions during the year was found to have been \$123,506. The expenditures included \$15,846 for home missions, \$4,758 for

church erection, and \$30,704 for the foreign missions in China and Japan.

The Missionary Convention of Cumberland Presbyterian Women had received \$26,284, being an increase of \$2,369 over the contributions of the preceding year. Reports were read at the twenty-second annual meeting, May 13, of missions in China, Japan, Mexico, 3 Chinese missions in California, and the mountain mission, where 344 pupils were enrolled in 3 schools, 200 of them in the Industrial Home.

The seventy-second General Assembly met at Springfield, Mo., May 15. The Rev. S. M. Templeton, of Texas, was chosen moderator. A council composed of one member from each of the synods, nominated by the commissioners of the several synods, was constituted, for the present Assembly only, to assist the moderator in appointing the committees. An important item in the business of the meeting related to the question of the control of the teachings of the Theological Seminary by the General Assembly. A Committee of Seven had been appointed by the previous General Assembly to confer with the trustees of Cumberland University, who had also jurisdiction over the Theological Seminary, with a view to making some arrangement under which control should be permanently assured to the Assembly. A proposition made by the Board of Trustees to the Assembly had been found to afford no satisfactory solution of the problem; and a plan of settlement submitted by the Committee of Seven to the Board of Trustees had not been accepted by them. Majority and minority reports were presented by the Committee on the Theological Seminary. Both agreed in commending the management of the institution, but they advised different methods of settling the questions that had arisen. The Assembly directed the appointment of another committee which should request the Board of Trustees of Cumberland University to reconsider their action in declining to accept the plan of settlement proposed by the Committee of Seven, and to accept and adopt it with such changes as may be agreed upon; provided the changes do not conflict with the terms of the constitution of 1852, and do not surrender any of the rights of the General Assembly to the direct and absolute control of the Theological Seminary; and in the event that the committee and the Board of Trustees "are unable to arrive at an agreement in accordance with said plan, then that the said committee be authorized and directed to ask the said Board of Trustees to secure such changes in the charter of Cumberland University as will preserve all the rights of the General Assembly, and among these changes such a change in said charter as will secure and reserve to the General Assembly of the Cumberland Presbyterian Church, through the members of the Board of Trustees, whose terms of office shall be limited, or the Board of Visitors, or both, a majority vote on all matters pertaining to the Theological Seminary." The question of forming a separate Board of Home Missions was considered. Two reports of different tenor were presented. A substitute measure was adopted providing for a conference of the Board of Missions and its corresponding members for the preparation of a plan for the organization of the mission work, upon which report shall be made to the next General Assembly. The presbyteries were instructed to cooperate with the Cumberland Presbyterian Historical Society. The society was advised to print in book form the minutes of the Assembly from 1829 to 1875, and to incorporate in separate or combined book

form any historical data it might have or obtain during the Assembly year bearing upon the origin and distinctive doctrines of the Church; providing those things could be done without embarrassing the publishing interests. The report on the centennial endowment of the colleges advised the institutions interested to push the work of endowments vigorously in their respective bounds, so as to secure the stipulated amounts within the allotted time. "While the burden of endowing our institutions of learning would fall largely on the wealthier people of the Church, yet the question should be presented to every member and a subscription solicited." A permanent Committee on Temperance was appointed, of 17 members representing all the synods, and charged with the duty of promoting temperance agitation, education, and legislation; and provision was made for synodal committees. The report on Sabbath observance urged an uncompromising stand for a sacred Sunday and recommended the institution of Sabbath observance meetings or institutes in the General Assembly, the synods, and the presbyteries; preaching, ministerial practise, precept, and example in its favor; and cooperation with the National Sabbath Observance Movement. The Choctaw Presbytery was authorized to publish the Confession of Faith in the Choctaw language, a translation being already in course of preparation. The action of the General Assembly of 1899 requiring the boards to wait for nominations by the Assembly before electing members to fill vacancies was approved. This measure permits the boards and permanent committees to fill vacancies subject to veto by the Assembly.

The Colored Cumberland Presbyterian Church, with 450 ministers, 400 churches, and 39,000 members, has a Board of Publication publishing a weekly journal at Fayetteville, Tenn., and Boards of Education, Ministerial Relief, and Missions; and a Woman's Board of Missions; and is interested in synodal schools at Newbern, Tenn., and Huntsville, Ala. The twenty-sixth General Assembly was held in May.

VII. Presbyterian Church in Canada.—

The following is a summary of the statistics of this Church as shown in the reports made to the General Assembly in June: Number of presbyteries, 58; of ordained ministers, 1,368; of communicants, 219,470; of church sittings, 601,885; of families, 118,114; of elders, 7,559; of additions by profession of faith, 11,259; of Sabbath-schools, 3,196, with 21,717 teachers and officers and 182,335 pupils; of members of Christian Endeavor and other Young People's Societies, 26,319; amount of contributions for the schemes of the Church, \$394,203; of contributions for salaries of ministers, \$1,052,691; income of the Church for all purposes, \$2,857,689. Value of church property, more than \$10,000,000, less indebtedness of about \$1,500,000. An increase of 5,799 communicants was shown, and the increase in the total amount of contributions was \$394,203. The statistics of Sabbath-schools showed an increase of 147 in the number of schools reporting, of 517 officers and teachers, and of 2,968 pupils (including the home department). The Sabbath-schools had raised during 1901, for all purposes, \$112,110. The statistics of Young People's Societies showed a decrease in the number of societies, but slight as compared with the decrease in a few previous years. The rapid decline in the number of societies was apparently arrested.

The Aged and Retired Ministers' fund (for the provision of annuities to ministers honorably retired from active service) in the Western sec-

tion had an endowment of \$192,000, and that of the Eastern section one of \$40,000. One hundred and one ministers had received annuities averaging \$200 each from these two funds. The 3 widows' and orphans' funds—those of the Eastern and Western sections and that of the branch of the Church formerly connected with the Church of Scotland—had a combined endowment of \$403,530, and had paid annuities averaging \$150 a year to 179 widows.

The capital of the Church and Manse fund was \$107,520. By its help 27 churches, 8 manses, and 3 schoolhouses had been built during the year, and since its inception it had aided in the erection of 419 churches, 90 manses, and 4 school-buildings, the present value of which was \$603,835.

The revenue of the Augmentation fund in the Eastern and Western sections together had been \$32,121. The list of aided congregations included 143 in the Western section and 60 in the Eastern section, representing 11,143 families and 19,501 communicants. An average grant of \$150 was made to these congregations to aid them in the support of their ministers, the object aimed at being a minimum salary of \$750 a year and a manse, which, however, was not yet reached in all cases.

The Board of French Evangelization returned 40 fields of work, with 85 stations at which the Gospel was preached by its missionaries in French. Connected with these missions were 865 families and 1,108 communicants, 144 of whom had been added during the year. A mission to Italians in Montreal, with a mission day-school, was also under the care of the board. At many places in the province of Quebec its minister was the only representative of the Protestant Church, and in some he served, in addition to his labors in the French-speaking community, as minister to the scattered English-speaking families of the district. Seventeen mission day-schools were supported by the Church. The central schools at Pointe-aux-Trembles had been attended during the year by 167 pupils, of whom 30 had during the past winter made profession of faith. More than 5,000 young men and women had obtained a liberal education at these schools, and most of the missionaries employed by the board had received their early training there. A French professor was connected with the Presbyterian College, Montreal, for the training of French missionaries. The contributions of the year to this work had been \$26,928.

The contributions to the work of home missions had been \$122,731, an amount greatly in excess of the contributions of any former year. Seventy-eight home fields were returned in the Eastern section of the Church, with 231 preaching stations; and 428 fields in the Western section, with 1,230 preaching stations. Connected with these missions were 16,474 families and 18,477 communicants, and 1,986 members had been received during the year on confession of faith. The Students' Missionary Societies had contributed \$9,000 to the funds of the board, and had worked 41 fields. A service of nurses at Atlin, British Columbia, was supported by a committee of ladies in Toronto. The missionaries of the board had labored among Icelanders, Scandinavians, Germans, Bohemians, Galicians, and Doukhobors. The committee of the Western section had made a special effort during the year to secure 100 congregations or persons who would contribute \$250 each toward the support of a missionary, and had obtained such aid from 150 congregations and individuals. By this means they had been able to respond to every application for a mis-

sionary, and so far as the committee knew, there was not in the entire field committed to their care a single district containing a dozen Presbyterian families where the ordinances of the Church were not regularly maintained.

The contributions for foreign missions had amounted to \$158,561. The work of the boards was carried on in the New Hebrides, Trinidad, Demerara, Formosa, Korea, Honan (China), and India; and a missionary had been recently appointed to Macao, China. The missionary force included 99 Canadian missionaries, with 268 native pastors, teachers, and other workers. The Indians of the Dominion were under the care of this board, as also the Chinese, of whom about 1,000 were under religious instruction at 30 schools. The Woman's Missionary Society, at Montreal, had contributed \$65,000 for home, French, and foreign missionary work.

The twenty-eighth General Assembly met in Toronto, June 11. The Rev. George Bryce, LL. D., was chosen moderator. One of the longest debates of the meeting was on the subject of the use of individual communion cups in the sacrament of the Lord's Supper. It arose upon the presentation of a protest against the action of the session of a church in Charlottetown, Prince Edward Island, in introducing the innovation. The presbytery of Prince Edward Island had decided that the matter should be left to the judgment of the individual congregation. An appeal had been taken to the synod, and it had referred the question to the General Assembly. A committee was appointed by the Assembly to consider whether any, and if so, what changes should be made or permitted in the mode of observing the Lord's Supper. The Assembly, recording its appreciation of the work done among the young people of the Church through the Society of Christian Endeavor, suggested the adoption of "Presbyterian Guild" as the distinctive name for the Young People's Societies; and advised that where no pledge is adopted and the Christian Endeavor type of society is departed from, pastors urge that the organizations be so shaped as to be distinctively religious and missionary in their aims, and to imply responsibility and the sense of obligation in their membership. The committee that had been appointed to confer with the trustees of Queen's University regarding proposed changes in its constitution reported that certain changes in the charter of the institution had been agreed to the effect of which would be to separate the university legally and nominally, as it had long been practically separate, from the Church; while at the same time the Theological College was brought into closer relationship with it, and was placed more directly under the authority of the General Assembly. The report was accepted, and the committee was reappointed to continue the conferences. The institution of a school for training catechists was authorized, the school to be held in the city of Winnipeg, and its course of study to embrace 3 terms of three months each, in July, August, and September of each year. A new class of laborers was instituted, to be known as minister-evangelists, the step being designed as a temporary expedient to meet the exceptional demand for men during the next seven years. A proposal to institute a standing committee to exercise a general supervision over all theological colleges at which ministers are being trained for the Presbyterian Church was laid on the table, to be taken up in the next year. A report on precedence adopted by the Assembly contemplated measures for representing to the proper authorities the desirability of abolishing the present rules of

precedence as wanting in courtesy and foreign to the genius of the country, and of taking steps toward a fair and adequate recognition of all the churches in Canada. The Assembly advised that every legitimate effort be made for the retention of the Lord's Day as a day of rest, and for the right use of it by members and adherents of the Church. It further invited "all to whom its words come with authority to help in defending the day. It commends simplicity of family life, free from pleasure gatherings and such like, the abstaining from late Saturday trading, and in general such prayerful emphasis upon the purpose of the day as will secure by precept and example its wise fulfilment." Total abstinence was held up as a Christian privilege and every effort was advised to be put forth to educate the people, and especially the young, in temperance practise and principles; with advantage to be taken of every opportunity by which the use of intoxicating liquors may be lessened and sobriety advanced. Another recommendation by the Assembly was that the duty of exercising the powers and opportunities of citizenship conscientiously be urged upon all the people.

VIII. Church of Scotland.—The accounts of the committees for 1901 showed a satisfactory increase of income over the previous year, which in turn had shown an increase over 1899. The total income had been £220,492, as against £208,228 in 1900. A decrease of £480 in legacies was returned. Increase was shown of £490 in the foreign mission income; £1,883 in that for the colonies; £520 in that for the Highlands and islands; £87 in the Aged and Infirm Ministers' fund; and £699 in the fund for Christian Life and Work. The Woman's Associations had also contributed to the increase. The reports concerning the Christian liberality of the Church during 1901 showed an increase from £515,432 in 1900 to £545,789 in 1901.

The Committee on Small and Diminished Livings reported that £9,863 had been allocated among 321 parishes, an increase of £901, as compared with the previous year. There were still 261 livings under the unit aimed at—£200 a year. During 1901 10 home mission grants had been made toward the cost of building, enlarging, or acquiring places of worship.

The report of the Foreign Mission Committee showed that the Church had 130 Europeans in the mission field, more than 11,000 baptized natives, 3,000 communicants, about 15,000 pupils in mission schools, and 14 zenana pupils. The number of baptisms during the year, 1,281, was 435 above the average. The native Christian assistants were estimated to number 624, 10 of whom were ordained, while 135 catechists or preachers and nearly 300 teachers were included. The combined income had been £49,136, or £1,400 short of the required amount. The income at home had steadily decreased for three years.

The General Assembly met in Edinburgh, May 20. The Rev. Dr. J. C. Russell, of Campbelltown, was chosen moderator. In the King's letter, communicated as usual to the Assembly, his Majesty affirmed his determination to maintain the Presbyterian form of religion as represented by the Church, and to safeguard the Church in the possession of its rights and privileges. The customary royal gift of £2,000 for the propagation of religious truth in the Highlands and islands was intimated. A motion by the Colonial Committee to appoint a delegate to proceed to South Africa after peace was proclaimed and consult with the authorities of the Dutch Reformed

Church and of the Presbyterian Church as to the best means of furthering the interests of religion in South Africa and of promoting the union of the two churches was remitted to the favorable consideration of the committee. An appeal was presented charging Principal Story, of Glasgow University, with heterodoxy and unsoundness of doctrine in signing, in his official capacity, a letter to the Pope on the occasion of the four hundred and fiftieth anniversary of the foundation of the university. It was dismissed on the ground that no relevant case requiring further procedure had been stated. The report of the Church Interests Committee represented that the Church was wishful for the continuance of the present state of quiescence on the subject of disestablishment. The churches were growing together, and the spirit of conciliation affected both clergy and laymen. In the case against the Rev. T. N. Adamson, of Barnhill, Broughton Ferry, who had admitted to his presbytery that he had introduced into his church certain objects and forms of service which were usually associated with ritualistic practises, the Assembly found that the documents disclosed very serious innovations, and enjoined the Presbytery of Dundee to visit the parish with a view of bringing the internal equipment of the church, the forms of worship, and the arrangements for administering the Lord's Supper into conformity with the general usage and practise of the Church. The Foreign Missions Committee was empowered to bring up a report to the next Assembly as to the prevention of increase of debt. During the consideration of the report of the Committee on the Highlands and Islands it was represented that members of the old Free Church in the Highlands had been taking advantage of some of the opportunities for worship given them by the Established Church, and were aware of the sympathy of that Church. An overture in favor of the use in the Assembly's daily service of praise of the organ which had been placed in the Assembly hall was negatived. The Assembly directed inquiry to be made as to whether presbyteries and kirk sessions had any desire for the revision of the hymnal or the provision of an appendix. The report on Sabbath observance in Scotland dealt with the various phases of Sunday labor in Scotland, the question of workmen's clubs, and the growing evil of Sunday trading. The committee did not ask for legislative restriction of Sunday labor, but suggested that the Assembly should use its influence in the direction of regulating ice-cream shops and workmen's clubs. In his address closing the Assembly the moderator urged the desirability, in view of ultimate union of the churches in Scotland, of cooperation with other churches in local Christian enterprises for the common good.

IX. United Free Church in Scotland.—The report on statistics made to the General Assembly of this Church in May gave the number of members as 495,259, as against 492,964 in the previous year. The loss of members through the union was estimated to be 4,170, and as the membership showed a net increase after meeting the losses, especially in the Highlands, it was believed that bottom had been touched, and the Church would now go on increasing.

The report on the Widows' and Orphans' fund showed an increase of £15,000, the total being £447,000, as compared with £432,000 in the preceding year.

The report on the Sustentation and Augmentation funds showed a decrease in the Sustentation fund of £1,680, the total being £176,778, while

the Augmentation fund amounted to £15,123, an increase of £385. In its resolutions on Church and state the Assembly adhered to its testimony in favor of disestablishment, and expressed its sympathy with the free churches of England in their resistance to the education bill.

The General Assembly met in Glasgow, May 20. The Rev. Dr. Robert Howie was chosen moderator. A day was spent in the discussion of the report of the College Committee on a memorial and overtures relating to the views expressed by Prof. George Adam Smith in his book *Modern Criticism and the Preaching of the Old Testament*. The committee reported that it had concluded that it was not its duty or that of the Church to originate any process, not because they accepted the critical results that were presented by Prof. Smith, but because they felt that the time had not come for judgment on any of the problems with which his book dealt. These were meantime in the region of discussion. That volume linked itself to a great movement that touched and embraced within it questions of literary analysis, questions needing detailed examination; and it would have been on that movement, and not on a narrow question, that the Church would have been called to decide had the College Committee originated or advised the origination of a process. It should be remembered that Prof. Smith's volume had been issued in defense of religion, but the committee at the same time felt that he had sometimes been betrayed into forms of expression that were not always wise or fitted to present his views in the best way. Prof. Smith himself spoke in explanation of his position, saying that from the bottom of his heart he believed in the Bible as the revelation of God to sinful man. He had never said that there was any discrepancy between one Testament and the other. The resolution of the Assembly accepted the recommendation of the report that it was not the duty of the Church to institute any process against Prof. Smith in connection with his book, while it declared that it was not to be held as accepting or authorizing the critical theories therein set forth; expressed its unabated reverence for the written Word; called upon ministers and professors who might take part in these discussions to be careful that reverence for Holy Scripture should be conspicuously manifest in their writings; and, recalling the results of former discussions, exhorted the people not to be soon shaken in mind by what they heard of statements regarding the Bible or some parts of its contents. Approval was given to a scheme contemplating the raising during five years of a central sum of £25,000 for promoting church extension in populous and underchurched districts, etc. On the presentation of the Praise Committee's report reference was made to gifts of organs by Mr. Andrew Carnegie. In the discussion of home mission affairs, it was represented that the combined income of the Free and United Presbyterian Churches for 1900 had been £14,443, whereas the income of the United Free Church for 1901 had been only £13,824.

A suit instituted by adherents of the Free Church of Scotland who refused to recognize the United Free Church for the possession of certain property of the former Free Church having been decided by Lord Low in 1901 in favor of the United Free Church, an appeal was taken to the Court of Sessions, Edinburgh. This court gave a decision, July 4, all the judges concurring, dismissing the action, and affirming the legality of the union and of the proceedings by which it was accomplished.

X. Presbyterian Church in England.—The statistical report made to the Synod of this Church in May showed that 5 congregations had been aided during the year, bringing the whole number of congregations up to 326, while the membership had risen from 76,071 to 78,024, and the membership of Sunday-schools to 81,967. The total income of the Church had been £320,851. The church sittings available numbered 167,945, against 166,391 in 1900. Five churches were in course of building. The debt upon church property amounted to £87,858, as against £101,063 at the close of 1900.

The total income for missionary work had been £52,828, including £20,000 from the Sturge bequest. The mission in China returned 87 organized congregations, 123 preaching stations, and 7,500 members. Of these congregations, 34 constituted "native Chinese pastorates as fully organized as any of the home organizations, none of which received a penny from the home funds." The Synod decided to cooperate with the United Free Church of Scotland in the support of the Livingstonia Mission, Africa, and to incorporate it as one of its schemes.

The Synod met in Newcastle, May 6. The Rev. A. H. Drysdale was chosen moderator, and addressed the meeting on the subject of The New Puritanism. The report on home missions embodied the rules for a proposed permanent Church Building fund, which were adopted. In the past periodical funds had been raised, of which the one recently closed had amounted to £50,000. It was now decided to aim at raising at least £5,000 a year, and the institution of a loan fund was contemplated. The question was raised whether the erection of a side pulpit should be permitted in churches aided by the fund, pulpits of that kind being regarded by some Protestants as sacerdotal. The answer was returned to the objection that it was a mistake to set up as a standard of Protestantism what was merely an accident. The Synod decided to leave the matter of a side pulpit optional. The sustentation report showed an income of £46,620, which, with few exceptions, insured a ministerial stipend of not less than £200 a year. Congregations were urged to aid the committee in raising the annuity for aged and infirm ministers from £60 to £100. Two ministers were set apart as Synod evangelists for the year. The Home Mission Committee was empowered to set apart a minister for a limited time to carry on a pioneer church extension work. The Synod decided to assist in providing services on the Continent for English-speaking travelers. While the Synod sends delegates to the United Free Church Assembly in Scotland and has fraternal relations with the Synod in England in connection with the Church of Scotland, it found it inadvisable to go forward in the establishment of similar relations with the Established Church of Scotland at the present time.

XI. Presbyterian Church in Ireland.—The General Assembly met in Belfast, June 2. The Rev. Prof. Henry was chosen moderator. Provision was made for the retirement of ministers at seventy years of age and the appointment of an assistant and successor. Another measure adopted permits the several sessions throughout the Church to select as their representative in the Assembly any elder of any congregation under its jurisdiction. A specimen organ, placed in the vestibule of the church where the Assembly met, was removed under the influence of the Purity of Worship party. The total amount received by churches and Sabbath-schools during

the year was returned at £299,307, and the total ministerial income was £111,317. The Board of Missions reported that the colonial mission had a credit balance of £859, and the Continental mission one of £536; while the other missions had debtor balances—the Irish of £1,969, the Jewish of £1,549, the foreign of £6,778, the Indian Education fund of £200, the fund for weak congregations of £16, and the home mission fund of £2,702.

XII. Welsh Calvinistic Methodist Church.

—The statistics of this Church, presented to the General Assembly in May, gave it 1,579 chapels and preaching stations, having sitting accommodation for 500,000 persons, 976 Sunday-school buildings, 191 mansees, 461 chapel houses, 1,374 churches, 834 ministers, 890 preachers, 160,333 communicants, 74,522 children, 2,532 candidates for membership; total in the churches, 237,277; 1,688 Sunday-schools, with 25,657 officers and teachers and 204,777 members; and 323,951 hearers in the churches. The collections for all purposes amounted to £305,745.

The General Assembly met in Liverpool, May 13. The Rev. Aaron Davis was chosen moderator. The report of foreign missions showed that there had been a considerable deficit in funds, while the work in the Khassia hills of India had met with encouraging success. The income of the society had been £8,751, and the expenditure £14,526. With the consent of the Assembly the De Luchai field was transferred to the Baptist Missionary Society. The Committee on the "Forward Movement" reported that its receipts had been £5,898, and its expenditure £3,454. The profits of the book room had been £1,450. The General Assembly's mission to the Welsh in London was represented to be in a satisfactory condition. These people had now 16 churches and preaching stations, 14 branch Sabbath-schools, 10 ministers, 8 unordained preachers, 95 deacons, 4,005 communicants, and 931 children, with 5,551 hearers at their services, and had contributed £8,456 during the year. The Committee of the Twentieth Century Fund reported that £78,704 had been promised to it, and £50,000 had been paid. The fund would be open till the end of 1902.

XIII. Presbyterian Church in New South Wales.—The General Assembly of the Presbyterian Church in New South Wales met in Sydney in June. The Rev. John Walker was chosen moderator, and made an address insisting upon the necessity of the Church putting more energy into its work and expanding it. As aids in the improvement of existing conditions, he proposed the institution of three new offices—those of a superintendent of parishes, a home mission organizing commission, and a church evangelist. The suggestion for the appointment of a superintendent of parishes was accepted by the Assembly, and Mr. Walker was chosen to the office. The other suggestions were accepted in principle, contingently on men and means for carrying them out being found.

XIV. Presbyterian Church of New Zealand.—The union of the two Presbyterian Churches in New Zealand—the Church of Otago and Southland and the Northern Church—was formally completed in December, 1901, when the act of union was unanimously adopted by the Assembly, and the moderators of the two churches signed the uniting act and gave each other the right hand of fellowship as representatives of their respective churches. The negotiations for union had been going on for a considerable time, but their completion was delayed in consequence of an apprehension by the Southern

Church that the validity of certain trust deeds of which it enjoyed the benefit might be impaired if it lost its identity. This apprehension having been set at rest by a decision of the courts, union became easy. Conferences with reference to union have been begun between committees of the Presbyterian and Congregational Churches in Australia.

XV. Conference of Psalm-Singers.—A conference of representatives of those Presbyterian Churches which insist upon the exclusive use of the Psalms in the service of song in worship was held in Belfast, Ireland, Aug. 6-8. Among these churches are the Presbyterian Church in Ireland, the various Reformed Presbyterian Churches in Scotland, Ireland, and the United States, the secession churches, and the United Presbyterian Church in North America. A different person officiated as chairman at each session. The program included more than 30 papers and addresses of argumentative, historical, and critical character, presenting the subject in various aspects. The divine authority of the Psalms was insisted upon, while it was argued that hymns were destitute of such authority. Arguments were presented for the sufficiency of the Psalms for all occasions of worship, and illustrations were adduced from argument and experience of the adaptation of the Psalms to all purposes and contingencies. In a paper on The Twentieth-Century Interdenominational Psalmody Revision Movement, the Rev. J. C. K. Milligan, of New York, described a movement for the revision of the Psalms contemplating a metrical version, which would more favorably commend them to the Christian public. The effort would be made to meet every objection that could be brought against the Psalms by those who preferred hymns by correcting the defects in the old revision and seeking to impress the exact thought of each line of the original in the language of the authorized and revised versions of the Bible and in the best form attainable. Good progress had been made with the work, and it was hoped that the Psalter would be completed in May, 1903.

PRINCE EDWARD ISLAND, a province of the Dominion of Canada; area, 2,000 square miles; population in 1901, 103,259; capital, Charlottetown.

Government and Politics.—The ministry that Arthur Peters formed early in the year as a result of Premier Farquharson's retirement and election to the Dominion Parliament, was composed of himself as Premier, President of the Council, and Attorney-General; Benjamin Rogers as Provincial Secretary, Treasurer, and Commissioner of Agriculture; J. H. Cumiskey, Commissioner of Public Works; and Messrs. R. C. McLeod, J. W. Richards, Peter McNutt, J. F. Whear, and George Forbes as members without office. The only changes were in the premiership and the substitution of Mr. Whear for Mr. M. McDonald. The Legislature was opened by Lieut.-Gov. P. A. McIntyre on March 11, 1902, with an address from the throne, of which the following were the important passages:

"I regret that the long-protracted war in South Africa still continues. Another contingent from the Dominion of Canada, including volunteers from this province, departed for the scene of war in the month of January. It is pleasing to note the probabilities of an early conclusion of the war, and that our citizen soldiers now serving in South Africa will speedily return to their homes.

"The untimely death of the late President of the United States, the Hon. William McKinley, caused a feeling of horror throughout this province as well as in all parts of Canada.

"For a number of years this Government has been pressing upon the Dominion authorities the right of this province to its share of the fishery award under the Halifax Commission. I am pleased to inform you that it is the purpose of my Government still to urge this claim, and I have no doubt that, in conjunction with the Government of the province of Quebec, which is now moving in the matter, the claims of both governments will eventually be recognized and the amounts justly due paid over to the provinces.

"The inauguration of farmers' institutes in Prince Edward Island, under our Department of Agriculture, has been a great stimulus to our farming industry, and the province will doubtless be greatly benefited by the formation of these societies. The establishment of a dairy school in our province, assisted by the federal and provincial governments, will, I am sure, result in securing a higher standard of, as well as greater uniformity in, the quality of our dairy-products, which now form a very important part of our agricultural exports. Arrangements are being made for the importation this season of some improved breeding stock, comprising horses, cattle, and swine. Measures will be submitted to you for the purpose of improving the road system, and also for increasing the revenue of this province.

"During recess a decision of our Supreme Court was given with respect to the right of the farmers to dig mussel mud within a certain distance of live oyster-beds, under the regulations adopted by the Federal Government. This decision had been adverse to the province, on the ground that the Dominion Government had the power to make such regulations. Since this decision, negotiations have been had between my Government and the federal administration, and the matter will likely be so arranged as not to interfere with the rights of the farmers to dig mussel mud as they have heretofore been accustomed to do, and at the same time to conserve in a proper manner the oyster fisheries of the province.

"The new wing to the insane asylum has been completed, and a large number of the unfortunate patients have been transferred from the old building to it, thus providing means for their better classification and avoiding the overcrowded state of the institution. Since last session the constitutionality of the prohibition act passed in 1900 has been upheld by our Supreme Court."

Prorogation took place on April 11, after the following acts and other minor ones had been assented to on behalf of the Crown:

To amend the public roads act of 1901.

To amend the law relating to trustees.

To amend the prohibition act of 1900.

To amend the public schools act of 1877.

The chief points in the work of the session, aside perhaps from the decision of Judge Hodgson and the action of the Legislature thereon, were the development of the caucus system and the increased taxation. The following from an editorial in the Charlottetown Guardian, a paper usually friendly to the Government, may be taken as correctly summarizing the situation: "A feature of the session of which the influence will be distinctly felt is the increase of taxation imposed, but rendered necessary by the state of the provincial finances. If all were quite as sure as the Premier professed himself to be that we shall shortly recover from the Dominion Government our claim for the fishery award, amounting to a million or more, these increased taxes might at least have been postponed to await the result. But an old claim, however just, is not by any means the same as cash in the treasury. So we must accept

the increase of the road tax, and the added 50 per cent. to the income tax on banks. There will still probably be a deficit on the current year's transactions. The caucus system was much in evidence, and seems to have obtained a greater prominence here than in other provinces of Canada. In fact, the public business is so fully shaped in caucus as to leave but little for the House to do as a deliberate body. Many matters appear in a clearer and different light after being examined from the Opposition standpoint, and the country should have the benefit of this criticism before being committed to important new departures."

Finances.—Mr. Peters delivered his budget speech on April 8. He said that Mr. Farquharson had issued \$48,930 debentures on Prince of Wales College, \$37,890 on the wing to the asylum, \$2,492 on repairs to the Colonial Building, and on permanent bridges \$4,537. The balance, \$25,000, owing to the depression in the money-market, was not sold. He pointed out that in several departments a saving had been made. He wished first to take the Department of Justice for ten years. He found that the Conservatives spent \$19,621, and the Liberals \$16,816 per annum, the saving for the ten years being \$28,059. In legislation the Conservatives spent \$12,907, and the Liberals \$8,748 per annum, or a saving in ten years of \$41,590. In the Public Works Department the Conservatives spent \$23,354 for bridges, the Liberals \$18,203, an annual saving of \$51,510 in the ten years. The expenditure for wharves in ten years under Conservative rule was \$7,306; under the Liberal régime \$4,078—a saving in these departments in the ten years of \$155,324.

The Treasurer referred with pride to some increases in expenditure, such as that upon education, which had grown from a yearly average of \$106,292 under Conservative rule, to \$124,203 under his party. He placed the public debt at \$642,177, of which the Liberals were responsible for \$471,177. Since they attained power in 1892 \$359,155 had been expended on capital account and finally charged to this indebtedness, and the remainder had been spent upon Prince of Wales College, the insane asylum, etc. The Opposition critics, including Daniel Gordon, leader of the party, pointed out that this debt was a floating liability, really amounting, with certain unpaid accounts, to more than \$700,000; that \$220,980 was due to the banks, and \$176,998 was in the form of temporary loans, liable to be called in at a moment's notice. The revenues were placed at \$309,445 for the year ending Dec. 31, 1901, but the Opposition contended that \$25,014 of this amount were proceeds of a sale of debentures and were not revenues at all. The expenditures were \$330,632, and this left a deficit, according to the Government, of \$20,000, and according to the Opposition of \$45,000. The revenues included \$196,931 from Dominion subsidies, \$64,992 from various taxes—land, income, road, commercial travelers, and corporations; \$17,317 from various fees; and \$5,258 from public lands. The chief items of expenditure were as follow: Administration of justice, \$17,524; Department of Agriculture, \$3,265.99; education, \$128,288.10; Hospital for Insane, \$23,436; interest, \$24,803; miscellaneous, \$4,701; poorhouse and paupers, \$7,307; Secretary-Treasurer's Department, \$4,590; Public Works Department, \$4,149; ferries, including the ferry steamers, \$20,322; roads, \$18,969; bridges, \$20,783; Hospital for Insane, \$13,398; bridges (permanent), \$4,055; total expenditure on capital account, \$20,306.

On April 14, Mr. J. A. Mathieson replied to the Treasurer. He gave the figures of extra revenue

items during Conservative and Liberal government of the island. The totals were respectively \$392,667 and \$674,628. From 1880 to 1890, he said, the former party spent while in power an annual average of \$275,787, while from 1892 to 1901 inclusive the Liberals averaged \$312,774. In the first term of ten years a total of \$2,727,863 was expended, and in the second period \$3,127,741—an increase of \$399,877. The estimates for 1902 were given by the Treasurer as \$318,811 revenue, against \$284,431, estimated, for 1901. The expenditures were placed at \$312,792, compared with \$315,326 in the preceding year. The increase in the expected receipts was mainly in the \$15,000 additional Dominion subsidy and larger returns from the road tax and income tax.

Taxation.—A question considerably discussed was the relative taxation of town and country districts in the island. The Charlottetown Guardian pointed out, on April 9, that the population of that city and Summerside was 14,955, and that the rest of the province had 88,303. Yet of the expenditures \$53,264 went to the country districts, while they only paid in taxes \$42,928. Comparing the expenditures upon education, it was said that out of \$114,755 the two cities received \$10,650, or 71 cents a head, and the country \$104,105, or \$1.18 a head.

An important issue also was that of the tax on commercial travelers. On May 3 it was announced that the city of Charlottetown would follow the example of the provincial Government and tax all "transient traders" in its midst. All commercial travelers, therefore, became liable to a tax of \$300 from the city, in addition to the Government's \$20 imposition. Three days later the provincial Supreme Court decided by unanimous judgment that the provincial taxation of resident agents was unconstitutional and at variance with the federal character of Canadian institutions. Meanwhile, the Opposition in the Legislature were denouncing the increase in the income tax, the road tax, and the tax on banks, and one Conservative paper, the Examiner, declared on April 18 that "the province is drifting toward the brink of ruin."

Prohibition.—This question aroused a certain amount of discussion, although public opinion had often been expressed strongly in favor of effective prohibition. On April 4 J. F. Whear presented a petition from 800 residents of Charlottetown, asking the Legislature to repeal the provincial prohibition act or to give the citizens of Charlottetown a plebiscite as to its application to them. It was declared that the majority of citizens were not in favor of the law, and that therefore it never could be properly enforced.

On April 15 the question again came up, in connection with an amendment to the act presented by the Premier. He proposed to strengthen the machinery of enforcement, declared that the act was still defective, said that a great deal of liquor was still being sold, and hoped that this measure—introduced at the wish of the temperance people—would do the subject more justice. In the debate that followed a number of reflections were cast upon physicians and druggists for their alleged misuse of their privileges under the act. An amendment was accepted making it possible for duly qualified druggists and chemists to sell liquor for exclusively medicinal purposes.

Education.—On March 29, 1902, the annual report of the Chief Superintendent of Education was submitted to the Legislature. It contained the usual statistical tables, special reports on the Macdonald Manual Training-Schools, the Provincial Teachers' Association, the Summer School of

Science, the Charlottetown and Summerside School Boards, Prince of Wales College and Normal School, and from the 4 district inspectors. The number of districts and schools in the province in 1901 was 474, an increase of 4. The number of school departments was 590, an increase of 4. There was one vacant school. The number of teachers employed was 589, an increase of 3. The male teachers numbered 229, and the female teachers 290. The average salaries were: First-class male, \$401.35; first-class female, \$306.61. The highest for males of this class was \$700, and the lowest \$300; for females the highest was \$350, and the lowest \$230. The total enrolment of pupils was 20,779, a decrease of 510; the average daily attendance was 12,330, and the percentage of attendance was 59.34, both showing a slight decrease. The expenditure by the Government for education was \$128,288, being slightly less than the previous year. The amounts voted at school meetings were: For supplements, \$8,935; school-buildings, \$8,095; contingent expenses, \$19,616; total, \$36,647.

Agriculture.—Two statements upon the position of Prince Edward Island in this respect appeared in 1902. The first was the slight summary of work published by the provincial department and dealing with its expenditure of \$2,635 in the encouragement of farming and cattle-raising. The other was the elaborate statement in the Dominion census returns for 1901, from which the following details are extracted:

Agricultural values were taken for the first time in this census. They show for farms and lots in the island a total for land and buildings of \$23,118,946; for implements and machinery, \$2,628,787; for live stock, \$4,878,980; and for the crops and animal products of the census year, \$7,467,773. For farms alone the value of land and buildings was \$22,988,508; of implements and machinery, \$2,618,597; of live stock, \$4,826,984; and of crops and animal products, \$7,413,297. The total value of farm property was \$30,434,089. The total gross value of farm-products for the census year was \$4,764,674 for the crops and \$2,648,623 for animal products. The average value of horses on farms per head was \$63.64; milch cows, \$22.04; other horned cattle, \$10.63; sheep, \$3.06; and swine, \$7.40.

In the value of dairy-products was included the milk and cream sold to cheese and butter factories, amounting to \$464,032. There were in operation in the island during the census year 47 factories, of which 27 made cheese and butter, 15 made cheese only, and 5 made butter only. The cheese product was 4,457,519 pounds, worth \$449,008; and the butter product 562,220 pounds, worth \$117,735. In the former census year (1899) there were four cheese factories in the island, and the total value of the product was \$8,448. The rent value of leased farms was 95 cents an acre, and the rate of wages for farm labor was \$3.68 a week, including board.

The number of bearing and non-bearing apple-trees in the island was 202,910; of peach-trees, 163; of pear-trees, 1,962; of plum-trees, 27,480; of cherry-trees, 70,431; of other fruit-trees, 57,924; and of grape-vines, 749. The yield of fruit-trees in the last census year was 184,487 bushels, and in the former census year it was 60,325 bushels.

PROTESTANT EPISCOPAL CHURCH IN THE UNITED STATES. A summary of the statistics of church progress in the year shows the following: Within the United States and their possessions there are 60 dioceses and 21 missionary districts, under the care of 86 bishops. In

foreign lands there are 5 missionary districts, viz., Cape Palmas and ports adjacent, Hangkow, Shanghai, Kioto, and Tokio; and 4 churches under a concordat with the House of Bishops, viz., the churches in Brazil, Haiti, Mexico, and Continental Europe. The number of clergy is 5,226; parishes and missions, 6,544; priests ordained, 136; church edifices, 5,830; baptisms, 60,261; confirmations, 45,809; communicants, 734,146; Sunday-school teachers, 45,018; Sunday-school scholars, 415,859; parish-school teachers, 359; parish-school scholars, 7,631; industrial-school teachers, 388; industrial-school scholars, 4,106; contributions, \$15,596,267.

American Episcopate.—The Right Rev. Francis McNeese Whittle, D. D., LL. D., died on June 18, 1902, and the Right Rev. Robert Atkinson Gibson, D. D., succeeded him as sixth Bishop of the Diocese of Virginia.

By the action of the convention of the diocese and with the consent of the General Convention, the name of the diocese of Indiana was changed to the diocese of Indianapolis.

An order of the General Convention of 1901 directed that the term "missionary district" should hereafter be used in the canons of the Church instead of the term "missionary jurisdiction."

On April 1, at St. Andrew's Cathedral, Honolulu, the Right Rev. Alfred Willis, D. D., formally surrendered his jurisdiction over the former diocese of Honolulu to the Right Rev. William Ford Nichols, Bishop of California, who accepted the former diocese as a missionary district of the American Church. At the meeting of the House of Bishops, April 16 and 17, the Rev. Henry Bond Restarick, rector of St. Paul's, San Diego, Cal., was elected missionary bishop.

In response to a request from the synod of the Mexican Episcopal Church, dated Dec. 18, 1900, asking for the consecration of three bishops for this Church, the House of Bishops, in their April meeting, recommended the presiding bishop to take order for the consecration of three bishops for the Mexican Church, subject to the consent of the majority of the bishops of the Church. The names recommended were the Rev. Henry Forrester, as episcopal vicar and resident representative of the Board of Missions; the Rev. Fausto Orihuela; and the Rev. José a Carrión. In due course it was reported that a constitutional majority of the members of the House of Bishops had given their consent, but somewhat later several of the bishops signified their desire to withdraw their consent. Upon reporting this action by letter to all the bishops a majority of them declared in answer that it was not advisable to proceed without further consideration. At the meeting of the House of Bishops in October a commission of the Mexican Church was appointed, consisting of the Bishops of Kentucky, West Virginia, New Mexico and Arizona, California, and Los Angeles, whose duty it should be to make inquiry as to the character and learning of persons presented for consecration, and when ready to request the presiding bishop to call a meeting of the House of Bishops to consider and decide the question of consecrating one or more bishops for the Mexican Church.

The House of Bishops in April changed the title of the missionary district of Porto Rico and Vieques to the missionary district of Porto Rico. The Rev. William Cabell Brown, D. D., declined to accept his election as first bishop of this district, and the Rev. James Heartt Van Buren, rector of St. John the Baptist's, San Juan, Porto Rico, was elected in his stead. The Bishop of Porto Rico has charge of the district of Cuba

also, it having been transferred to him from the charge of the Bishop of Pennsylvania.

The new missionary district of Salina (western Kansas) was on its formation placed under the episcopal superintendence of the Bishop of Kansas. The Rev. Nathaniel Seymour Thomas, rector of the Church of the Holy Apostles, Philadelphia, Pa., declined the election of first bishop of this district, and the Ven. Shelden Munson Griswold, D. D., rector of Christ's Church, Hudson, N. Y., and Archdeacon of Albany, was elected in his stead. The following have been consecrated bishops since Dec. 4, 1902: The Rev. Cameron Mann, D. D., Missionary Bishop of North Dakota; the Rev. Charles Henry Brent, Missionary Bishop of the Philippine Islands; the Rev. Frederick William Keator, Missionary Bishop of Olympia; Rev. Frederick Burgess, D. D., Bishop of Long Island, in succession to the Right Rev. Abram N. Littlejohn, deceased; the Rev. James Addison Ingle, Missionary Bishop of Hankow; the Rev. Alexander Hamilton Vinton, D. D., Bishop of Western Massachusetts; the Rev. Charles Sanford Olmstead, Bishop of Colorado; the Rev. Alexander Mackay-Smith, Bishop-Coadjutor of Pennsylvania; the Rev. Charles Tyler Olmstead, D. D., Bishop-Coadjutor of Central New York.

On Jan. 8, the Rev. Charles Sanford Olmstead was elected Bishop-Coadjutor of Colorado, and the Rev. Charles Minnegerode Beckwith, D. D., Bishop of Alabama.

Missions.—The entire receipts of the Domestic and Foreign Missionary Society for the fiscal year ended Aug. 31 were \$1,099,018.77. This sum includes the large receipts for "specials" and those for publications and miscellaneous purposes which may not be used by the society in meeting its appropriations. The total amount at the discretion of the board for the work for which it has made itself responsible is \$623,170.88, of which \$570,948.73 came from contributions, and \$52,222.15 from legacies received during the year, such legacies having been designated by the testators either for foreign or domestic missions or for the use of the society. In addition, the board used during the past year \$1,080 from a legacy that it had previously received. After all these sums were applied there was a deficit of \$119,143.95 in meeting the appropriations. The number of parishes and missions which contributed to the work of the society by or through any agency the previous year was 4,075. For the year ended Aug. 31, 4,866 parishes contributed by parish offerings as such \$329,687; through the Sunday-schools, \$108,119.40; and through the Woman's Auxiliary, \$70,967.11. The gain in the total number of parishes contributing was 791; in the amount of the parish offerings, \$93,693.28; in the offerings of the Sunday-school, \$7,771.56; of the Woman's Auxiliary, \$7,307.68.

Legacies were received amounting to \$13,918.36, which, according to the terms of the wills, were permanently invested, and \$28,715 was received from legacies and paid out as "specials." The increase in contributions as compared with the previous year was \$114,084.41; but there was a decrease in the amount received from legacies subject to the discretion of the board of \$17,471.03. The deficiency of \$119,143.95 was temporarily met by drawing upon the reserve deposit of \$109,120.81 (set aside by the Board of Managers to meet payments falling due in the early months of the year, when contributions are few and to be replaced as soon as possible), and the \$12,189.46 of the bequest of Rev. Cleveland Keith, applicable only to the China mission.

A system of apportionment among the parishes

and churches was put into operation so that each diocese was guided in its contributions by the amount expected of it to meet the entire amount desired by the society. Monthly reports were issued by the treasurer. The success of the new system was seen in many dioceses and missionary districts exceeding the amount asked of them. With four exceptions every diocese and missionary district showed an increase in the number of parishes contributing. In the aggregate 1,385 more parishes and missionary districts contributed this year than last. The extension of time to March 1, 1902, before putting into action the resolution providing for a 10-per-cent. reduction in appropriations in the event of a deficit of \$100,000 at the beginning of the fiscal year Sept. 1, 1901, resulted in a rescinding of the action in consequence of the favorable report in February of the bishops as to the successful working of the apportionment plan. The amount available for domestic missions was \$606,453.54, of which sum \$275,353.47 was received as "specials" and paid out over and above appropriations or invested permanently. The amount for "specials" given includes \$82,955.23, being the result of the united offering of 1901 of the Woman's Auxiliary. The payments on account of white mission work were \$172,666.12; of Indian, \$68,174.98; of colored, \$67,021.14; specials were \$135,403.99; Woman's Auxiliary united offering of 1901, \$63,400; portion of Woman's Auxiliary united offering of 1898 applied to appropriations for domestic missions, \$14,089; legacy expenses (half), \$26.02; half amount paid to annuitants, \$694.50; half cost of administration and collection, \$24,556.86; printing reports of the board, Spirit of Missions for the clergy, pamphlets, and leaflets for gratuitous distribution, \$11,878.99; legacies for investment, \$3,025.89; legacies paid to certain bishops, etc., at their discretion, \$19,625; half amount withdrawn temporarily for the "Ann Eliza Tweddle Deposit" for domestic and foreign missions, \$12,500; making a total of payments on account of domestic missions and specials, \$583,062.49, and leaving available for domestic missions and specials at the close of the fiscal year a balance of \$112,968.39.

The total amount for the fiscal year applied upon the work of the Church in foreign lands was \$409,730.84, but of this sum \$117,660.03 was received as "specials" to be paid over and above appropriation or to be invested permanently. The amount for "specials" includes \$24,633.99, the foreign portion of the united offering of 1901 of the Woman's Auxiliary. The statement of appropriations and resources for the year is as follows: Balance of appropriations on Sept. 1, 1901, unpaid, \$51,359.10; appropriations Sept. 1, 1901, to Sept. 1, 1902, \$300,283.68; received for foreign missions, \$129,373.70; one-half general offerings, \$136,083.14; legacies applied toward the appropriations, by order of the Board of Managers, \$3,112.13; undesignated legacies to the society, \$23,501.84; making a total of \$292,070.81, which shows a deficiency for foreign missions of \$59,571.97.

Some facts gleaned from the reports of the missionary bishops are given below:

Church work among the Indians is being carried on in 14 dioceses and missionary districts under the jurisdiction of their bishops, aided by 51 clergymen, of whom 29 are Indians, 83 laymen, and 38 women, in all 172 workers. There are over 250,000 Indians in the United States and about 35,000 in Alaska. Instead of rapidly dying out as a race, the Indians have held their own, and some tribes, such as the Cherokees

and Navajos, have nearly doubled. As a result of the educational system adopted by the Government and the various religious denominations 96,000 Indians have discarded native dress for that of the American citizen, 32,000 can read, 38,000 speak the English language, 21,000 live in houses, 98,632 are self-supporting, and 58,809 own taxable property.

In Alaska, the bishop reports 13 church buildings, over 100 baptisms and 44 confirmations for the year, \$1,212.13 in offerings. The amount of expense for the district was \$7,815.48.

Church work among the Swedes in this country embraces thirty odd parishes and missions with more than 75,000 communicants under the charge of 22 Swedish clergymen of the Church. Work among the deaf-mutes is carried on by 2 general missionaries in the employ of the board. In the Western district the missionary ministers in the sign-language to 600 communicants. Work among the colored people lies principally in the Southern States, covering 21 dioceses and 3 missionary districts under the charge of a commission consisting of 5 bishops, 5 presbyters, and 5 laymen. There are 8,000 communicants, worshipping in 200 churches and chapels, in charge of 100 clergymen. The appropriation for the work is \$65,000 per annum. The workers number 108 clergymen, 65 laymen, and 145 women—318 in all.

Church work in the Philippines has been placed on a permanent basis through the election and confirmation of its bishop, the Rev. Charles H. Brent. Just prior to the bishop's sailing for the islands on May 17 a person whose name was withheld gave \$100,000 with which to build a cathedral in Manila. A further gift of \$25,000 from Mr. and Mrs. George C. Thomas will provide buildings for parish work to be erected in connection with the cathedral foundation. The bishop's settlement, with 9 clergy, 2 trained nurses, some kindergartners, some lay missionaries, including a medical man, will cost \$5,000 a year to maintain. This is not yet accomplished, but is the plan of the bishop. An industrial school for teaching agriculture and woodworking, to cost \$2,000 a year for maintenance, is also desired. A movement is on foot by certain well-known and influential men of New York to raise the sum of \$1,000,000, the income of which is to be given Bishop Brent for his work. About \$75,000 of this amount is in sight. The Church of Liberia, through its bishop, reports a growing disposition to depend upon themselves in the matter of building churches and supplying other needs. In the year 1 priest was ordained, 2 candidates admitted for priest's orders, 13 lay readers licensed, 5 additional catechists and teachers commissioned, 1 corner-stone laid, 310 persons baptized. The grand total of baptisms in the district is 5,842; of confirmations, 2,987; present number of communicants, 1,596, of whom 943 are native Africans. Contributions during the year, \$4,961.52.

The bishop of the missionary district of Shanghai, China, reports that province as the most difficult for evangelistic work in China by reason of the attitude of indifference among the people. The province is wealthy, the people not exposed to famine, as in other parts. The feeling of pride in the literary classes is particularly strong, and the consequent indifference to the preaching of the Gospel is harder to overcome than active opposition. Statistics show the number of catechumens as 44; baptisms, 71; confirmations, 29; baptized Christians, 733; communicants, 397; day-schools, 20; day-scholars, 432; boarding-schools, 4; boarding-scholars, 341; teachers (Chinese), 51;

catechists, 7; Bible women, 7; contributions (Mexican), \$4,131. In addition, \$10,000 have been contributed by the Chinese to the building of a new hall at St. John's College. In St. Luke's Hospital, the Woman's Hospital, St. John's Dispensary, and a small dispensary opened in the old city of Shanghai, there were treated 852 in-patients; 32,375 dispensary patients, of which 12,633 were new cases. The report from the district of Hankow shows mission work to have been begun in two provinces hitherto unoccupied, Kiangai and Hunan. The number of baptisms for the year is not large, as an inevitable after-effect of the Boxer troubles. Rapid improvement is noted in all parts of educational work indirectly due to the fact that the court has sanctioned Western learning and ordered a college to be established in the capital of each province. Since all aspirants for office must pass an examination in branches of Western learning, an eagerness to acquire it is evinced at least by all office-seekers. The figures of the three hospitals of this district show 6,485 new cases and 11,873 patients returning to the clinics, and 488 in-patients and 362 operations in the hospitals. The number of baptisms is 210; of confirmations, 9; of communicants, 894; of contributions (Mexican), \$2,098.03.

The advances made in the mission work in Japan show new entries into two large cities, Akita and Wakamatsu. In the latter place a lot has been purchased and buildings suitable for missionary home and church services about to be put into order for use. At Kumagai 3,000 yen was spent for a lot and house for the missionary, and at Takasaki 2,000 yen for similar purposes. Fifteen were confirmed at the church in Aomori. St. Paul's College, Tokio, has as many students as it can receive. More than half the running expenses, which amounted to 9,000 yen, were met by fees. Grace Church, Tokio, became entirely independent of mission help from July 1. The Bishop of Tokio reports 4 deacons and 1 priest ordained; 221 baptisms; 124 confirmations; and contributions (Mexican), \$4,608.40.

The Bishop of Kioto reports 185 baptisms, 78 confirmations, 728 communicants, \$2,973.38 contributions in Japanese yen.

The Church in Haiti is established at 22 points. The baptisms in the year numbered 102; the confirmations, 8; the communicants, 604; the contributions, \$2,769.75.

The Mexican Church is awaiting with interest the future action of the House of Bishops in consequence of the doubt in the minds of many as to the constitutionality of the action taken in Cincinnati relative to the appointment of three bishops. The statistics from Sept. 15, 1901, to Aug. 15, 1902, are as follow: Baptisms, 59; confirmations, 108; communicants, 784; schools, 4; pupils, 63; offerings, \$870.07; congregations, 32; lay readers, 6; priests, 8; deacons, 8; candidates

for holy orders, 7; total receipts from the United States, \$7,891.87.

The statistics of the American churches in Europe show the number of churches to be 9, 2 in Paris and 1 each in Dresden, Florence, Geneva, Lucerne, Munich, Nice, and Rome. The number of clergy is 12; organized churches, 6; chaplaincies, 3; baptisms, 38; confirmed, 78; communicants, 1,475; contributions, \$60,000.

The receipts of the American Church Missionary Society amounted to \$65,978.47; cash on hand Sept. 1, 1901, \$8,159.62. The disbursements were \$59,133.51, and the cash balance on hand Sept. 1, 1902, \$15,004.58. The disbursements for Brazil for missions were \$21,772.01; for specials, \$844.16; for church building, \$4,572.80; for insurance, \$155. The statistics for 1902 show 8 clergy; 4 church edifices; 264 baptisms; 54 confirmed; 516 communicants; \$5,654.26 contributions.

For Cuba, the disbursements were: For missions, \$13,368.43; for specials, \$158; for the Church in Bolondron, \$1,284.28; for the Church in Havana, \$2,374.40. The statistics for Bolondron and Havana (Matanzas not reported) show 32 baptisms; 121 communicants; 8 Sunday-school teachers; 80 scholars; contributions, \$1,649.39.

The Society for Promoting Christianity among the Jews reports a steady advance in its work. The report from Emmanuel House, Philadelphia, states that its building is wholly inadequate to accommodate the numbers who desire to partake of its benefits. Of the 243 young men and women enrolled the house can accommodate but 80. The New York school enrolled 81 this year. The collections and contributions amounted to \$7,134.07; the expenditures, \$13,762.92; cash balance to new account, \$305.06; but it was found necessary to borrow \$6,525 to meet current expenses.

Woman's Auxiliary.—The summary of work accomplished by the Woman's Auxiliary and its junior department in 60 dioceses and 24 missionary districts shows: Contributions in money, \$236,039.03; and boxes valued at \$190,790.84. Of the total of \$426,829.87, the junior department gave money and boxes to the value of \$35,628.85. This total includes the contributions for the year, the specials, and the income and money withdrawn from the united offering of 1892, 1895, and 1896. In addition to it the united offering of 1901 of \$107,589.22 makes the total of \$534,419.09.

Church Building Fund.—The American Church Building Fund Commission reports that during the year it dispensed gifts to complete 43 churches amounting to \$8,175; loans to complete 4 churches, \$10,500. The contributions to the permanent building fund were \$4,907.27; interest on loans and investments, \$21,641.86; loans returned by parishes and missions, \$34,168.78; investment loans returned, \$15,000. The fund at present amounts to \$372,125.40.

Q

QUEBEC, a province of the Dominion of Canada; area, 347,350 square miles; population in 1901, 1,648,898. Capital, Quebec.

Government and Politics.—The Government at the beginning of 1902 was composed of S. N. Parent, Premier, Minister of Lands, Mines, and Fisheries, and Mayor of Quebec; H. Archambault, Attorney-General; F. G. M. Déchène, Minister of Agriculture; J. J. E. Guerin, member without office; H. T. Duffy, Provincial Treasurer;

Lomer Gouin, Commissioner of Public Works; and A. Turgeon, Minister of Colonization and Provincial Secretary. H. Archambault was Speaker of the Legislative Council, and H. B. Rainville of the Assembly. Late in June the Hon. Mr. Déchène died, and on June 30 Mr. Turgeon was transferred to the Department of Agriculture, and Mr. A. Robitaille, M. P. P., was sworn in as Provincial Secretary. Meanwhile, the Legislature had been opened on Feb. 13 by

Lieut.-Gov. Sir L. A. Jetté with a speech from the throne, of which the following are the significant passages:

"Colonization is admitted to be of the greatest importance in connection with the development of this province. Although there is manifest unanimity in public opinion on this point, it is none the less true that there is extreme diversity as to the methods to be followed to attain the end that all have in view. A bill will accordingly be submitted to you for the appointment of a commission whose duty it will be (1) To make a careful study of the existing law, and to seek the means of improving it. (2) To examine and report upon such new projects or systems as may be submitted to it. (3) Finally, to consider all questions relating to colonization and the granting and settlement of the public lands, without losing sight of the slender resources of the province and the interests of the lumber industry.

"The negotiations opened some time ago with the Dominion Government to secure the recognition of our rights to the fisheries in the territorial waters of the province have been continued. My Government has further submitted to the federal authorities two important claims connected with this question of the fisheries—one for the reimbursement to the province of the amounts collected since 1867 for fishing licenses and permits, the other for its share of the indemnity paid by the United States for the privilege granted the citizens of that country by the Washington treaty to fish along our shores.

"The various reforms effected in the past few years in our educational system have produced satisfactory results. The free distribution of school-books and maps has been well received by the people of the province. I have much satisfaction in informing you that a great many school municipalities and educational establishments have availed themselves of the offer made by my Government, and that over 100,000 copies of *Mon Premier Livre* have already been distributed.

"The aid granted to municipal councils for the improvement of roads has awakened the attention of the rural population to this important question, and I am pleased to state that there is marked progress in the making and maintenance of highways.

"My Government continues to encourage the advancement of agriculture and of dairy-produce, by providing for the improvement of stock breeding, by granting premiums for cheese factories, and by diffusing the necessary technical knowledge through the medium of special publications and special lectures."

The address in reply was passed without division. There was some brief and courteous criticism by Mr. Klynn, the Opposition leader, and remarks by the Premier in which he drew attention to the important new country just opening up for development. East of the Saguenay, he said, there are water-powers and supplies of wood sufficient for an almost infinite production of pulp and paper. Most people had but a very imperfect idea of the proportions of the rivers that watered this vast territory. Thus, the Manicougan, whose great falls had been measured and computed last year, was more considerable than the St. Maurice, both as regards length and volume of water. Its first falls were capable of producing 100,000 horse-power, and ten miles higher were other falls still more extensive. These falls were near both to the sea and to a port that was equally accessible in winter and summer, and were in the vicinity of practically

inexhaustible spruce forests. The Premier spoke also of the Betsiamitz, the Moisie, and the St. John of the north shore, and of the large enterprise recently established by the Messrs. Clarke, of New York and Toronto, on the Ste-Marguerite.

The legislation of the session was not as important as were the acts presented and refused by the House or the Government. A measure proposing to abolish provincial appeals to the Judicial Committee of the imperial Privy Council, except in certain cases arising out of the interpretations of federal jurisdiction, was widely discussed, and finally fell for want of support. The following were the chief measures passed during the session, which was prorogued on March 28 after a non-confidence motion had been defeated by 39 to 3:

- To amend the law respecting holidays.
- Respecting the Protestant hospital for the insane.
- To amend the joint-stock companies' incorporation act.
- To amend the Quebec license law.
- To amend the education act.
- To authorize the organization of a commission to assist in the advancement of the colonization and in the development of forest industries.
- To amend the Quebec game laws.
- To amend the Quebec mining law.
- To amend Article 1834 of the Civil Code respecting the registration of marriage contracts.
- To authorize municipal councils to prohibit the sale of intoxicating liquors.
- To incorporate the Metabetchouan Pulp Company.
- To incorporate the Beauharnois Light, Heat, and Power Company.
- Respecting the agricultural syndicates.
- To amend the law granting exemption from taxation to commercial travelers.
- To amend the law respecting civil engineers.
- To amend the law respecting dentists.
- To amend the law respecting mutual fire insurance companies.
- To incorporate the Power, Pulp and Paper Company of North America.
- To incorporate the St. Lawrence and Megantic Railway Company.
- To incorporate the Agricultural and Industrial Exhibition Company of St. Johns, Province of Quebec.

Respecting butter and cheese exchanges.

Finances.—The Treasurer, H. T. Duffy, delivered his financial statement in the Assembly on March 12. The ordinary receipts for the year ending June 30, 1901, were given as \$4,563,432, and the expenditures as \$4,516,257, leaving a surplus of \$47,174. The receipts from all sources, including trust funds and sales of inscribed stock, were \$4,816,218, and the expenditures, including railway subsidies, Quebec Bridge, trust funds, and redemption of debt, were \$4,756,002, a surplus of \$60,215. The chief increase in ordinary receipts over what had been estimated were in lands, mines, and fisheries, which returned \$375,003 more than had been expected; in licenses, which netted \$11,968 of an increase; in direct taxes on commercial corporations, which showed an increase of \$31,157; and in the maintenance of the insane, which contributed \$21,338 more. The payments in excess of estimates for the year included \$41,701 upon legislation; \$83,410 upon justice; \$15,529 upon public instruction; \$24,067 upon agriculture; \$55,390 upon colonization and mines; and \$48,763 upon services; a total of \$273,472. The first payment on account of the

Quebec Bridge subsidy—\$30,000—was paid, and an extra expenditure of \$13,933 on account of the royal visit was met. The net public debt of the province was placed at \$25,491,638, with an additional \$1,736,974 as its increase by conversion. The estimated expenditure for 1902-'03 was \$4,581,555.18.

Mr. Flynn, in criticizing the budget speech for the Opposition, declared that the sum of \$403,197 received and credited to revenue by the Treasurer was really part of the capital of the province as being the product of timber sales during the year from Crown lands. If this amount were deducted, it would turn the alleged surplus into a deficit of \$331,857.

Agriculture.—The report of the Minister of Agriculture in Quebec, dated Feb. 1, 1902, said that conditions showed a marked improvement. The policy of granting Government premiums to cheese factories had proved successful, and \$5,000 had been expended in 1901 for the purpose. Farmers' clubs had increased in 1901 from 530 to 543. On Dec. 31, 1900, they had 16,077 members, with total receipts for the year of \$86,338 and an expenditure of \$77,074. Horse and cattle breeding had been encouraged and improved. Mr. Déchène referred to the methods of handling milk as being still the chief obstacle in the way of a greater dairying development. Speaking at the Dairymen's Convention held at Rivière du Loup on Jan. 9, 1901, Mr. Leon Gerin referred to the results of help from the governments of Canada and the province to the dairy trade in the following terms: "The effects I observe are three: First, the increase in the number of creameries. In 1895, the first year of the service, there were in the province of Quebec 307; in 1899, 711. In the six counties below Quebec in 1895 there were 52 creameries; in 1899, 86. The second result is the increased quantity of butter exported. In 1895 our butter sent to Great Britain was hardly 2,700,000 pounds; in 1900 it exceeded 24,000,000 pounds. The third result is the relative selling value of our butter. In 1895 Australian butter was quoted at 9 to 13 shillings a quintal dearer than Canadian butter. In the same period we have succeeded in reducing the difference between our butter and Danish butter by from 6 to 9 shillings a quintal."

Mines and Minerals.—There was a great development in asbestos-mining in the eastern townships of Quebec in 1901, and the work done and plants put in warranted the hope of a good output of chrome in Colrairie and of gold in Beauce next year. Copper also assumed a little more importance. Mica passed through a difficult phase, owing to the low prices. The other minerals of the province were worked as in previous years. A new industry, from which much was expected, is that of compressed peat. A small establishment for the purpose was set up at Cacouna and yielded satisfactory results; but in the autumn it was burned.

The Bureau of Mines report showed in the year 1900-'01 the issue of 193 prospecting permits and 12 mining licenses. Asbestos was perhaps the most active mineral. From 1,500 to 2,000 men were employed, and their product was valued at \$1,284,424. The blast-furnaces at Radnor and Drummondville were in full operation, with an extraction of 14,449 tons of pig-iron. The total minerals produced were valued at \$1,727,731, including, besides asbestos, iron ore valued at \$30,978; copper ore at \$126,500; mica at \$39,600; ocher (calcined) at \$14,595; cement at \$28,000; and granite at \$146,000. The number of workmen employed was 2,792, and the wages paid \$865,110.

Public Lands and Forests.—The Hon. Mr. Parent, in his report for the year ending June 30, 1901, said that the territory of the province still available for concession was 6,777,287 acres. In the year 183,228 acres had been sold for \$95,026. Three grants to the extent of 1,700 acres were also given, and 10,900 acres were conceded to the parents of families of 12 living children. The leasing of fishing privileges and licenses on inland and salt waters yielded \$46,537, and hunting permits realized \$9,184. The total revenue from woods and forests was \$830,874, and with the proceeds of sale held in June, 1901, and of arrears paid amounted to \$1,234,072. The total area of all lands granted or sold for colonization was 198,690 acres, against 174,127 in 1900. Referring to the sale of timber limits, 4,634 square miles sold for \$375,947, the Premier said in his report: "To comply with the many requests that had been made to me by persons engaged in undertakings such as those I have alluded to, and with the view of supplying raw material to several very prosperous industrial establishments whose existence already dates some years back, and to others recently erected, I deemed advisable to put up to auction the lease of a rather large extent of public lands scattered throughout nearly all the agencies in the province, and also to include in the advertisements of sale certain territories already put up to auction and not bid for." As a sequel to these facts, he gave a list of 28 pulp and paper mills in operation or ready to begin work, and 12 more in process of organization.

Railways.—In the year ending June 30, 1901, the province paid for construction of railways, in money subsidies or land subsidies converted into money, \$128,318. The roads interested were the Great Northern, \$39,584; the Ottawa and Gatineau Valley, \$22,500; the Pontiac and Pacific Junction, \$31,234; the Quebec Bridge, \$30,000; and the Montfort colonization, \$5,000. According to the annual report of the Department of Public Works, the total grants of land to Quebec railways up to the end of the fiscal year was 13,324,150 acres; the number of miles constructed was 998; the total cash payments were \$4,481,656. The total railway mileage of the province on June 30, 1901, was 3,481, of which 575 miles had been constructed prior to confederation in 1867.

Education.—The report of the Superintendent of Public Instruction for the year ending June 30, 1901, issued under date of Jan. 10, 1902, described the general condition of affairs as improving, but not yet satisfactory. The following table is compiled from his elaborate statistics:

1901.	Roman Catholics.	Protestant.	Total.
Schools under boards and independent.....	5,019	951	5,970
Pupils.....	279,474	85,407	314,881
Attending schools of different faith.....	2,606	1,423	4,029
Teachers, total.....	8,761	1,423	10,184
Teachers, "religious".....	3,545	1	3,546
Teachers, lay, male.....	275	101	376
Teachers, lay, female.....	4,941	1,326	6,267
With diplomas.....	4,482	1,280	5,772
Without diplomas, lay teachers.....	784	187	971
Without diplomas, "religious".....	3,545	1	3,546
<i>Average Salaries, Male Teachers with Diplomas.</i>			
Elementary.....	\$281	\$1,149	\$1,430
Model and academy.....	510	802	1,312
<i>Average Salaries, Female Teachers with Diplomas.</i>			
Elementary.....	113	201	314
Model and academy.....	125	299	424

Besides these there were 45 other institutions, universities, colleges, normal schools, etc., attended by 11,626 students. The report showed an increase of Roman Catholic schools, 60; pupils, 4,795; and teachers, 390; and a Protestant decrease of 8 schools and 1,167 pupils, and an increase of 30 teachers. Out of 6,658 lay teachers, only 391 were men, a decrease of 15; and 6,267 women, an increase of 149. Of the 391 men, 307 were engaged in superior schools. The increase in the number of *religieux* was 286, showing a reversion to the high figures in this class of six or seven years since. The number of teachers without diplomas was: Roman Catholic, an increase of 119; Protestant, 54. There was a marked increase of Protestants—from 83 to 137—which arose probably from the recently introduced policy of compulsory attendance at the normal school. Graduates often declined the small salaries that were offered, and the school boards illegally appointed teachers who were

without diplomas and did not appear to care if they thereby forfeited the Government grant, as this was very small. As to average salaries, there was a general increase. It was most noticeable with the Protestant female teachers, with diplomas in superior schools, who were raised from \$152 to \$201.

Criminal Statistics.—The sentences for drunkenness in the province numbered 1,493 in 1900; for theft, 688; for vagrancy, 662; for assaults, 206. The maintenance of the prisons cost \$126,717, against \$116,602 in 1899. The following quotations and statement are from the annual report of the Inspectors of Prisons and Asylums for 1900: "The total number of prisons in the province of Quebec in 1900 was 4,753—3,919 being men and 834 women—against 4,626 in 1899 (3,787 being men and 839 women). The number of prisoners under sixteen years of age is decreasing year by year. We had only 37 in 1900, against 56 in 1899."

R

REFORMED CHURCHES. I. Reformed Church in America.—The following is a summary of the statistics of this Church as they were reported to the General Synod in June, 1902: Number of classes, 35; of churches, 652; of ministers, 718; of candidates, 48; of families, 61,775; of communicants, 112,896; of catechumens, 35,421; of Sunday-schools, 921, with a total enrolment of 124,672 members; of members received on confession during the year, 5,000; of baptisms, 5,897 of infants and 1,278 of adults. Amount of contributions: Denominational, \$276,028; for other objects, \$115,203; for congregational purposes, \$1,231,464.

The Board of Education reported to the General Synod 62 divinity students in the theological seminaries—the smallest number since 1886. Reports were made from Hope College, Michigan, with 206 students, and from 3 academies in the Northwest. The contributions to the work of the board had been \$7,375.

The business of the Board of Publication was represented as being in a satisfactory condition, the receipts of the past year having been \$25,829, showing an increase of \$2,208. The contributions to the Benevolent fund having increased, the board had been able to enlarge that side of its work in supplying needy churches and schools. About 60 annuitants were receiving aid from the Widows' fund.

The Board of Domestic Missions had closed the year without debt. The amount received from all sources had been \$95,243 for the mission work—an increase of nearly \$10,000—and less than \$8,000 to the Church Building fund. New churches had been organized and new missions begun, while several churches were about to become self-supporting. The new mission work centering in Oklahoma was prospering, and was represented in the General Synod by the first Indian delegate it had ever enrolled. The contributions in the department of the Woman's Executive Committee had increased from year to year till they now amounted to \$31,425, more than \$5,000 in advance of those of the preceding year. The Indian missions and the work among the Kentucky mountaineers had been generously supported by this committee.

The receipts of the Board of Foreign Missions had been \$114,057 for its regular work and \$35,470 for special objects. A debt of \$9,110 had been

paid, and the board was able to present its report to the General Synod free from indebtedness. The receipts for the Arabian mission had been \$11,354 for the regular work and \$7,030 for objects outside of the appropriations, among which was the erection of the Mason Memorial Hospital, at Bahrein. The mission at Arcot, India, now transferred to the Synod of the Church of Christ in India, returned 16 missionaries, 460 Indian agents, 114 non-Christian teachers, 2,305 communicants with a Christian community of 10,060 persons, 167 Sunday-schools, with 5,406 pupils, and 217 other schools, with 6,226 pupils. The mission was an aggregate of village churches, and now included 157 such. Each village, as a rule, had a school and a resident Christian teacher or catechist. Connected with the mission were the college at Vellore and the industrial school at Ami.

The ninety-sixth annual meeting of the General Synod was held at Asbury Park, N. J., beginning June 4. The Rev. Abbott E. Kittredge, D. D., was chosen president. The reply, prepared by the committee to which the subject had been referred, to the questions presented to the previous General Synod by the delegate of the Christian Reformed Church concerned the future attitude of the Church as to secret oath-bound societies, and the reason why it did not include in its standards the rejection of the errors of the Remonstrants. As to the former question, regret was expressed at the want of confidence implied in it toward a Church so closely allied and in correspondence, and answer was made to the effect that the whole matter under the Reformed system of government was in the province of each consistory, and the relation of the higher judicatories to it was only appellate. Hence the General Synod was not called upon to make a deliverance on the subject. As to the other question, conditions in America at the time of the adoption of the Canons were such as to call for nothing beyond a positive declaration of faith, and hence the negative form, that of the rejection of the errors of the Remonstrants, was deemed unnecessary, and was omitted. The fifth annual report of the special committee on the finances of New Brunswick Theological Seminary showed that \$4,994 had been added to the endowment during the year, bringing the whole amount of addition since the committee's work begun, up to \$46,000.

The offerings for current expenses, \$3,437 having been contributed during the year, had been brought up to a total of \$14,050; and with the addition of another gift of \$4,000, the total thus far secured was \$64,000, besides promises and legacies still outstanding. The committee was steadily keeping in view the conviction of the Synod that \$250,000 should be added to the endowment of the seminary to repair its diminished income and increase its equipment for effective service. A report was made of the Western Theological Seminary, at Holland, Mich., and of the progress of the endowment scheme. The second chair had been fully endowed with \$30,000, and \$3,000 had been secured toward the endowment of the third chair. The report on the action of the 34 classes of the Church in the amended forms which had been approved at the last session of the Synod and referred to the classes, showed that 25 of the classes were in favor of some revision of the forms under consideration. Some desired shorter and simpler forms; some objected to changes in long familiar phraseology; others desired "the language of to-day for the people of to-day." Many desired the elimination of the phrase in the form for the baptism of adults, "wholly incapable of any good and prone to all evil," or some change which will bring it into closer accord with other phrases of the Standards. The whole subject was referred to another committee to prepare amended forms conforming as nearly as practicable to the prevailing views of the classes, with the suggestion of the sense of the Synod that in these forms, "simplicity, dignity, and verity should be sought rather than elaboration of form"; this committee to report to the next Synod. The institution of a post-graduate course, covering at least one seminary year, was authorized in the theological seminaries. A special committee was constituted to urge each church in the denomination to undertake a definitely evangelistic work during the coming year; the committee is further to consider the methods of such work and its results, and to report to the next Synod. The Synod of South India having been constituted as an independent native union church by the union of the mission churches of this body and of the Free Church of Scotland, the classes of Arcot, heretofore attached to the Particular Synod of New York, was set off from that judicatory and transferred to the new jurisdiction in India. The resolutions of the Synod on the Sabbath express alarm at the increased tendency to secularize the day; affirm the law of the Sabbath as a divine law of perpetual and binding obligation upon all men and the authority of the Christian Sabbath to be derived from it; direct that its nature and the danger to it be intelligently set forth in the pulpits and frequently brought to the remembrance of congregations; testify against Sabbath desecration under such forms as the publication and encouragement of the Sunday newspaper, unnecessary Sunday travel, Sunday visiting, and the playing of baseball, golf, and other games on the Lord's Day; and express "unqualified disapproval" of all political conferences on Sunday. The Committee on a Uniform Version of the Metrical Psalms reported progress. Responding to an overture of the General Synod of the Reformed Presbyterian Church, a committee was appointed to confer with reference to closer cooperation or unity of organization.

II. Reformed Church in the United States.

—The following summary of the statistics of this Church is from the Almanac of the Reformed Church in the United States (Philadelphia) for

1903: Number of synods, 8; of classes, 58; of ministers, 1,112; of congregations, 1,691; of communicants, 255,408; of unconfirmed, 198,815; of Sunday-schools, 1,662, with 24,796 officers and teachers and 200,178 pupils; of students for the ministry, 199; of baptisms during the year, 13,437 of infants and 1,830 of adults; of confirmations, 11,366; amount of contributions for benevolent purposes, \$283,954, including \$60,000 for home and \$47,710 for foreign missions; of contributions for congregational purposes, \$1,396,654. Number of literary and theological institutions, 17; of periodicals, 17 in English, 8 in German, and 15 published by institutions. In home missions special attention is given to work among Hungarian and Bohemian settlers. The foreign missions are in Japan and China.

The Sunday-School Board had reports from 1,613 Sunday-schools, with 25,938 officers and teachers and 221,917 members, showing a gain in three years of 15,013 members. Fifteen Sunday-school missionaries had been employed during the past three years, 16 schools had been organized, reorganized, or revived, and 7 congregations developed out of Sunday-schools. Since 1894 30 Sunday-schools had been organized or reorganized, out of which 17 congregations had been established. Grants of literature had been made to the Hungarian and Bohemian missions, and inquiry had been made with reference to the publication of Hungarian-English Sunday-school literature, but it had not been begun. An aggregate of 8,273,765 copies of publications had been issued, and the net profits from sales had been \$12,104. The capital of the Publishing Establishment was \$18,953.

The report of the Board of Directors of Orphan Homes represented the institutions at Fort Wayne, Ind., and Womelsdorf (Bethany), and Butler (St. Paul's), Pa. The endowments had been raised through accessions by legacy, \$17,000 during three years. The total receipts had been \$29,678.

The Society for the Relief of Ministers and their Widows had expended during the past year \$3,600 in aid of 13 ministers and 39 widows. Its invested funds amounted to more than \$50,000.

The triennial report of the Board of Home Missions covers the work of the boards of the General Synod, the Central and Northwest Synods, and the German Synod of the East. These altogether returned 145 missions, 17,724 communicants, 179 Sunday-schools, with 19,828 officers, teachers, and pupils, and contributions of \$36,336 for benevolences and \$350,401 for congregational purposes. The two boards of the German synods represented their work of organizing the German immigrants in the new agricultural settlements as being in an encouraging condition. The harbor missionary in New York met these people on their arrival and sought to speed them safely to their destination, taking care thus of 500 or 600 persons a year. Toward the apportionment of \$3,450 for this harbor work during the past three years only \$2,379 had been received. The missions among Hungarian immigrants were growing in numbers and importance, and it had been necessary to bring pastors for them from Hungary. Although \$24,000 had been apportioned for them, only \$10,234 had been received. The board had under its control a Bohemian church in Cleveland, Ohio, and was contemplating the erection of a church building for Bohemians in Chicago. The Woman's Missionary Society of the General Synod had contributed during the triennium \$9,573 to the general and church building funds. The sum of \$119,075 had been in-

vested by the board in church property, the full value of which was estimated to be \$282,545. Of that amount, \$65,700 were borrowed money, loaned to the missions at a lower rate of interest than they could secure. One hundred and twenty loan funds of \$500 and more, named by the donor, amounting to \$70,000, were held by the boards and loaned to missions on first mortgage in all parts of the Church. Ten of the missions had become self-supporting during the triennium, and 23 new missions had been established. The sum of \$19,618 had been received toward the payment of the debt of about \$35,000.

The Board of Foreign Missions had received from May 1, 1899, to May 1, 1902, \$114,990, or \$24,621 more than during the previous three years, of which \$14,224 had been contributed in the form of legacies and large gifts. The invested funds had increased \$2,000. The mission in Japan, with 10 ordained ministers, 25 unordained evangelists, 25 church buildings, and 21 Bible women, returned a net gain of 511 members and about \$1,250 of native contributions. The educational work at Sendai included a boys' school and theological seminary, with 142 students in the theological, literary, and college courses, and the girls' school, with 86 pupils. The girls' school had suffered the loss of its building by fire. An industrial home was also maintained. A mission had been opened in China in 1899, concerning which progress was reported. The board was introducing a system of specialization, under which classes, churches, and societies might directly support some part of its work in heathen lands.

The General Synod met in its fourteenth triennial session at Baltimore, Md., May 20. The Rev. John H. Prugh, D.D., of Pittsburg, Pa., was chosen president. The committee having in charge the preparation of a digest of the rulings of the General Synod reported that the book had been prepared and was on sale. The Committee on the Twentieth-Century Movement reported that 13 tracts had been issued and a number of articles had been published and special sermons preached with reference to the scheme. The committee to which had been referred matters pertaining to the Protestant churches in Germany, Switzerland, Hungary, etc., reported progress. Provision was made for the preparation of a new constitution for the Church by a Committee of Five appointed by the Synod. This committee was instructed to submit the draft of the Constitution to the classes for criticisms and suggestions, from which the committee shall give final shape to the document, preparatory to submitting it to the General Synod. Various measures were approved looking to the strengthening and extension of the foreign mission, to the rebuilding of the school property in Japan which had been recently destroyed by fire, and to the erection of other buildings. A proposition to celebrate the twenty-fifth anniversary of the founding of the mission in Japan was approved; and an effort was authorized to raise during the celebration a thank-offering of not less than \$25,000 for buildings, endowment, equipment, etc. Classes were requested to call the attention of pastors and elders to the objections to allowing independent foreign missionaries or itinerant missionaries not under the control of any recognized board from receiving aid in any of the congregations of the Church. The sum of \$45,000 was appropriated annually for the next three years for the mission work in China and Japan, the money raised by the women's societies not to be a part of the apportionment. The efforts of the twen-

tieth-century movement in connection with the Sunday-schools were ordered continued; a higher standard of excellence for all the schools was urged—in the training of more efficient teachers, the circulation of lesson helps and Sunday-school literature, and the arrangement of Sunday-school instruction in such a way as to lead the children to entrance into the catechetical class and full membership of the Church. Special offerings were appointed to be taken in the Sunday-schools on four Sundays of the year for different benevolences. Special interest was expressed in the home missions among Hungarians and Bohemians, and the classes were requested to keep themselves in close touch with Hungarian and Bohemian churches and their pastors within their bounds. An annual apportionment of 6 cents per member was laid for church building in the English synods, and the creating of church-building funds was commended to classes, societies, congregations, and individuals. Other measures were adopted for increasing the efficiency of the home missions. The sum of \$80,000 was apportioned annually among the English synods. The Committee on Ministerial Relief reporting a prosperous condition of the society, a committee was appointed to report to the next General Synod upon a plan to organize and continue a synodical society for this benevolence. Another committee was appointed to report concerning the use of fairs, suppers, etc., for raising Church funds. The Synod decided that it did not recognize a sermon preached by its presiding officer as an official and authoritative utterance of its doctrinal statements. Three different overtures were sent up with regard to revision of the Heidelberg catechism, but the Synod declined to accede to their requests. The report of the Committee on the State of the Church, while calling attention to some shortcomings, reported general improvement during the past three years. The number of classes had increased by 1; of ministers by 33; of congregations by 76; of members by 11,000; of contributions for benevolence by \$64,867; and of contributions for congregational purposes by \$303,449.

A plan of cooperation was arranged between the General Synod's and the two German synods' Boards of Home Missions, under which \$4,500 a year will be paid by the churches of English synods to establish German Reformed churches. For this the German boards are to report all their work to the General Synod's board.

III. Christian Reformed Church (Dutch).—The Jaar Boekje of this Church for 1903 gives the following statistics: Number of classes, 9; of congregations, 155; of ministers, 99; of families, 11,346; of members, 19,174; whole number of souls, 58,512. Sunday-schools and Young People's Societies are sustained in most of the churches, but the full numbers are not given. The Theological School at Grand Rapids, Mich., has theological and literary departments. The Church has Boards of Home and Foreign Missions, of Missions to the Jews, of Ministerial Aid, and for the Retired Preachers' fund. One weekly and 3 monthly periodicals are published, one of the monthlies being in English; the other 3 periodicals are in Dutch.

IV. Reformed Church of France.—The Free Evangelical Church of France represents a body which separated from the Synod of the Reformed Church of France in 1849, when the Synod declined to subscribe to an evangelical Confession of Faith. About 30 ministers withdrew from the Synod at that time and organized the "Union des Eglises Evangeliques." By

this act of separation the union lost the subsidy which the state afforded to the recognized Reformed Church; and in its constitution it affirmed its duty to support itself independently of the civil list, and to retain its autonomy of discipline. It has, however, been assisted in maintaining itself by the Presbyterian Churches of England and Scotland. With the aid of these churches it has engaged actively in the work of home missions. The fiftieth annual report of these missions gives returns of 22 mission stations, 55 substations, and 130 preaching stations, in all of which evangelistic work, and in some institutional work, is carried on. Besides establishing churches, day-schools are organized in many instances, coffee-houses have been instituted, and total abstinence societies have been formed. The mission work being largely among the laborers of France, much relief work is done. About one-third of the expenses of this work are contributed by churches in England and Scotland.

At the Synod of 1902 of the Reformed Church, held at Auduze, both Orthodox and Liberal delegates took part. A resolution was adopted, with only two dissenting votes, declaring in effect, that the Synod was willing to respect all interpretations of doctrine which left untouched "the great spiritual realities and the essential facts of the Gospel history."

V. Presbyterian and Reformed Alliance in India.—The seventh Conference of the Indian Branch of the Presbyterian Alliance was held in Allahabad in December, 1901. Fifty missionaries and chaplains were present, representing 9 different churches. Arrangements were made for uniting the Presbyterian and Reformed Churches in India under the name of "the Church of Christ in India, Presbyterian."

VI. Presbyterian and Reformed Union in China.—A conference representing the missions of the Presbyterian and Reformed Churches in China was held at Shanghai in April to discuss Presbyterian unity in China. Fifty-four representatives of the various missions attended it. The Rev. Dr. G. Farnham, of Shanghai, presided. As a result of its deliberations the appointment of a committee was recommended to prepare a plan of union, organic or federal, as may be found practicable, and submit the same to the Church courts (native and foreign) concerned.

RHODE ISLAND. (See under UNITED STATES.)

ROMAN CATHOLIC CHURCH. The appointment of the Pontifical Commission on the Bible, by Pope Leo, is a noteworthy event. Catholic scholars all over the world will have the fullest opportunity to set forth their views as to the value of recent criticism of the sacred text. Cardinal Parocchi is president of the commission, and consultants are to be appointed from different countries. Dr. Grannan, of the Catholic University, is the representative from the United States.

The Leonine Institute was founded at Athens by Pope Leo, some years ago, for education of the youth of Greece, and last year he founded a seminary in connection with it. On that occasion he wrote to the Greek bishops, recalling the departed glories of their classic land, and inviting the separated Christians to return to unity with Rome.

The pontifical jubilee was proclaimed on March 3, the anniversary of Pope Leo's coronation. Of the many pilgrimages announced, that of the Lombards was the first, on Feb. 20, the first day of the Pope's twenty-fifth year on the throne. Cardinal Ferrari, Archbishop of Milan, led it. About the same time the Belgians came with all their bishops. In receiving the Roman nobles the

Pope said, "Your presence in large numbers proves false the rumor that you have forgotten the Holy See." The dignity of Noble of Rome has been conferred by the Pope on the excellent Christian diplomatist Señor Pidal, who has resigned his post as Spanish ambassador.

In the midst of all the movements of the jubilee, Pope Leo published his Easter encyclical to all the bishops, dealing with the crises through which the Church and society are passing. He also issued a very important *motu proprio* letter, forbidding the employment of law notaries in ecclesiastical affairs. These were unversed in canon law, and abuses were likely through their acquaintance with secret matters, particularly concerning matrimonial cases sent to Rome for consultation. There were complaints, also, that unjust fees were exacted, and even from the poor. The Pope forbids, moreover, the receiving of any fee whatsoever in cases regarding marriage, no matter who the persons are that make application.

On May 29 the Osservatore Romano published Pope Leo's encyclical on the holy eucharist. The aged pontiff touchingly recalls that Our Lord gave the blessed sacrament as his sovereign gift on the eve of his passion; and so his vicar wishes that his last official utterance should commend the same pledge of love divine. This encyclical completes, he says, his former ones on the Divine Redeemer and the Sacred Heart. The blessed eucharist is the chief source of Christian life, and especially of charity, the greatest need of our modern age. Pope Leo urges upon all the faithful the practise of frequent communion.

At the suggestion of Prof. Pastor, director of the Austrian Historical Institute, the representatives of the foreign historical institutes, in Rome, sought an audience of the Pope to congratulate his Holiness on his jubilee. The following institutes were represented at the audience, which took place on May 4: The Austrian, Belgian, French, Gorresgesellschaft, Hungarian, Prussian, English, Danish, Swedish. Bishop Fraknoi, of the Hungarian Institute, delivered a Latin address, thanking the Holy Father for opening the archives and founding the Leonine Library, and pointing to the 100 volumes of publications, the fruit of the labors of historians in the Vatican, labors that owed their existence to the Pope's liberality and generosity. The Pope, answering in Latin, said he congratulated himself on having thrown open the Vatican archives to historical scholars, since it had led to the creation in Rome by many noble nations of such learned institutes.

Cardinal Ledochowski died of a paralytic stroke on the morning of July 22. Cardinal Gotti, a Carmelite, formerly prefect of the Congregation of Bishops and Regulars, who has succeeded him, was born in Genoa in 1834. For twenty years his life in his order was undistinguished. He took part in the Vatican Council, and soon afterward was made procurator of the Carmelites. Later he spent three years on an embassy sent to reorganize the Church in Brazil. After his return he was made cardinal.

The Romans celebrated the Pope's silver jubilee July 6. Seated on a throne outside the Library of the Vatican, and surrounded by the banners of the 15 *zioni*, or districts of the city, Pope Leo received them. There were persons of all classes, particularly the wage-earners. Fifty thousand tickets had been distributed, but many thousands could find no room. So enthusiastic was the applause as Pope Leo greeted his faithful people of Rome, that it was impossible for him to speak.

The new reference library at the Vatican is the gift of Leo XIII. The Vatican archives and li-

brary consist mostly of manuscripts. A reference library was much needed for the scholars to whom the Pope has thrown open the Vatican's historic treasures. There are few reference libraries in Rome, the Government itself having done little since it took over the public libraries in 1870. The new reference library, excellently situated for use, is well appointed. There are complete sets of the fathers and councils, lexicons in various languages (exegetical lexicons, legal, liturgical, etc.). Cardinal Mai's library has been added to the collection of books, which is still growing under the care of the prefect, Father Ehrle.

In August Mgr. Guidi, who had filled many important posts successfully, was appointed apostolic delegate to Manila. He was born in 1852 at Alatri, in the province of Rome. In 1870 he had finished his studies in the Collegio Romano. Having taken degrees in the Pontifical Seminary, he was sent by Pio Nono to the University of Innsbruck. Here, in 1877, he took the degrees of theology and law. A year in the Sorbonne, Paris, brought him a degree in Oriental languages. He was attached as secretary to the nunciature at Madrid from 1879 to 1883. Then he went as secretary to the embassy sent for the coronation of the Czar. From 1883 to 1887 he was secretary of the nunciature at Lisbon. Later he was auditor, *chargé d'affaires* in Munich, secretary of extraordinary ecclesiastical affairs at the Vatican, on extraordinary diplomatic missions in Ecuador, and again at his former post in the Vatican.

The General Committee of the Work of Catholic Congresses sent in October to the cardinal-vicar its lists for the place of president. Its first choice was Count Medalago, the grandson of Joseph de Maistre, "the right hand of the Pope, and the inspirer of Toniolo," as La Vie Catholique styles him. The cardinal wished to retain Count Paganuzzi on account of his devoted services, but he resigned, desiring to see the newer men advance.

Mgr. Ehses, director of the Gorres Historical Institute of Rome, has disproved, by his investigation, the strange assertion that Pope Clement VII permitted Henry to marry Anne Boleyn. Clement declared "not indeed categorically at first, but clearly as possible, that he had no power to break the lawful marriage of Henry VIII." Paul Friedman, the English historian, gives the best general view of Henry's envoys to Rome. He says their reports give an incomplete and unreliable account of the negotiations. They were guilty of suppression of facts and deception.

On Oct. 15 the General Chapter of the Carmelites elected Father Pius Meyer prior-general of the order. Father Meyer is a native of Riedlingen, in Würtemberg. On Oct. 17 the Congregation of the Salvatorians (Societas Divini Salvatoris) held in the Roman mother-house its first general chapter. Delegates were present from Europe, from Asia, and from the three houses in the United States. The founder of the congregation, Father Jordan, was reelected general, this time for life. The German Catholic papers note with some pride that four religious orders or congregations have Germans at their head: Father Fruhwirth is general of the Dominicans, Father Bernard von Andermatt general of the Capuchins, Father Meyer of the Carmelites, and Father Jordan of the Salvatorians. It is also a sign of the flourishing condition of the religious orders in this country, and of the growth of American influence in Rome, that Father Meyer lived for many years in the United States, where he held the offices of provincial and commissary-general.

The Irish pilgrims were received in audience by

the Holy Father on Oct. 25. With the pilgrims were Cardinal Moran, Archbishop Riordan, and Bishop MacSherry, of South Africa. Pope Leo was greeted with enthusiastic applause as he entered the hall of audience. He recalled, he said, the frequent proofs of loyalty which, in the course of his pontificate, he had received from Catholic Ireland. Going round the hall, his Holiness allowed the pilgrims to kiss his hands, and he received the many addresses sent by corporations, Catholic associations, and the press. The benignity of the pontiff made a deep impression on his warm-hearted spiritual children. The band of 500 pilgrims was, to a great extent, composed of representatives of the Irish party in Parliament, of the municipalities of the principal cities, of the officials of 60 or 70 smaller cities and towns, of county councils, and other administrative bodies, and of several newspapers. There were representatives also of the Working Men's Association of Dublin, which contains 18,000 men, of the 4,000 members of the Society of St. Vincent de Paul in the same city, and of the Association of National Teachers.

An international committee has been formed to present to "the Pope of the Working Men" the international homage of the toilers. These will present to Pope Leo three tables of bronze, to be placed in St. John Lateran's, the mother-church of Christendom, and to form part of a monument symbolizing the ennobling and sanctifying of labor by Christianity. The names of the associations that contribute will be carved on the monument.

Cardinal Gaetano-Aloysi Masella, who occupied the very important post of prodatary in the papal chancery, died Nov. 23, at the age of seventy-six.

Much notice has been given in the European journals to the visit of the Syrian Patriarch of Antioch. He was accompanied by several Syrian bishops, by many prominent persons of his patriarchate, and by representatives of the Eastern seminaries in Rome. Pope Leo, who has so long and earnestly endeavored to unite the Eastern and Western Churches, expressed great joy when the patriarch told of his own unceasing efforts to promote the great and difficult work of reunion. Two Eastern bishops have entered the fold of the Church, "with many priests and a multitude of the laity." The patriarch presented to the Holy Father very valuable offerings, manufactured in Damascus, Beirut, and Aleppo. Among them were a rich white silk tapestry, bordered with gold and Oriental pearls, and an album containing the names of the dioceses and ecclesiastical rulers of the patriarchate.

The United States.—The Catholic statistics for 1902 are: Cardinal, 1; archbishops, 13; bishops, 81; priests, 12,429; churches, 10,689; universities, 7; seminaries, 81; students, 3,402; colleges for boys, 163; academies for girls, 629; parishes with schools, 3,857; Catholic population, 10,976,757.

The Right Rev. Thomas Lenihan, Bishop of Cheyenne, Wyo., died. He was born at Mallow, Ireland, in 1834, came to this country at an early age, and was consecrated bishop in 1897.

The Rev. Dr. Ganss, rector of St. Patrick's Church, Carlisle, Pa., has resigned his parish to become the financial agent of the Catholic Indian schools, with headquarters in Washington. His well-known ability and his acquaintance with the Government Indian School at Carlisle make this appointment one of peculiar fitness.

The Pope has made the Rev. Henry A. Barry, of Boston, a doctor of divinity; the Rev. William Pieper, of Columbia, Pa., one of his domestic pre-

ates, with the title of monsignor; Miss Anne Leary, of New York, a countess; and Mr. John D. Crimmins a knight of the Order of St. Gregory.

In the past year 21,800 children were confirmed, 10 new schoolhouses were erected, and 11 others were generally improved in the archdiocese of Chicago. The number of new parishes established in the same period was 14. Twelve new churches were built, and 18 others have replaced smaller and less substantial edifices. The Catholic population is estimated at about 800,000 and the students of colleges, academies, and parochial schools at 87,318. The priests, diocesan and regular, number 538.

Archbishop Ryan has been appointed by President Roosevelt to fill the vacancy in the Indian Commission caused by the death of the Protestant Bishop Whipple.

By the will of the late Col. John McKee, of Philadelphia, long recognized as the wealthiest colored man in the United States, an estate valued at more than \$2,000,000 has been given to Catholic charity.

On the evening of Monday, May 5, the Most Rev. Archbishop Corrigan, of New York, died. See OBITUARIES, AMERICAN.

On May 17 the Very Rev. William J. Kenny was consecrated Bishop of St. Augustine, Fla., in the cathedral of that city. Bishop Kenny has been for twenty-five years a priest of the diocese, and for some years past its vicar-general and administrator. On May 25 Dr. Garrigan, late vicerector of the Catholic University, was consecrated bishop of the newly erected see of Sioux City, Iowa. The ceremony took place in the cathedral at Springfield, Mass.

On May 10 Mgr. Zardetti died in Rome. He was well known in America, having been Bishop of St. Cloud, Minn. In 1894 he was transferred to the archiepiscopal see of Bucharest, in Roumania.

Archbishop Feehan, of Chicago, died July 12. He had been archbishop since 1880.

Two Augustinians, Father D. J. O'Mahoney, of Lawrence, Mass., and Father J. A. McErlain, of Villanova College, Philadelphia, have been sent to the Philippines by the Rev. M. J. Geraghty, provincial of the order in America.

On Sept. 6 Archbishop Chapelle left New Orleans for Havana. His visit to Cuba was in connection with his duties as apostolic delegate to the island. Just before leaving, the archbishop received instructions from Cardinal Rampolla to set out for Rome as soon as he had inspected the condition of the Church in Cuba.

In September the Right Rev. John M. Farley, Auxiliary Bishop of New York, was appointed archbishop in succession to the late Archbishop Corrigan. Archbishop Farley has held various places of trust in the diocese. He was private secretary of Cardinal McCloskey for several years, was appointed vicar-general of the diocese by Archbishop Corrigan, and on Dec. 21, 1895, was consecrated Bishop Auxiliary of New York.

The Right Rev. George Montgomery, Bishop of Los Angeles, Cal., has been appointed coadjutor, with the right of succession, to Archbishop Riordan of San Francisco.

The Rev. James J. Keane, pastor of the Church of the Immaculate Conception, Minneapolis, Minn., was named Bishop of Cheyenne, Wyo., successor to the late Bishop Thomas M. Lenihan; and the Very Rev. J. N. Stariha, vicar-general of the archdiocese of St. Paul, Minn., as first bishop of the newly erected see of Lead City, which is part of the diocese of Sioux Falls, S. Dak.

His Eminence Cardinal Gibbons celebrated on

Oct. 3 his silver jubilee as Archbishop of Baltimore. This is the third jubilee the cardinal has had since his arrival in that city. On June 30, 1886, he celebrated his silver jubilee as a priest by choosing it for the day of his investiture as cardinal, and on Aug. 16, 1893, he celebrated the silver jubilee of his consecration as bishop.

The Right Rev. William George McCloskey, Bishop of Louisville, Ky., celebrated on Oct. 6 the golden jubilee of his priesthood. The bishop is a native of Brooklyn, N. Y., where he was born Nov. 10, 1823.

His Excellency the Most Rev. Diomede Falconio, O. F. M., papal delegate to Canada since Oct. 12, 1899, assumed his duties at Washington as successor to Cardinal Martinelli on Nov. 20. Mgr. Falconio was born at Prescoccostanza, in Abruzzo, Italy, in 1842, and entered the Order of St. Francis at the age of eighteen. He was sent to the United States in 1865, and in the following year was ordained priest.

The Right Rev. James Edward Quigley, Bishop of Buffalo, has been appointed Archbishop of Chicago, to succeed the late Archbishop Feehan.

Canada.—The Canadian Catholic population is 2,228,997, or nearly half that of Canada. The Methodists number 916,862; the Presbyterians, 842,301; the Anglicans, 680,346; the Baptists, 292,485.

Two events of importance have marked the University of Ottawa, the appointment of the Rev. J. I. Emery, O. M. I., for several years stationed at Buffalo, N. Y., as rector, and the opening of the new Science Hall, thoroughly equipped with all modern improvements and the latest scientific apparatus.

Mgr. Donato Sbaretti, auditor of the American delegation under Cardinal Satolli, and afterward Bishop of Havana, Cuba, has been appointed to succeed Archbishop Falconio as delegate apostolic of Canada. Archbishop Sbaretti was born in Montefranco, in the archdiocese of Spoleto, in 1856.

Very soon after his consecration Bishop Brey not set out to visit his new vicariate of Mackenzie and Yukon, extending from latitude 60° north to the Arctic Ocean. The visitation will thus extend beyond the arctic circle. The Catholic advance is rapid. Dawson City has a parish church, with eight chapels in outlying mining stations. There is a Catholic school also and a hospital.

Three priests, one lay brother, and four nuns of the Order of St. Basil, Ruthenian rite, and one secular priest of the same rite, set out from Hamburg for the Canadian Northwest. They will labor among the numerous Catholic Galicians of Manitoba and the Northwest Territories. There are 35,000 Ruthenian uniates in that section of Canada.

England.—The archbishops and bishops of England and Scotland number 24. There are 3,500 priests, of whom 2,393 are secular and 1,107 regular. The number of churches, chapels, and mission stations is 1,926.

Bishop Vaughan died late in October, at the age of eighty-eight, after nearly fifty years of episcopate. He had been practically inactive for eleven years, a coadjutor having been given to him.

King Edward sent, by Gen. Kelly Kenny, the cross of the exclusive and highly aristocratic orders of SS. Michael and George to Father Hecht, an oblate of Mary and missionary in South Africa. The honor was merited by the devoted care of Father Hecht for the wounded soldiers during the late war. It is said that he opened eighteen hospitals. He himself was near dying through fever contracted during his labors.

The number of religious in England now is far greater than at any time before the Reformation. Among the more numerous communities, the Benedictine monks, who had 25 priories in 1501, have at present 8 principal establishments, with 59 dependent "cells," as they are called. The Franciscans have 14 houses, the Dominicans 9, the Jesuits 31, the Sisters of Charity of St. Vincent de Paul 49, and the Sisters of Mercy 84.

Ireland.—In four years the Society of St. Vincent de Paul has been greatly extended and its good works increased. In one year its receipts for charitable objects were £18,305 (\$91,525). In the past four years more than 63,000 families (more than 235,000 persons) were relieved by its charity.

The scholarly Archbishop of Tuam, Dr. McEvilly, died on Nov. 26, at the age of eighty-six. He was transferred from the see of Galway to become coadjutor to Archbishop McHale, whom he succeeded in 1881. He is known particularly by his commentaries on the Sacred Scriptures.

On June 2 the centenary of the founding of the Christian Brothers was celebrated in Dublin. In the morning there was a solemn high mass in the Pro-Cathedral, his Grace Archbishop Walsh presiding. The panegyric of the order was delivered by the Rev. Dr. Butler, O. C. C.

The Most Rev. Thomas W. Croke, Archbishop of Cashel and Emly, died on July 22, at the age of seventy-nine. He was born in Cork, was created Bishop of Auckland, New Zealand, in 1870, and was transferred five years later to the see which he had filled with such distinction ever since.

Archbishop Plunkett has been declared venerable, and the process of his beatification is being hastened by special dispensations, so that the final congregation appointed to investigate the cause may be held before the end of another year.

The silver casket containing the beautifully illuminated address which the members of the Irish parliamentary party presented to Pope Leo XIII takes the form of a reproduction of the Shrine of Lough Erne, with the beautiful and varied interlacings that are only to be found in pure Celtic ornamentation. The casket is surmounted by the pontifical arms, and underneath is the motto, *Lumen in Cælo*, "Light from Heaven." The casket is supported by four fibulæ, which harmonize beautifully with the whole design and decoration.

Italy.—Murano, in northern Italy, has given the first example in the peninsula of erecting homes for working men. "For each laborer a home and a garden" was the motto of the parish priest, Don Cerutti.

The war on Christian education is less demonstrative than in France, but it is declared nevertheless.

The instructions issued with the approval of the Holy See are bringing the more enthusiastic Catholic youth of Italy into greater harmony with the older and more experienced organization of the work of congresses. Adhesions to the will of the pontiff have been received from all parts of Italy, and Count Toniolo has publicly announced the accord established between the Catholic organizations engaged in social work.

The League of Public Morality began its congress on Sept. 9, in Turin. There was a large attendance, particularly noteworthy on account of the prominence of those who took part in it. The promoter of it, Prof. Bettazzi, presided. Among those present were M. Gouffre, president of a similar league in France, Count Balbo, Count Della Motta, and Canon Gastaldi.

The population of Italy, according to the census lately taken, is nearly 33,000,000. Crime is, unfortunately, increasing with the population; or, rather, much more quickly. Suicides, which in 1872 were 30 in 1,000,000 people, are now more than twice that number. The Socialists, confiding in their growth and strength, are preparing an antimilitary bill as a first step toward abolishing the standing army.

The first Italian Congress was announced at the end of February. Its object was to consider the relation of Catholics to modern Italian literature and to take steps to found a review. There are in this movement very prominent Catholic literary men.

Belgium.—At the annual reunion of Belgian Catholic journalists, the president, M. Verspeyen, read an encouraging congratulatory letter from the Pope, and announced his Holiness's gift of 1,000 francs toward the founding of a retreat for aged journalists. Pope Leo said: "We have already approved and praised your association, formed to defend the truth more efficaciously."

The fourteenth International Congress of the Blessed Eucharist was held at Namur. The cardinal legate presided, and the papal nuncio was present with the Governor of Namur and M. de Woeste, the great Catholic leader.

The Belgian schools have increased by one-third since 1884, and the pupils by more than half. The Catholic religious orders flourish more than elsewhere, and those expelled by France are welcomed. The missionary enterprises of this most remarkable little country are peculiarly vigorous, well-supported, and successful. Each year the Parliament declares as a part of its political faith the necessity of the temporal independence of the Holy See.

China.—The Emperor has conferred upon Bishop Anger, of South Shantung, the button of the first rank in acknowledgment of services rendered to maintain good relations between the Christians and the heathen. China has not yet washed away her blood-stains. Two Belgian missionaries, Fathers Van Merhaeghen and Bongaerts, both of the Congregation of the Immaculate Heart of Mary, have been slain, with a large number of Christians, in Mongolia.

From the official report of the Roman *Congregatio de Propaganda Fide*, a fair idea may be obtained of the really great missionary activity in China. There are 46 vicariates apostolic, which number 904 European missionaries and 417 native priests, 1,326 priests in all. Almost all the principal European nations are represented among the vicariates. A Catholic Church in the legation quarter in Peking is being erected for the benefit of the large Catholic population, mostly official and military, resident there since the late crisis.

Germany.—The opening of the Holy Father's jubilee year was marked in Germany on Feb. 20 by eloquent leading articles in all the Catholic papers, giving expression to the undying love and gratitude and unalterable fidelity of the German Catholics to the great pontiff.

On April 28 the delegates of 29 of the most important Catholic associations in Germany, who had journeyed to Rome to pay their homage to the Holy Father, were received by his Holiness in solemn audience. Prince Karl von Lowenstein, the organizer and head of the pilgrimage, read a beautiful Latin address.

Within five years the Catholics of Cologne have lost their four bishops. In 1897 died in Rome the banished Cardinal Melchers; in 1898 his successor, Cardinal Kremetz, and the eloquent and much

admired coadjutor, Bishop Schmitz; and on May 23, of this year, Archbishop Hubert Simar, after a rule of a little more than two years.

The Catholic Day (Katholikentag) was held Aug. 24-28, in Mannheim, the largest city in Baden and its commercial metropolis.

The Imperial Census Bureau has published the official results of the census arranged according to religious denominations. The last population of the empire counted 56,367,178. There were 35,231,104 Protestants and 20,321,441 Catholics.

The archbishops and bishops assembled in annual conference at the tomb of St. Boniface in Fulda have issued a joint pastoral letter to the Catholic people, the burden of which is the life, labors, and aims of Pope Leo XIII.

Spain.—Pope Leo's strongly worded protest, forwarded to the Spanish ministry, in condemnation of their antireligious project had some influence with them. His Holiness demands freedom for Spanish religious orders as for all other law-abiding men in this intensely Catholic country. The papal nuncio in Spain has announced what is clearly the result of an understanding between the Government and the Holy See, that the only thing required for the authorization of the religious orders, after canonical approval, is civil registration, which can not be refused by the officials of the state. According to the statistics published by the Minister of the Interior, there are in Spain 3,115 religious communities, with 50,933 members; 40,188 are women. The greater number have complied with the Government's conditions for authorization. Some communities have presented reasons for which they consider that they are exempted from the provisions of the law.

The members of the Apostolate of the Press assisted at the mass of communion in the Church of the Sacred Heart and St. Francis Borgia in Madrid, and assembled in the evening to give account of their labors. They have printed 379,000 copies of different works—65,000 of clericalism and 18,000 of defense of religion and its ministers—and 81,780 publications were distributed gratis among the poorer people. In their address to the King, which sums up the resolutions of the Congress, the bishops demand liberty for the religious orders, the best men and minds of Spain recognizing society's debt to them.

The bones of Columbus have been transferred from the Cathedral of Havana. On Nov. 17, the Duke of Veragua arrived in Seville, bearing the remains of his great ancestor. He proceeded to the cathedral, accompanied by the highest civil and military officials, where the reinterment took place.

France.—The Town Council of Arles voted the removal of all religious emblems from public places. In the night all the crucifixes were broken to pieces, and particularly one immense figure much venerated by the people.

The Figaro estimates that 180,000 children are deprived of all opportunities of attending school in consequence of the recent closing of religious schools.

The Subsecretary of State, M. Mouget, ordered that from May 1 the post-offices and telegraph and telephone offices be opened in the forenoon of Sundays, and not in the afternoon, as hitherto. This is contrary to the expressed wish of the majority of the employees, who, being questioned, preferred to be free at an hour in which they could attend divine service.

Seventy-four of the 79 resident bishops of France signed a joint petition to the Parliament for the authorization of the 500 religious congregations which have asked for it. The Council of

State condemned the bishops for this exercise of the ordinary right of citizens. The Bishop of Orleans answered by proofs that no law of France was violated by the bishops' act. Announcing his program, the Premier, M. Combes—who is not an ex-priest, although he is an ex-ecclesiastic—boldly declared: "We shall reject all authorization to compete with state education. The Falloux law, allowing liberty of teaching, will have to go in the name of liberty."

With regard to the Passionist Fathers at Paris, their central position for English-speaking Roman Catholics (especially Americans and Irish), thus attacked, will entail enormous inconvenience on thousands who look to them for ministration, counsel, and help. The hard-working staff of four or six has always its hands full of work for relief among the poor Irish, and for direction among rich Americans.

The Oratorians, who applied for authorization, find themselves with the majority on the list of the proscribed. But their case is not at all the same as that of orders like the Franciscans, Dominicans, etc., from the point of view of legal status. This aspect of the matter the fathers have not been slow in placing as clearly as possible before the Deputies in a letter in which they explain what they pointed out to the Ministry of Worship at the time—that they only applied for authorization in case their status as a simple association of secular priests should be contested. Though styled the Congregation of the Oratory, they are not a congregation in the true sense of the word.

The Council of State having condemned the bishops who signed the petition to the Senators and Deputies in behalf of the religious congregation as being guilty of an abuse of their position, the state stipends of three of the bishops whom the Government regards as having had a principal part in organizing the petition have been stopped. The three prelates are Mgr. Petit, Archbishop of Besançon; Mgr. Touchet, Bishop of Orleans; and Mgr. Bardel, Bishop of Seez.

At Tours private houses have been entered by officials; at Marseilles an attempt has been made to seize ecclesiastical property; and at Rheims there has been interference in an ecclesiastical college. Even missionaries not religious at all, not having vows or possessing property in common, as, for instance, the missionaries of Our Lady of Laus, are being proceeded against. The orders that await suppression are preparing for exile, for none of their members may join the secular clergy or exercise any religious function without the express permission of the Minister of Worship—Combes himself.

The five congregations to be authorized with restrictions are the Brothers of St. John of God (who have 10 establishments), the Cistercians of the Immaculate Conception, the Trappists, the Algerian missionaries, or "White Fathers," and the African missionaries of Lyons—in all 45 religious houses for 40,000,000 Catholics in Algiers.

Australia.—Cardinal Moran, who, owing to his great age, has lately resigned from his archiepiscopal see of Melbourne, said that he "did not know if in the history of the Church one could find such an expansion in schools as that which the country (Australia) presented."

Austria.—The question of the religious orders has come up in both houses of Parliament. In the upper house, Canon Zschokke victoriously pleaded their cause, freely adducing irrefutable and irresistible statistics, showing, among other things, that 30,000 sick persons are cared for by

the hospital sisters alone, and that Catholic education, especially that at the theological faculty at Innsbruck, is internationally famous.

A brilliant young Alsatian priest, Dr. Albert Ehrhard, Professor of Church History at the University of Vienna, has published a work on the Catholic Church and the Twentieth Century, which has made a great sensation in Austria and Germany and in a few months has reached its eighth edition.

There is a growing union between the Christian Socialists and the Catholic Conservatives. It exists already in lower Austria, Salzkammergut, Styria, Tyrol, and Silesia.

Scotland.—The Bishop of Galloway says, in his Lenten pastoral, "the law of nature and of grace" has impelled Catholic parents to provide for the religious education of their children, "and this has been most unfairly hampered in a Christian land."

Archbishop Eyre, of Glasgow, died. He was consecrated in Rome in 1869, and made archbishop by Pope Leo on the reestablishment of the Scottish hierarchy in 1878.

Portugal.—According to a Portuguese correspondent of the *Civiltà Cattolica* (March 15), the regulations of the Government concerning the religious orders will be, if not modified, even more disastrous than those of France. The secularization of the religious, if insisted upon, according to what seem to be the ideas of its authors, will forbid the taking of vows, the receiving of novices, and the observances of the rules of religious enclosure or seclusion.

Colombia.—Nowhere has greater honor been done to the papal jubilee than in Colombia, South America. A decree of the Government, issued in the midst of insurrection, proclaims the celebrations. It recalls the late official acknowledgment of the actual sovereignty of Christ in 1898, and expresses the people's determination "to repay by demonstrations of reverence and gratitude the favors shown them by the great reigning pontiff."

Hungary.—The last census of Hungary gives the whole population as 19,254,559; Catholics, 11,774,056 (Latin Catholics, 9,919,913; Uniate Greek Catholics, 1,854,143). The Catholics form 56.6 per cent. of the whole population, an increase of 10.3 per cent. in the ten years from 1890-1900.

Holland.—According to the recent census, 35.4 per cent. of the population of Holland is Catholic. The Protestants number about 3,000,000, and the Catholics 1,700,000. There are about 100,000 Jews. Of the 58 Deputies of the Second Chamber, 25 are of the Catholic faith.

Brazil.—"Urged by the supplications of the authorities, both civil and ecclesiastical, and at the earnest request of the people," the Pope has erected two new episcopal sees in Brazil—Alagoas and Porto Alegre. He has also appointed bishops to the vacant sees of Spirito Santo and Belem de Para, and a coadjutor, with the right of succession, to the Bishop of Diamantino.

Martinique.—Thirteen Fathers of the Holy Ghost, 11 colonial priests, 33 Sisters of St. Joseph of Cluny, and 28 Sisters of St. Paul of Chartres perished in the earthquake at Martinique.

The Philippines.—One clause in the bill introduced by the chairman of the Senate Committee on Philippine Affairs is of special interest to Catholics. It empowers the present Philippine Commission to purchase the lands now held by the religious orders, and to dispose of them on proper terms to the native tenantry.

Turkey.—The Sultan has issued an *irade* recognizing the right of Germany and Italy to protect their Catholic subjects in the Turkish Empire.

ROUMANIA, a kingdom in eastern Europe. The legislative power is vested in the Senate and Chamber of Deputies. The Senate has 121 members, including the Crown Prince, 8 bishops, 2 members for universities, and 110 members elected for eight years. The Chamber of Deputies has 183 members, who are elected for four years. Owners of property worth 1,250 lei or more a year form the first-class of voters, those who pay 20 lei in direct taxes or have an elementary education form the second, and all others who pay taxes belong to the third, in which priests, schoolmasters, and possessors of property worth 300 lei a year who can read and write vote directly and the others choose delegates, 1 to 50 voters. These three classes elect the members of the Chamber. Senators are elected by two classes of proprietors, the first having an income of 2,000 lei or upward from their property, the second having an income from 800 lei up to 2,000 lei. The reigning King is Carol I, born April 20, 1839, son of Prince Karl of Hohenzollern-Sigmaringen, elected Domn of Roumania on April 20, 1866, by the Constituent Assembly and proclaimed King on March 26, 1881. The heir presumptive is Prince Ferdinand of Hohenzollern-Sigmaringen, the King's nephew, born Aug. 24, 1865.

The ministry constituted on Feb. 27, 1901, was composed as follows: President of the Council, Minister of Foreign Affairs, and Minister of War *ad interim*, Demeter Sturdza; Minister of the Interior, Peter S. Aurelian; Minister of Justice, C. J. Stoicesco; Minister of Finance, G. D. Pallades; Minister of Public Instruction and Worship, Spiro D. Haret; Minister of Public Works, J. J. C. Bratiano; Minister of Agriculture, Industry, Commerce, and Domains, B. M. Missir.

Area and Population.—Roumania has an area of 50,720 square miles. The population in 1899 was 5,912,520, an average of 116 to the square mile. Of the total 92.5 per cent. were Roumanians, 2.9 per cent. were foreign citizens, and 4.6 per cent., 272,421 in number, were Jews and Mohammedans of Roumanian birth who are denied the status of citizenship and regarded as foreigners. Outside of Roumania, in Hungary and Transylvania, Servia, Bulgaria, and Turkey, are between 9,000,000 and 10,000,000 persons of Roumanian race. The number of marriages in 1900 was 40,407; of births, 234,843; of deaths, 146,144; excess of births, 88,699.

Finances.—The revenue for the financial year ending March 31, 1901, was 209,512,633 lei, and the expenditure 237,286,775 lei. For 1902 the estimated revenue was 227,203,000 lei, and the estimated expenditure the same. For the financial year ending March 31, 1903, the budget estimate of revenue is 218,500,000 lei, of which direct taxes produce 43,615,000 lei, indirect taxes 56,510,000 lei, monopolies 50,900,000 lei, the Ministry of Agriculture 23,345,000 lei, the Ministry of Public Works 22,520,000 lei, the Ministry of the Interior 10,534,000 lei, the Ministry of Finance 3,356,000 lei, the Ministry of War 983,000 lei, the Ministry of Foreign Affairs 202,000 lei, the Ministry of Instruction and Worship 794,000 lei, the Ministry of Justice 231,000 lei, and various sources 5,510,000 lei. The expenditure for 1903 is estimated at 218,500,000 lei, balancing the budget, and of this total the public debt takes 86,441,092 lei, the Ministry of War 37,720,000 lei, the Ministry of Finance 34,823,000 lei, the Ministry of Instruction and Worship 24,924,000 lei, the Ministry of the Interior 15,259,000 lei, the Ministry of Public Works 5,790,000 lei, the Ministry of Justice 5,230,000 lei, the Ministry of Agriculture 4,193,000 lei,

the Ministry of Foreign Affairs 1,539,000 lei, and the Council of Ministers 56,400 lei, leaving for supplementary credits 2,524,508 lei.

The public debt on April 1, 1901, amounted to 1,432,015,515 lei. The annual charge for 1902 was 86,040,328 lei.

The Army and Navy.—The army consists of 8 battalions of rifles, 34 regiments of infantry, 6 regiments of hussars, 11 regiments of cavalry, 12 regiments of field-artillery, 2 regiments of siege-artillery, 2 regiments of engineers, 5 companies of artificers, 4 squadrons of train, and 4 companies of hospital troops. The troops are organized in 4 army corps of 2 divisions each, the division consisting of 2 brigades of infantry, with 1 brigade of cavalry attached to each corps, and a separate division in the Dobrudja and cavalry brigades at Tececiu and Galatz. The peace strength in 1900 was 3,474 officers and 116,178 non-commissioned officers and men, with 21,318 horses and 384 guns. The infantry weapon is the Mannlicher rifle of the model of 1883. The territorial army numbers 72,000 men, with 7,500 horses.

The naval force consists of the protected cruiser *Elisabeta*, of 1,320 tons, a training-ship, 7 gun-boats, 6 coast-guards, a despatch-boat, and 6 first-class and 2 second-class torpedo-boats.

Commerce and Production.—The yield of wheat in 1901 from 1,636,557 hectares was 25,508,840 hectoliters; of rye from 211,424 hectares, 3,373,650 hectoliters; of barley from 503,698 hectares, 8,535,925 hectoliters; of oats from 265,124 hectares, 5,828,550 hectoliters; of corn in 1900 from 2,035,268 hectares, 29,970,400 hectoliters; of wine from 145,612 hectares, 3,497,650 hectoliters; of prunes from 72,411 hectares, 3,567,380 hectoliters; of tobacco from 4,550 hectares, 40,096 quintals; of colza in 1901 from 135,000 hectares, 1,518,000 hectoliters; of linseed from 20,929 hectares, 195,205 hectoliters; of hemp in 1900 from 6,077 hectares, 20,350 quintals of fiber and 43,386 hectoliters of seed; of hay from 630,217 hectares, 11,610,841 quintals. There were 864,746 horses, 2,589,040 cattle, 5,644,210 sheep, and 1,709,909 hogs in 1900. The state salt-mines produced 104,665 tons in 1900. Coal and petroleum are among the mineral products and metalliferous ores are mined in the Carpathians.

The total value of imports in 1900 was 216,985,878 lei, and of exports 280,000,431 lei. The imports of cereals were 7,077,657 lei, and exports 172,726,869 lei; imports of textiles 73,963,403 lei, and exports 2,881,325 lei; imports of metals and metal manufactures 53,162,020 lei, and exports 5,333,281 lei; imports of hides and leather 6,395,626 lei, and exports 2,962,227 lei; imports of mineral fuel 4,636,917 lei, and exports 10,448,180 lei; imports of minerals, glass, and pottery 3,939,157 lei, and exports 592,655 lei; imports of oil and wax 5,605,646 lei, and exports 6,326 lei; imports of colonial products 14,252,283 lei, and exports 86,717 lei; imports of fruits 3,198,639 lei, and exports 47,059,215 lei; imports of animal products 4,655,001 lei, and exports 7,202,960 lei; imports of live animals 949,799 lei, and exports 9,548,048 lei; imports of colors and dyes 2,868,450 lei, and exports 165,451 lei; imports of timber 2,138,038 lei, and exports 12,321,859 lei; imports of paper 4,582,959 lei, and exports 247,973 lei; imports of drugs 4,093,790 lei, and exports 17,533 lei.

The construction of a harbor at Costanza has been of benefit to the export trade. The values in lei, or francs, of the imports from and exports to different countries in 1900 are given in the table above.

Navigation.—The number of vessels entered in 1900 was 27,090, of 7,528,855 tons; cleared, 27,

COUNTRIES.	Imports.	Exports.
Belgium.....	6 974,450	140,545,968
Austria-Hungary.....	69,295,518	44,974,896
Germany.....	55,664,507	19,195,877
Great Britain.....	31,150,817	16,873,762
Italy.....	9,664,797	16,269,863
France.....	16,132,373	7,676,624
Turkey.....	10,981,496	12,325,425
Netherlands.....	3,152,498	9,066,889
Russia.....	5,746,531	5,251,825
Bulgaria.....	2,681,818	3,547,157
Switzerland.....	2,685,622	1,902,966
United States.....	909,558	1,551

015, of 7,084,990 tons. The commercial navy in 1900 comprised 392 sailing vessels, of 74,604 tons, and 71 steamers, of 15,116 tons. The Government maintains in connection with the railroads a steamboat service on the Danube and the Black Sea.

Railroads, Posts, and Telegraphs.—There were 2,060 miles of state railroads in 1901, and 930 miles were building or authorized. The receipts in 1899 were 46,197,275 lei, and expenses 37,500,000 lei; capital expenditure, 717,627,050 lei. The post-office in 1900 carried 19,604,457 letters, 12,063,991 postal cards, and 27,897,717 newspapers and parcels.

The telegraphs in 1900 had a length of 4,344 miles, with 11,246 miles of wire. There were 52 telephone circuits in 1900, with 4,090 miles of line and 5,860 miles of wire; the number of conversations in the year was 1,940,824.

Internal Affairs.—The financial difficulties of the Roumanian Government reflect the economic situation of the country, which has grown steadily worse in consequence of the competition of American corn and wheat. Deficits in the budget have in a few years piled up a floating debt of 175,000,000 lei. On Jan. 22, 1902, Minister Pallades laid down the portfolio of finance, which Premier Sturdza assumed *ad interim*, transferring the charge of foreign affairs temporarily to Minister Bratiano in addition to his duties at the head of the Public Works Department. Subsequently this latter portfolio was given *ad interim* to Minister of Justice Stoicesco. The Legislature, which met on Jan. 23, passed a bill for the organization of industrial societies and the protection of Roumanian workmen against the competition of foreigners. A project of the Minister of the Interior to forbid by law all merchandizing by foreigners in rural communities was given up in deference to public opposition. A higher protective duty was imposed on foreign sugar. A bill was passed making criminal judges irremovable during good behavior. The financial deficit for 1901 was provided for without the sale of domains that had been proposed. By curtailment of expenditure a balance was reached in the budget of 1902, and for the next year a considerable surplus was predicted. On March 11 the parliamentary session was closed. In the summer the King visited Bulgaria to indicate that friction between the two countries was at an end. On July 28, the Cabinet was reconstituted as follows: President of the Council and Minister of War, Demeter Sturdza; Minister of Agriculture, Commerce, Industry, and Domains, Peter S. Aurelian; Minister of Justice, E. Statesco; Minister of the Interior, J. D. Pallades; Minister of Public Works, C. J. Stoicesco; Minister of Public Worship and Instruction, Spiro D. Haret; Minister of Foreign Affairs, J. J. C. Bratiano; Minister of Finance, M. Costinesco. At the reassembling of the Chambers on Nov. 27, Minister Aurelian resigned his post on the ground of ill health, and the Prime Minister took charge of the department *ad interim*.

The Jewish Question.—An article in the treaty of Berlin signed on July 13, 1878, runs as follows: "In Roumania the difference of religious creeds and confessions shall not be alleged against any person as a ground for exclusion or incapacity in matters relating to the enjoyment of civil and political rights, admission to public employments, functions, and honors, or the exercise of the various professions and industries in any locality whatsoever." The recognition of Roumanian independence by the powers was declared to be conditional on the acceptance of these terms. The article was inserted in the treaty at the suggestion of France, supported by Great Britain. Its purpose was to ameliorate the civil status of Roumanian Jews, who were in law, and till recently have remained, aliens not under the protection of any Government. In the year following the signature of the treaty the British and some other foreign representatives at Bucharest endeavored to influence the Roumanian Government to remove Jewish disabilities, without success except that the article in the Roumanian Constitution forbidding the naturalization of Jews was amended. Naturalization can, however, be granted only by a special act of Parliament in each case, and citizenship is not transmitted to the children of a naturalized Jew. Out of a Jewish population of about 400,000 not more than 80 have been able to obtain naturalization, and in recent years it has been withheld from nearly every applicant. The legal disadvantages under which the Jews suffered have been aggravated by a series of alien laws, of which they were the objects and the victims, which closed to them the avenues to progress and advancement and even the occupations by which they were accustomed to get their living, causing many thousands to emigrate in successive waves, the great majority to the United States. In 1884 about 5,000 Jewish peddlers were thrown out of employment by a law prohibiting foreigners from hawking. In 1886 aliens were excluded from membership in boards of trade and commerce; in 1887 from employment in the public service, on public works, and in the tobacco trade, and their employment by Roumanian citizens in the retail trade was restricted; in 1889 from prominent positions on railroads. In 1896 Jewish children were excluded from free elementary education, but if there were seats after all Roumanian children were accommodated they could be admitted by paying fees. In 1898 Jewish students were shut out from the secondary schools and the universities. In 1901 Jews were prohibited from keeping public houses, beer gardens, grocery stores, coffee-houses, or bakeries in the rural districts. They are legally incapacitated from practising law or medicine. Although compelled to serve in the army, they have never been eligible to commissions. They can not own or lease agricultural land. Petty ordinances depriving them of control over the inspection of meat, closing their schools because they do not keep them open on Saturday, and other administrative annoyances stimulate their desire to emigrate to a free country. Excluded from one employment after another, many turned to the mechanical trades. In March, 1902, was enacted the new industrial law prohibiting the employment of foreigners in any trade or calling. If applied to the Jews it would throw 25,000 workmen out of employment and cause a fresh tide of emigration to America. Since 1893 about 23,000 Jews have settled in New York city alone. Large numbers have flocked into the congested districts of London and helped to depress the wages of English workmen and exhaust the Jewish charity funds. Vienna has been repeated-

ly overrun by starving emigrants. A large proportion of those who arrived in New York have been sent back as diseased or destitute, and a large proportion of those who passed the emigration barriers became a charge on the public or on the Jewish benevolent societies. There are believed to be about 270,000 Jews still in Roumania. In 1900 a wholesale exodus took place, resulting as much from the failure of the harvest of 1899 as from the new restrictive educational laws. Thousands were stranded in Austria-Hungary and had to be sent back. When a similar movement was threatened in 1902 in consequence of the new trade laws a Jewish colonization society took steps to regulate and control the movement, assisting those who were suitable emigrants of sound health, men possessed of 150 lei who have performed their military duties and women who were accompanied or preceded by relatives. The circumstance that Jews have grown rich at the expense of the peasants by selling them drink, loaning them money at usurious rates, and overreaching them in bargains, furnishes some ground for the laws of Russia and Roumania that drive them into the cities; that they are a cosmopolitan and migratory people and aliens by religion in countries where the Greek religion is an element of nationality is a reason for debarring them from civil and military posts. The Roumanian laws are in some degree protective against an influx of Jews from Russian Poland and Bessarabia. The purpose of their increasing severity can be no other than to drive the Roumanian Jews out of the country. That has been their effect until the countries where they have sought refuge have no room for more Roumanian Jewish immigrants, even the United States, which has been the haven for the immense majority of them in the past. No previous Roumanian ministry has been so hostile toward the Jews in its policy and legislation as that of Demeter Sturdza.

After the trade law was passed a fresh exodus to the United States began. A great many Roumanian immigrants on arriving at New York were refused admittance because they were destitute or suffering from incurable disease. Vienna and London again suffered the inconvenience of the pauper influx, and Hebrew benevolent organizations in America and in Europe were burdened with a task that was growing beyond their power to help. Great Britain has on several occasions intimated to Roumania that the article of the treaty was not carried out in the spirit, if it were in the letter. The Austro-Hungarian Government has made representations regarding the hordes of destitute wanderers that have from time to time swarmed through Hungary and the Austrian lands.

In September Secretary Hay addressed a circular note to the powers that signed the Berlin treaty containing an earnest appeal to them to represent to the Roumanian Government the evils resulting from its neglect to carry out the stipulations of the treaty, to which the United States may not authoritatively appeal as it was not and can not become a signatory. The purpose of the generous treatment afforded to the alien immigrant by the United States is to benefit the country and the immigrant alike; but not to afford another state a field upon which to cast its own objectionable elements. The great number of undesirable emigrants from Roumania coming to its shores furnished ground to the United States for requesting the European powers to seek to give effect to the public law of their making that would prevent the sufferings and disappointments of these emigrants. Great Britain sent a note to the

other signatory powers asking them to state their views as to the subjects raised by the American circular. The Roumanian ministers brought to public notice the fact that the law forbidding any alien to exercise a trade or handicraft in Roumania unless reciprocity exists for Roumanians in his country does not apply to Jews, who now belong to the category of aliens under the protection of the Roumanian Government. The provision of the law that excludes Jews from all trade unions and associations is, however, quite effective in depriving them of employment. The Roumanian Government, after the publication of the American note, ceased to issue passports to emigrants intending to emigrate to the United States, and even turned back those who already had their passports and railroad and steamer tickets. After an interval of several weeks the emigration to America recommenced, and the emigrants were of the artisan class.

International Commission of the Danube.—The navigation of the Danube as far as the Iron Gates, except in the northern outlet, is regulated by agreement between Germany, England, Austria, France, Italy, and Russia by international rules drawn up at the conference of Berlin in 1878 and the London conference of 1883. The International Commission, sitting at Galatz, which enforces the regulations and collects tolls to pay its expenses and the cost of improvements and conservation, is composed of a delegate of each of the riparian states, viz., Austria, Bulgaria, Roumania, and Servia, and one appointed for six months by each of the great powers in turn. The agreement is terminable in 1904. During 1900 the number of vessels cleared at the Sulina mouth was 1,101, of 1,252,509 tons, of which 260, of 458,921 tons, all steamers, were British; 197, of 256,128 tons, consisting of 154 steamers and 43 sailing vessels, were Greek; 81, of 131,503 tons, all steamers, were Austrian; 85, of 129,426 tons, all steamers except 1 vessel, were Italian; 191, of 89,418 tons, 176 of them steamers and 15 sailing craft, were Russian; 178, of 51,822 tons, of which 30 were steamers and 148 sailing vessels, were Turkish; 33, of 43,156 tons, of which 29 were steamers and 4 sailing vessels, were Roumanian; 24, of 31,712 tons, all steamers, were French; 16, of 22,429 tons, all steamers, were German; and 35, of 37,994 tons, 20 of them steamers and 15 sailing vessels, belonged to various other nationalities. The receipts of the International Commission for 1900 were 2,149,299 francs, of which 1,687,220 francs were dues collected, 41,625 francs various receipts, 181,201 francs a balance from the preceding year, and 239,253 francs the value of material and bills receivable. The expenses were 811,368 francs for administration, 319,524 francs for technical service, 119,489 francs for various expenses, 280,747 francs for special expenditure, and 221,321 francs for purchase of material and accounts payable. The debts of the commission were paid up in 1887, and there were 2,216,676 francs on Jan. 1, 1901, of reserve and pension funds.

RUSSIA, an empire in northern Europe and Asia. The throne is hereditary in the dynasty of Romanoff-Holstein-Gottorp. The legislative, judicial, and executive powers are vested in the Emperor, called the Czar, who is assisted by a Cabinet of ministers, each of whom has charge of an executive department; by a Council of State, which passes upon projects of legislation submitted by the ministers; by a Ruling Senate, which watches over the judicial administration; and by a Holy Synod, which directs ecclesiastical affairs.

The reigning Czar is Nicholas II, born May 18,

1868, who succeeded his father, Alexander III, on Nov. 1, 1894. The heir presumptive is the Grand-Duke Michael, brother of the Czar, born Dec. 4, 1878. The members of the Committee of Ministers at the beginning of 1902 were as follow: Minister of the Imperial House and Imperial Domains, Gen. Baron W. B. Freedericksz; Minister of Foreign Affairs, Count W. N. Lamadorf; Minister of War, Gen. A. N. Kuropatkin; Minister of the Navy, Vice-Admiral P. P. Tyrtoff; Minister of the Interior, Dimitri Sergeivich Sipiagin; Minister of Public Instruction, Gen. Peter S. Vannovsky; Minister of Finance, S. J. Witte; Minister of Justice, N. V. Muravieff; Minister of Agriculture and State Domains, A. S. Yermoloff; Minister of Ways and Communications, Prince M. J. Khilkoff; Comptroller-General, Lieut.-Gen. Lobko; State Secretary for Finland, W. K. de Plehwe; Procurator-General of the Holy Synod, K. P. Pobiedonostseff; President of the Committee of Ministers, J. N. Durnovo. The Grand-Dukes Vladimir Alexandrovich, Alexis Alexandrovich, and Michael Nicolaievich, uncles of the Czar, are members of the Committee of Ministers, as are also D. M. Solsky, President of the Department of State Economy; E. W. de Frisch, President of the Department of Legislation; N. M. Tchikhatcheff, President of the Department of Industry, Science, and Commerce; M. Selifontoff, President of the Department of Civil and Ecclesiastical Affairs in the Council of State; and Count Protassoff-Bakhmetieff.

Area and Population.—The land area of the Russian Empire is 8,447,234 square miles, and there are 293,018 miles of internal waters. The total population in 1897 was 129,004,414. In European Russia there are 102.8 women to 100 men; in Poland, 98.6; in Finland, 102.2; in the Caucasus, 89.5; in Siberia, 93.7; in the Steppes, 89.4; in Transcaspia and Turkestan, 83; average for the empire, 99.8. The Jews number 2,843,364 in the western and southwestern provinces of Russia, or 11.3 per cent. of the population; in five governments of Poland they number 431,800, or 11 per cent. of the population. In Odessa, Kerch, and Sebastopol there are 73,389 Jews, 35.1 per cent. of the population. In the whole empire there are over 4,000,000 Jews. The number of births in the Russian Empire, exclusive of Finland, during 1898 was 5,769,218; of deaths, 3,845,968; excess of births, 1,923,350. St. Petersburg, the capital, had 1,439,375 inhabitants in 1900; Moscow, 1,035,664; Riga, 282,943.

Finances.—The ordinary revenue for 1900 was 1,704,128,506 rubles, and expenditure 1,555,427,622 rubles, leaving a surplus of 148,700,884 rubles. The extraordinary receipts were 32,568,983 rubles, and the extraordinary disbursements 333,788,515 rubles. The estimate of revenue for 1901 was 1,730,096,006 rubles from ordinary and 1,500,000 rubles from extraordinary sources, and the expenditures were estimated at 1,656,652,556 rubles for ordinary and 131,829,450 rubles for extraordinary purposes, making a total of 1,788,482,006 rubles, necessitating the raising of 56,886,000 to meet extraordinary expenditure. Of the extraordinary outlay 42,329,450 rubles were for building new railroads, 82,000,000 rubles for the payment of consolidated railroad bonds, and 7,500,000 rubles for various purposes. For 1902 the ordinary revenue was estimated at 1,800,784,482 rubles, and the extraordinary revenue at 1,800,000 rubles, while the ordinary expenditures were estimated at 1,775,913,481 rubles and the extraordinary expenditures at 170,658,495 rubles, making a total expenditure of 1,946,571,916 rubles, exceeding by 143,987,494 the estimated revenue from all sources.

Of the ordinary receipts 130,493,826 rubles were derived from direct taxes, viz., 47,026,863 rubles from taxes on lands and forests, against 47,155,005 rubles in 1901, 66,103,000 rubles from trade licenses, against 62,701,500 rubles, and 17,363,963 rubles from a 5-per-cent. tax on income from capital, against 17,316,400 rubles; 387,127,600 rubles were derived from indirect taxes, viz., 34,593,500 rubles from spirits, against 318,797,000 rubles in 1901, 42,934,000 rubles from tobacco, against 41,409,000 rubles, 69,398,000 rubles from sugar, against 62,368,000 rubles, 34,470,100 rubles from naphtha and matches, against 32,862,800 rubles, and 205,732,000 rubles from customs, against 196,874,000 rubles; 91,999,061 rubles were derived from stamps and dues, viz., 41,093,869 rubles from stamp-duties, against 38,871,537 rubles in 1901, 22,900,000 rubles from transfer duties, against 23,900,000 rubles, and 26,145,187 rubles from passports, railroad taxes, etc., the same as in 1901; 521,724,000 rubles were derived from Government monopolies and enterprises, viz., 1,645,000 rubles from mines, against 4,440,000 rubles in 1900, 3,250,000 rubles from the mint, against 4,018,000 rubles, 33,021,000 rubles from the post-office, against 30,623,900 rubles, 21,000,000 rubles from telegraphs and telephones, against 19,770,000 rubles, and 462,808,000 rubles from the sale of spirits, against 169,143,000 rubles; 508,414,998 rubles were derived from State domains, mines, and railroads, viz., 19,395,064 rubles from rent for domains, against 18,586,861 rubles in 1900, 63,013,400 rubles from Crown forests, against 54,813,300 rubles, 396,072,000 from state railroads, against 360,707,400 rubles, 13,981,883 rubles from Crown mines, against 13,195,494 rubles, 13,021,251 rubles from Crown capital and banking operations, against 13,822,307 rubles, and 2,931,400 rubles as the Crown's share in private railroad profits, against 4,210,000 rubles; 727,992 rubles were derived from sales of domains, against 573,291 rubles in 1901; 86,431,000 rubles were derived from redemption of peasants' lands, of which 36,547,870 rubles came from liberated serfs, against 37,532,242 rubles in 1900, and 49,883,130 rubles from Crown peasants, against 51,374,258 rubles; 67,629,847 rubles were derived from miscellaneous sources, viz., 9,959,369 rubles from railroad debts, against 10,785,804 rubles in 1900, 39,720,322 rubles from Crown debts, against 39,396,151 rubles, 21,850,156 rubles as aid from municipalities, against 19,735,242 rubles, and 3,000,000 rubles as military contribution, the same as in 1900; 6,296,158 rubles were derived from other sources, against 5,963,327 rubles in 1900. Of the ordinary expenditures in 1902 the state debt absorbed 274,909,743 rubles in 1901 and 286,459,713 rubles in 1902, the higher institutions of state 3,155,401 rubles in 1901 and 3,080,667 rubles in 1902, the Holy Synod 23,783,809 rubles in 1901 and 27,954,151 rubles in 1902, the Ministry of the Imperial House 12,715,243 rubles in 1901 and 15,715,243 rubles in 1902, the Ministry of Foreign Affairs 5,289,074 rubles in 1901 and 5,867,350 rubles in 1902, the Ministry of War 324,024,871 rubles in 1901 and 322,638,537 rubles in 1902, the Ministry of the Navy 93,597,666 rubles in 1901 and 98,318,984 rubles in 1902, the Ministry of Finance 305,833,826 rubles in 1901 and 335,198,430 rubles in 1902, the Ministry of Agriculture and State Domains 40,728,781 rubles in 1901 and 43,242,831 rubles in 1902, the Ministry of the Interior 87,650,199 rubles in 1901 and 98,187,205 rubles in 1902, the Ministry of Public Instruction 383,143,459 rubles in 1901 and 435,547,758 rubles in 1902, the Ministry of Justice 46,227,505 rubles in 1901 and 47,392,498 rubles in 1902, the state Control 7,116,715 rubles in 1901 and

7,638,860 rubles in 1902, the state studs 1,599,746 rubles in 1901 and 2,046,942 rubles in 1902, various ordinary expenditures 13,800,000 rubles in 1901 and 15,000,000 rubles in 1902. Of the extraordinary expenditures of 1902 the sum of 165,658,495 rubles was required for building new railroads and 5,000,000 rubles were reserved for various expenses.

The money in the treasury on Jan. 1, 1901, amounted to 106,500,000 rubles. The liabilities due to the state at that date amounted to 2,388,664,431 rubles, of which 252,886,063 were military contributions, 255,648,137 rubles railroad debts, 1,486,017,970 rubles debts incurred for the redemption of peasants' lands, 106,493,507 rubles debts of local treasuries, 122,894,029 rubles the debt of the nobles' land bank, and 164,724,722 rubles various other debts. There were pension funds and funds for alleviation of famine, scientific prizes, and other purposes amounting to 375,410,489 rubles. The payments of interest on the state debt amounted to 248,890,384 rubles in 1901 and 258,816,418 rubles in 1902, redemption of capital to 25,905,922 rubles in 1901 and 27,515,774 rubles in 1902, expenses to 113,437 rubles in 1901 and 127,521 rubles in 1902; total debt charge, 274,909,743 rubles in 1901 and 286,459,713 rubles in 1902. The aggregate receipts of the Zemstvos of European Russia, the Caucasus, Siberia, the Steppes, and Turkestan amounted in 1900 to 76,764,000 rubles, and expenditures to 106,922,000 rubles.

Although the economic situation of the peasants and landowners in Russia is the reverse of prosperous and the state-aided and protected industries that have been built up at the expense of agriculture are undergoing a crisis, the finances of the Imperial Government, by the showing of M. Witte, have steadily improved, in spite of the large borrowings abroad and apparent increase of the debt. While the debt has grown from 5,389,200,000 rubles to 6,497,300,000 rubles, the national capital in railroads and in money owed to the treasury has increased from 2,362,200,000 rubles to 4,614,800,000 rubles, reducing the net debt by 36 per cent., without taking into account the value of fortresses and ships of war, of public factories and docks, or the increased value of domains and forests. Besides a reserve fund of 114,600,000 rubles at the close of 1901, the Government had 127,200,000 rubles of the 4-per-cent. loan raised in the spring, making a fund of over 240,000,000 rubles, from which 144,000,000 rubles could be taken to balance the budget of 1902. The ordinary budget has increased 86 per cent. in ten years, but the main increase is due to the growth of railroad expenses, which are counterbalanced by an equivalent increase in income. The expenditure on education, including the sums allotted for the purpose in the military and naval budgets and those of the Holy Synod and other ministries, amounted in 1902 to 74,800,000 rubles, which was twice as much as in 1892. A new Russian loan of 181,959,000 rubles at 4 per cent. was taken in Germany, Holland, and Russia in April, 1902, to enable the Government to pay off the Chinese indemnity claims to be recouped by China, and to make advances to railroad companies.

The Government in 1895 fixed a ratio at which gold would be received for payments to the treasury and the railroads. The ratio of 10 rubles in gold for 15 paper rubles was finally settled upon, and in 1897 a law was passed requiring the state bank to maintain a gold reserve of half the paper currency issued up to 600,000,000 rubles and of the full amount for all in excess of that sum. The Government and the State Bank had accumulated a gold stock equivalent to 1,315,000,000

paper rubles, exceeding the amount of paper currency in circulation by 316,000,000 rubles and exceeding by 452,500,000 paper rubles the legal metallic reserve, which was 575,000,000 rubles in gold, equivalent to 862,500,000 rubles in paper. Since then 439,000,000 rubles of paper have been withdrawn from circulation. The gold coinage, including recoinage, from 1886 to 1896 inclusive, amounted to 183,305,630 gold rubles. In 1897 the new gold imperials were inscribed as of the value of 15 rubles, instead of 10 rubles. In 1897 the coinage of gold rubles at the new ratio was 331,577,500 rubles; in 1898, 263,890,147 rubles; in 1899, 378,000,150 rubles; in 1900, 161,595,195 rubles. There were coined in the four years 148,152,000 rubles of silver rubles and 15,000,000 rubles of subsidiary coins. By January, 1900, the paper currency had been reduced to 630,000,000 rubles, at which figure it has since been maintained. In January, 1902, there were 1,525,000,000 rubles of gold in the vaults of the treasury and the bank, which contained also 223,400,000 rubles of silver. The gold reserves covered the paper currency nearly two and a half times, and the sum of 830,100,000 rubles set aside as a guarantee fund was exceeded by 32 per cent. the entire circulation.

The Army.—The number of young men who annually reach the age of twenty-one and are liable to military service is 870,000, of whom 308,500 were taken into the active army and the navy in 1901 and the rest were enrolled in the Opolchenie, or militia. The annual contingent includes the frontier customs guards, and in the number given were 16,500 natives of the Caucasus, 1,000 Finns, and 7,000 volunteers. The period of service in the active army is nominally five years and really four years; after the five years are over the discharged soldier belongs to the Zapas for thirteen years, and then for five years to the Opolchenie. In the Caucasus the conscripts remain only three years with the colors, but in Asia the period is seven years. European Russia, with Finland and the Caucasus, is divided into 9 military circumscriptions and the district of the Don Cossacks. There are 25 army corps in the European army, including the corps of guards, the grenadier corps, and 2 corps in the Caucasus. Russia in Asia has the 3 military circumscriptions of Turkestan, Siberia, and the Amur. The effective of the Russian army comprises 1,068 battalions, 636 squadrons, 521 field-batteries, 224 companies of fortress-artillery, and 164 companies of engineers in Europe and 109 battalions, 93 squadrons, 38 batteries, 22 companies of fortress-artillery, and 31 companies of engineers in Asia; total, 1,177 battalions, 729 squadrons, 559 field-batteries, 246 companies of field-artillery, and 195 companies of engineers. The corps of custom-house officers on the frontiers is organized in 31 brigades, including 2 in Turkestan, and numbers about 1,000 officers and 30,000 men. The numerical strength of the Russian army is estimated at over 40,000 officers and 900,000 men on the peace footing, exclusive of the customs guards and marine troops. In case of mobilization the field-army is approximately estimated at 19,500 officers and 1,000,000 men in the infantry, 3,800 officers and 120,000 men in the cavalry, 3,500 officers and 119,000 men in the artillery, 1,100 officers and 46,000 men in the engineers, and 400 officers and 26,000 men in the train; total, 28,300 officers and 1,311,000 men, with 330,000 horses and 3,856 guns. The reserve troops are estimated at 15,470 officers and 832,300 men of all arms, with 163,000 horses and 1,376 guns. The fortress troops are estimated at 2,600

officers and 160,000 men in the infantry, 1,500 officers and 80,000 men in the artillery, and 400 officers and 12,000 men in the engineers; total, 4,500 officers and 252,000 men, with 3,700 horses and 128 guns. The troops of replacement are estimated at 6,640 officers and 373,700 men of all arms, with 50,500 horses and 458 guns, the troops of national defense at 10,500 officers and 740,000 men, and the frontier custom-house guards at 1,000 officers and 40,000 men, with 15,000 horses, making the total war strength of the Russian army 66,410 officers and 3,549,000 men, with 562,200 horses and 5,818 guns. The Russian army was scandalized in March, 1902, by the discovery that Lieut.-Col. Grimm of the general staff in Warsaw, whose duty it was to furnish false information to foreign governments, had been bribed to furnish to German and Austrian staff-officers for several years past the true plans of frontier fortresses and plans of mobilization. He was sentenced to penal servitude in Sakhalin and all plans were changed, entailing a cost of many millions.

The Navy.—The Baltic fleet in 1901 comprised 13 armor-clad battle-ships, 12 armored coast-defense vessels, 18 first-class armored cruisers, 3 smaller armored cruisers, 8 second-class cruisers, 4 torpedo-cruisers, 4 armored gun-vessels, 7 coast-defense gunboats, 3 school-ships, 6 steam-yachts, 11 destroyers, 46 first-class torpedo-boats, 78 second-class torpedo-boats, and 7 transports. There were building 7 battle-ships, an armored coast-defense vessel, 2 armored cruisers, and 16 destroyers. Since the first Russian submarine boat was built in 1901 as many as 50 have been ordered and some of them are completed. Of destroyers, 13 were added to the 21 already launched by the beginning of 1902. The first-class battle-ships Borodino, Alexander III, and Orel, launched in 1901 and 1902, of 13,400 tons, have a complete belt of armor, 11 inches at the thickest part, engines of 16,300 horse-power, to give a speed of 18 knots, and an armament of 4 12-inch guns coupled in fore and aft turrets, 12 6-inch quick-firers in high turrets amidships, and 20 3-inch and numerous smaller quick-firers. The engines, of 10,600 horse-power, are designed to give a speed of 17 knots. The Kniaz Potemkin is a sister to the Tavrichesky, built in the Black Sea, and another of this type is building in the Baltic. The Retvisan, of 12,700 tons, has 10-inch armor like these, engines as powerful as on the Borodino, and an armament of 4 12-inch guns and 12 6-inch and 20 3-inch quick-firers. The Tsarevich, Kniaz Suvaroff, and Slava, launched in 1901, of 13,100 tons, having the same steam-power and speed, carry 4 12-inch guns and 12 6-inch quick-firers in turrets above and below these 20 3-inch quick-firers. The coast-defense vessel Admiral Boutakoff, of 6,000 tons, is armed with 6 8-inch quick-firers. The protected cruisers Diana, Pallada, and Aurora, launched in 1899, of 6,500 tons, are 20-knot steamers, with engines of 10,610 horse-power, and are armed with 8 6-inch, 20 3-inch, and 8 small quick-firers. The Bogalyr and Askold, built in Germany, the Waryag, built in the United States, and the Almaz and Oleg, built in Russian yards, of 6,500 tons, have engines of 20,000 horse-power, capable of steaming 23 knots, and are armed with 12 6-inch, 12 3-inch, and 6 smaller quick-firers. The Novik, of 3,000 tons, built in Germany, is a 25-knot torpedo-cruiser carrying 6 4.7-inch quick-firers. The Boyarin, built in Denmark, is of the same class, and several of these destroyer-destroyers are being built in Russia.

The Black Sea fleet in 1901 consisted of 8 bat-

tle-ships, 2 armor-clad coast-defense vessels, 1 first-class cruiser, 1 second-class cruiser, 6 gunboats, 3 torpedo-cruisers, 25 first-class and 11 second-class torpedo-boats, 3 school-ships, 2 armed steamers, and 8 transports. There were building 1 battle-ship, 2 cruisers, 6 destroyers, and 4 transports. The auxiliary volunteer fleet consisted of 14 ocean steamers, and 3 more were building. The new battle-ship is the Tavrichesky, of 12,480 tons, having 10-inch armor, engines of 10,600 horse-power, giving a speed of 17 knots, and an armament of 4 12-inch guns in armored turrets and 16 6-inch, 16 3-inch, and 30 small quick-firers. The new protected cruisers Kagul and Otchakoff are of the same class as the Bogatyr and Waryag.

In the Siberian flotilla were 1 second-class cruiser, 4 gunboats, 2 torpedo-cruisers, 11 destroyers, 15 first-class and 8 second-class torpedo-boats, 2 armed steamers, and 5 transports. There were building 4 torpedo-gunboats and a steamer for the Yenesei river service.

The fleet in the Caspian consisted of 2 gunboats and 6 steamers.

The total number of torpedo-boats in the Russian navy at the beginning of 1902 was 51 of the first, 41 of the second, and 101 of the third class. These can be taken from one sea to the other through the internal waterways.

The naval estimates for 1903 provide 104,417,791 rubles, against 98,318,984 rubles in 1902 and 67,050,000 rubles in 1898. For ship-building and repairs 36,903,856 rubles were appropriated for 1902 and 40,449,682 rubles for 1903.

Commerce and Production.—Of the total area of European Russia 36.7 per cent. belongs to the Government or the Crown, and of this 31.7 per cent. is uncultivable; 28.3 per cent., of which 14.4 per cent. is waste, is the property of private landowners or of municipalities and other corporations; and 35 per cent., of which 9.6 per cent. is unfit for cultivation, is owned by peasants. Of the area of Poland the Government and imperial family own 6 per cent., peasants 40.9 per cent., and private owners and public corporations 53.1 per cent. Of the total area of European Russia 28.9 per cent. is arable, 14.7 per cent. orchard, meadow, and pasture, 37.3 per cent. forest, and 19.1 per cent. uncultivated. Of the area of Poland 53.2 per cent. is arable, 18.1 per cent. orchard, meadow, and pasture, 22.8 per cent. forest, and 6.1 per cent. uncultivated. Up to Jan. 1, 1899, there were in Russia proper 61,641,108 acres of land redeemed by 6,645,448 peasants for 704,306,095 rubles, an average of 11 rubles 43 kopecks an acre or 106 rubles for an average allotment of 9.3 acres, on which there was an average indebtedness of 37 rubles, which left to the landlord a little less than 70 rubles. In the western provinces, where the conditions were more favorable for the peasants, 2,517,617 peasants redeemed 25,537,539 acres, for 162,619,367 rubles, the value of the average allotment of 10.1 acres being about 65 rubles, or 6 rubles 37 kopecks per acre, giving to the landlord after clearing off an average debt of 27 rubles at the state mortgage bank the average sum of 38 rubles per allotment. The cereal production of Russia proper in 1901 was estimated to be 445,976,000 poods of wheat, 1,024,900,000 poods of rye, 480,413,000 poods of oats, 248,940,000 poods of barley, and 77,995,000 poods of millet; of Poland, 21,244,000 poods of wheat, 66,788,000 poods of rye, 45,531,000 poods of oats, and 21,100,000 poods of barley; of northern Caucasia, 84,527,000 poods of wheat, 9,117,000 poods of rye, 10,660,000 poods of oats, 34,249,000 poods of barley, and 14,856,000 poods of millet. The mines and furnaces in 1899

produced 38,776 kilograms of gold, 5,962 kilograms of platinum, 4,637 kilograms of silver, 318 tons of lead, 7,419 tons of zinc, 2,670 tons of copper, 573,000 tons of rolled iron, 1,314,000 tons of steel ingots, 13,705,000 tons of coal, 8,827,000 tons of naphtha, and 1,643,000 tons of salt. Of the gold 28,276 kilograms was obtained in Siberia and 10,465 kilograms in the Urals, where all the platinum is found and two-thirds of the copper. In the Caucasus 609,000 tons of manganese ore were mined in 1900. The Urals in 1899 produced 15,540 tons of chrome iron in 1899. In southern Russia 357 tons of quicksilver were extracted. In 1900 the production of pig-iron in the south of Russia was 1,483,000 tons; of manufactured iron, 40,000 tons; of rolled steel, 844,300 tons. The Urals produced 810,000 tons of pig-iron, 275,000 tons of iron, and 182,000 tons of steel; Poland produced 295,000 tons of pig-iron, 125,000 tons of iron, and 204,000 tons of steel; the Moscow district produced 230,000 tons of pig-iron, 40,000 tons of iron, and 124,000 tons of steel; the region of St. Petersburg produced 34,500 tons of pig-iron, 50,600 tons of iron, and 86,300 tons of steel. The total production of pig-iron was 2,851,000 tons; of wrought iron, 556,400 tons; of rolled steel, 1,440,000 tons; of steel ingots, 1,816,000 tons. The consumption of iron and steel in 1900 was 3,319,000 tons. The imports of pig-iron were 51,790 tons; of iron and steel manufactures, 260,000 tons. Finland in 1898 produced 27,000 tons of pig-iron, 15,000 tons of wrought iron, and 14,000 tons of rolled steel. The manufacture of agricultural machinery in 1897 amounted to nearly 10,000,000 rubles, having quadrupled in thirty years. On July 20, 1901, the import duty on iron, equal to 26½ rubles per ton, was repealed. The coal production in 1900 was 11,300,000 tons in southern Russia, 3,000,000 tons in the Ural region, and 2,000,000 tons in central Russia. Production is stimulated by protective duties of 90 kopecks a ton on imports on the western frontier and in the Baltic and 3 rubles 60 kopecks at the Black Sea ports. In 1900 the imports of coal and coke were 4,417,000 tons. The oil-wells of the Baku region in 1900 yielded 600,763,812 poods, or 9,840,510 tons, of crude petroleum. The production of illuminating oil was 2,101,000 tons; of lubricating oil, 218,000 tons; of various naphtha products, 23,000 tons; of residuum, 4,706,000 tons. The Terek wells gave 495,000 tons of crude oil. The consumption of Russia requires 6,450,000 tons of crude oil. In 1901 the yield of the Baku wells was 671,000,000 poods, equal to 12,000,000 tons of naphtha, having increased from 84,000,000 poods in 1884, when Baku, which now has nearly 250,000 inhabitants, contained fewer than 70,000. The oil produced for export in 1901 was 2,500,000 tons, while over 5,000,000 tons of residuals were used as fuel on the eastern and southern Russian railroads and the steamers plying on the Black Sea, the Volga river, and the Caspian Sea. The expectation that the oil-supply would prove limited and become soon exhausted is no longer entertained. Some wells have given out, yet the number of producing wells has grown from 458 in 1891 to 1,924 in 1901 and 315 old wells have been deepened. The drainage of a lake covering a rich new field has been undertaken. In borings the oil frequently bursts forth in fountains that jet 200 feet in the air. The price of crude oil, which rose to 16.7 kopecks per pood in 1899, declined to 5.45 kopecks in 1901.

The number of persons employed in mineral industries in 1899 was 646,000, of whom 262,000 were in the Urals, 130,000 in southern and south-

western Russia, 62,000 in the center, 31,000 in the southeast, 33,000 in the Caucasus, 42,000 in the northwest and Poland, 32,000 in the north and Finland, and 62,000 in Siberia. Manufacturing in Russia proper employed 2,098,242 persons in 1899, and the value of the products was 2,839,144,000 rubles. There were 39,029 establishments. The value of cotton manufactures in 1897 was 430,218,000 rubles. The quantity of tobacco manufactured in 1898 was 85,220 tons. The production of spirits in 1900 was 87,098,000 gallons. The number of distilleries was 2,046. Since July 1, 1901, the Government monopolizes the sale of spirits throughout European Russia. The production of beer in 1898 by 1,017 breweries, was 115,860,000 gallons. There were 1,454,000 acres planted to the sugar-beet in 1901, and there were 277 sugar factories. The production of refined sugar in 1898 was 754,758 tons.

The total value of imports into Russia, including the trade with Finland, was 572,496,000 rubles in 1900, compared with an average of 565,461,000 rubles for the previous five years; the value of exports was 688,552,000 rubles, compared with 678,585,000 rubles. Excluding the trade with Finland, amounting to 21,909,000 rubles of imports and 41,950,000 rubles of exports, the imports were 550,587,000 rubles, and the exports 647,502,000 rubles. Imports of articles of food and drink were 79,780,000 rubles in value, and exports 381,215,000 rubles; imports of raw and partly manufactured articles were 304,579,000 rubles, and exports 269,942,000 rubles; imports of live animals were 1,136,000 rubles, and exports 17,900,000 rubles; imports of manufactured articles were 187,001,000 rubles, and exports 19,495,000 rubles. The exports of wheat were 37,628,256 hundredweight; of rye, 30,051,015 hundredweight; of barley, 17,282,558 hundredweight; of oats, 25,794,862 hundredweight; of corn, 6,158,523 hundredweight; of other cereal products, 18,120,891 hundredweight. Of wheat, 23,932,000 poods were exported to France, 15,397,000 poods to Great Britain, and 14,075,000 poods to the Netherlands; of rye, 33,659,000 poods to France, 23,030,000 poods to the Netherlands, and 12,053,000 poods to Great Britain; of barley, 17,955,000 poods to Germany, 13,519,000 poods to Great Britain, and 8,652,000 poods to the Netherlands; of oats, 39,634,000 poods to Great Britain, 18,226,000 poods to the Netherlands, and 17,575,000 poods to Germany, France, and Belgium. The naphtha exports in 1900 were 71,204,000 poods of illuminating oil, 10,724,000 poods of lubricating oil, and 4,759,000 poods of waste; total, 86,687,000 poods. The exports of eggs, which go to Germany, France, and Austria, were 1,780,000,000 in number, valued at 31,352,000 rubles, besides 52,000 poods of preserved eggs in cans, valued at 231,000 rubles. The total value of grain and flour exported was 304,698,000 rubles; of eggs, 31,583,000 rubles; of sugar, 16,330,000 rubles; of dairy-products, 13,709,000 rubles; of potatoes, vegetables, and fruits, 3,072,000 rubles; of fish and caviar, 2,317,000 rubles; of meat, 1,197,000 rubles; of tobacco and cigarettes, 2,457,000 rubles; of alcohol and liquors, 682,000 rubles; of various food products, 5,170,000 rubles. Among raw materials and partly manufactured goods exported the value of timber and wood manufactures was 58,384,000 rubles; of flax, 49,068,000 rubles; of naphtha products, 45,973 rubles; of oil-seeds, etc., 37,945,000 rubles; of oil-cake, 15,540,000 rubles; of furs and leather, 13,729,000 rubles; of hemp, 9,450,000 rubles; of bristles, feathers, and hair, 7,343,000 rubles; of manganese ore, 6,360,000 rubles; of wool, 5,930,000 rubles; of platinum and other raw metals, 1,840,-

000 rubles; of other articles in a crude or half-manufactured state, 18,390,000 rubles. Of the manufactured goods exported the value of metal manufactures was 3,532,000 rubles; of gutta-percha manufactures, 3,494,000 rubles; of cotton goods, 2,081,000 rubles; of woolen goods, 1,820,000 rubles; of various manufactures, 8,568,000 rubles. Of food articles and beverages imported the value of tea was 23,639,000 rubles, besides 16,555,000 rubles through Asia; value of fish, 13,130,000 rubles; of wine, beer, and spirits, 12,735,000 rubles; of fruits, vegetables, and nuts, 10,061,000 rubles; of coffee, 5,430,000 rubles; of rice, 2,196,000 rubles, besides 1,491,000 rubles from Persia; of tobacco, 2,193,000 rubles; of various articles, 10,396,000 rubles. Of raw and partly manufactured articles the imports of raw cotton were 63,201,000 rubles; of coal and coke, 42,589,000 rubles; of metals, 36,673,000 rubles; of wool and woolen yarn, 21,759,000 rubles; of gums and resins, 21,178,000 rubles; of leather, hides, and skins, 15,397,000 rubles; of silk and silk yarn, 13,282,000 rubles; of chemicals, 12,560,000 rubles; of colors, 11,026,000 rubles; of various materials, 66,914,000 rubles. Among the manufactured goods imported the value of machinery was 76,665,000 rubles; of metal goods, 29,022,000 rubles; of textile goods, 16,029,000 rubles; of various manufactures, 65,285,000 rubles. The values in rubles of the imports from and exports to the principal countries in 1900 are given in the following table:

COUNTRIES.	Imports.	Exports.
Germany.....	215,416,000	187,515,000
Great Britain.....	128,176,000	145,564,000
France.....	81,228,000	57,444,000
Finland.....	20,029,000	41,051,000
Austria-Hungary.....	27,290,000	26,426,000
Belgium.....	9,395,000	23,401,000

From the United States the value of 43,615,000 rubles was imported; from China, 16,278,000 rubles; from Egypt, 11,958,000 rubles. Exports to the Netherlands were valued at 69,192,000 rubles; to Italy, 36,765,000 rubles; to Turkey, 18,322,000 rubles; to Denmark, 18,290,000 rubles. The imports from Great Britain formed 22.3 per cent. of the total imports in 1900, the same as in 1890, while the percentage of Germany rose from 27.5 to 37.6 per cent. The Government is endeavoring to induce the farmers to grow wheat and corn for the British market instead of rye for the German market since the increase of the German protective duties. The cultivation of corn has already doubled since 1883. More Russian butter is sold now in England than in Germany, and eggs and poultry are exported, but not meat, because the quality of the Russian breeds of cattle is inferior. American as well as German competition affects British exports to Russia.

Russia did not take part in the Brussels Sugar Conference (see BELGIUM), contending that no sugar bounties were granted by its Government to exporters. This involved the Government in a controversy with the English and other governments that signed the convention of the same kind that has existed between the Russian and the United States governments. Finance Minister Witte proposed a further conference to reconsider the sugar question. Germany, England, Austria, and France declined to reopen the question. The English Government replied on July 30 that it had agreed to the formation of an international commission empowered to determine whether bounties existed in states which had not signed the convention; therefore, if Russia did not adhere to the convention, and if the commission, when constituted, recognized the existence of sugar

bounties in Russia, England would be bound to impose retaliatory duties on Russian sugar, and such a step would be in accordance with the Russo-British commercial treaty of 1859. The Russian reply, sent in September, described its sugar regulations as internal measures for the furtherance of Russian industry, which the favored-nation clause in the treaty allows to both countries, and asserted therefore that countervailing duties upon Russian sugar would constitute a breach of treaty, as the British Government had itself declared after 1897. The exportation of Russian sugar to the signatory countries was unimportant, yet to decide the principle, Russia proposed arbitration by The Hague tribunal, and would not object to have the question tried as to all kinds of goods.

Navigation.—The number of vessels entered at Baltic ports during 1900 was 5,986, of 3,774,000 tons; at Black Sea ports and in the Sea of Azof, 3,876, of 4,404,000 tons; at White Sea ports, 711, of 401,000 tons; total number entered, 10,573, of 8,549,000 tons. The number cleared was 700 in the White Sea, 5,070 in the Baltic, and 3,332 in the Black Sea and Sea of Azof; total, 9,102. Of 5,518 vessels engaged in foreign trade entered at ports of European Russia, of 4,097,000 tons, 1,191, of 732,000 tons, were Russian and 4,337, of 3,365,000 tons, foreign; of 9,102 cleared, of 7,171,000 tons, 1,391, of 721,000 tons, were Russian and 7,711, of 6,450,000 tons, foreign. The number of vessels that visited Russian ports on the Caspian during 1899 was 943. The number of vessels entered at the ports of Vladivostok and Nikolayevsk in the Pacific during 1898 was 384. The number of coasting vessels that visited the Baltic, White Sea, and Black Sea ports in 1899 was 48,420, and the number that visited ports on the Caspian was 19,112.

The Russian merchant navy on Jan. 1, 1900, comprised 2,242 sailing vessels, of 266,418 tons, and 709 steamers, of 334,875 tons. There were 650 sailing vessels, of 86,754 tons, belonging in the Baltic in 1899, and 114 steamers, of 39,917 tons; in the White Sea, 416 sailing vessels, of 23,892 tons, and 39 steamers, of 6,542 tons; in the Black Sea and Sea of Azof, 659 sailing vessels, of 43,937 tons, and 297 steamers, of 165,804 tons; in the Caspian, 517 sailing vessels, of 111,835 tons, and 259 steamers, of 122,612 tons. The Government made a definite arrangement with the Black Sea volunteer fleet in 1902 to enable it to trade with ports of Persia and the far East. The treasury gives a subvention of 600,000 rubles a year for ten years, and the fleet will be increased to 10 steamers. To encourage Russian ship-building the Government has offered to lend half the cost on each vessel, and to take two-thirds of the insurance at 2 per cent. per annum and to give a navigation bounty of half the cost of the fuel, if Russian fuel is used. All material and fittings in Russian-built ships must henceforth be Russian.

Railroads.—The Russian railroad system at the end of 1901 had a total length of 36,526 miles, exclusive of 1,755 miles in Finland. The Ministry of Ways and Communications had control of 34,771 miles, of which 23,340 miles were Government railroads, 10,363 miles belonged to companies, and 1,068 miles were short local lines. Of 29 connected lines of railroad the Government owned and operated 20, embracing 60 per cent. of the mileage. There were besides 6 isolated lines. The annual losses which the railroads formerly entailed upon the Government, amounting to 30,000,000 rubles in 1889, disappeared in 1895, and the net profits have increased with the transfer of railroads from private to Government ownership

and management. In 1899 the gross earnings from 27,485 miles were 540,167,000 rubles. In 1898 they were 495,963,233 rubles from 26,689 miles, and the operating expenses were 305,761,649 rubles, leaving 190,201,584 rubles as net receipts; number of passengers transported, 92,442,045; tons of freight, 130,775,000. The capital cost of the Government railroads was 1,217,755,042 rubles in gold and 1,048,656,189 rubles in paper, equal to 2,870,288,752 paper rubles in all. The net revenue of the Government from the state lines in 1899, after paying 111,935,208 rubles of interest on capital borrowed for their purchase, was 18,134,080 rubles. The capital cost of private railroads was 534,421,985 rubles in gold and 653,840,332 rubles in paper, equal to 1,755,473,310 rubles in all, on which an annual interest of 44,055,116 rubles is paid. The gross earnings of private lines in 1899 were 160,675,883 rubles, and in 1900 they were 163,148,544 rubles; expenses in 1899 were 100,543,547 rubles, leaving 60,132,286 rubles of net earnings.

The Siberian Railroad in 1900 carried 700,000 tons. The first section of this line, from Chelyabinsk to Omsk, 493 miles, was completed in 1895, and the section from Omsk to the Ob river, 388 miles, in 1896, and in the same year the branch from Chelyabinsk to Ekaterinburg, 150 miles, connecting with the Russian network through the Ural Railroad from Perm to Tyumen. The Pacific section, from Vladivostok to Khabarovsk, 475 miles, was ready in the middle of 1897, and the middle sections from the Ob to Krasnoyarsk and Taiga to Tomsk, 528 miles; from Krasnoyarsk to Irkutsk, 668 miles, from Irkutsk to Lake Baikal, 42 miles, from the Lake Baikal station of Mysovaya through Sryetensk to Pokrovskoye on the Amur, 925 miles, were built successively. In 1897 the Manchurian Railroad was begun, which connects the Siberian trunk line with Vladivostok through Chinese territory, and also with Port Arthur and Dalny. From Kaidalovo, in Transbaikalia, this line, which avoids the enormous engineering difficulties presented by the route through Russian territory from Pokrovskoye to Vladivostok, crosses the frontier at the village of Nagadan and runs through Harbin and Gradekovo to Vladivostok, while the line to Port Arthur and Talienwan branches off at Harbin. The Manchurian lines have a length of 1,885 miles, of which 285 miles are in Russian and 1,600 miles in Chinese territory. The Siberian trunk line was to have been built at a cost of 350,000,000 rubles according to the original estimates. The actual cost has been over 1,000,000,000 rubles. The length of the Transsiberian trunk line in 1899 was 2,089, and that of the Ussuri section 481 miles. The Transcaspian Railroad had a length of 1,374 miles, making the total length of the railroads of Asiatic Russia 3,944 miles in 1899, the gross receipts of which for the year from 1,862,304 passengers and 3,005,800 tons of freight were 24,528,397 rubles, while the operating expenses were 26,122,195 rubles. In 1898 on 3,065 miles in Asia 1,530,283 passengers and 2,721,400 tons of freight were conveyed, paying 20,043,179 rubles, while operating expenses were 20,984,260 rubles.

The White Sea port of Archangel is in communication with the main network through a line built in 1897 to Vologda, and another line to Kotlas will connect with the Siberian Trunk Railroad through Perm. Important lines are projected to run from Poltava to Kieff, from Nishni Novgorod to Romanovo, from St. Petersburg to Kieff, through Vitebsk and Mohileff, from St. Petersburg to Vyatka, from Bologoye to Siedlee, and from Orenburg to Tashkend, which is already in

communication with the Caspian by the Central Asian line running to Andijan, with a branch from Merv to Kushka. This last will connect at Samara with the Siberian line. In the Caucasus a new railroad connects the Rostoff and Vladikavkaz line with Baku through Bealan, Petrovsk, and Derbend, and lines have been built to connect Tiflis with Kars, Tikhoryetskaya with Novorossiisk and Tsaritsin, and Kavkazskaya with Ekaterinodar. The Siberian Railroad was opened before the close of 1902 to through traffic from Port Arthur to St. Petersburg. The connection of the Siberian and Transcaspiian Railroads is planned by means of a railroad from Tomsk through Semipalatinsk and Verni to Tashkend. The harbor at Dalny, which is a free port, has been improved at immense expense. A free harbor has been opened at Vladivostok, where goods from China are imported free of duty and articles brought by foreign vessels can be transhipped in bond. The journey from Paris to Peking is made over the Russian Railroad in less than fifteen days.

Posts and Telegraphs.—The post-office in 1900 transmitted 447,667,956 internal letters and postal cards, 13,010,059 money letters, 72,435,857 book packets, 246,633,682 newspapers and periodicals, 5,194,876 parcels, 10,051,531 postal orders, and 229,601 telegraphic orders, and in the international service 54,959,331 letters and postal cards, 591,283 money letters, 23,982,722 book packets, 11,775,279 newspapers and periodicals, 676,272 parcels, and 22,232 postal orders. The postal receipts were 30,682,201. In 1899 the receipts were 29,440,717 rubles, and expenses 33,156,423 rubles.

The telegraphs on Jan. 1, 1900, had a total length of 98,570 miles, with 290,634 miles of wire. The number of messages in 1899 was 18,376,969, besides 81,000,000 railroad telegrams. The telephone-lines in 1899 had 41,850 miles of wire, and the number of conversations was 97,565,867.

Revolutionary Movement.—The industrial depression, which threw great numbers of workmen out of employment and caused a lowering of wages and lengthening of the working day, and the results of the famine of 1901 in southern and eastern Russia, afforded the Socialists and Liberals an opportunity to start an agitation among the people which the nihilists twenty years earlier were unable to do, although they prepared the way, when, throwing up their own careers so as to dwell among peasants and workmen, they preached their subversive doctrines and taught many of the people to read and write. The Government by providing instruction for recruits in the army prepared them to receive revolutionary literature and spread it in their villages. The workmen were imbued with the socialistic ideas of the working classes of western Europe by the foreign skilled artisans employed in every factory. The active propagandists of revolutionary ideas were still to be found among the students and the intellectual proletariat and, as is characteristic of the impressionable and sympathetic Russian race, essentially democratic by nature and tradition, loyal to the Czar but not to the bureaucratic hierarchy which is believed to conceal the state of the country from the Czar, when the wave of political and social unrest starts it spreads among all classes, and the repressive measures used to crush freedom of thought and its expression stimulate a rebellious spirit, so that revolutionary tracts are sent out from Government offices, officers of the army form revolutionary clubs, and members of the provincial nobility at the risk of

imprisonment discuss together political reforms. The intellectual leaders, the chief literary lights of Russia, live in exile, but their writings can not be banished. In 1901 the students rebelled against the antiquated classical curriculum and the prison-like regulations of the universities. M. Bogolepoff, the Minister of Education, was murdered by a desperate student, and Gen. Vannovsky took the portfolio with the intention of introducing reforms. His policy of conciliation was recognized, but no adequate redress was expected in face of the opposition of the Procurator-General of the Holy Synod and the Minister of the Interior. A large proportion of the students, carried away with ideas of political and social revolution, thought the time favorable for political agitation when they could make common cause with the unemployed and discontented working men.

The movement among a section of the students of the higher educational establishments of the empire assumed toward the end of 1901 a character openly revolutionary. The leaders of the movement no longer confined themselves to demanding various changes in the organization of the universities, but endeavored, both in speeches made at meetings held without permission within the walls of the universities and by numerous secret appeals and proclamations, to induce their comrades to take part in a political movement, and openly declared that changes were necessary in the present form of government. At the same time these leaders, recognizing how powerless the students were to realize by themselves the objects of the movement, entered into intimate relations with the existing revolutionary groups and clubs. Animated by the same spirit, they carried on an illegal propaganda in the community and amid the workmen of the large towns. To this end they not only employed personal persuasion, but distributed forbidden literature. The agitators saw that one of the most obvious means for furthering their objects was the organization of street demonstrations, and attempts at such demonstrations were made in various cities. A vast secret association existed among the laboring community throughout Russia which was headed by students in the large towns. In Moscow, Odessa, Kieff, and other manufacturing centers were printed well-edited secret organs of the working class, inveighing not only against capitalistic exploitation, but attacking the Government and the court, and these papers were circulated widely, while the police were unable to discover the publishers or the presses. Circulars giving details and announcements of revolutionary demonstrations were issued broadcast. Subversive documents were found in the possession of officers as well as privates in the army and of men on the ships of war.

The Government warned the agitators that if they provoked trouble the universities might be closed and all students set back for a year. Political suspects of all classes were expelled from the cities and sent to live in the country, with the result that disaffection was fomented by them in the villages throughout Russia. On Feb. 15 street riots, announced beforehand by handbills showered down from the gallery of the theater, were started in Kieff by students and working men, who unfurled red flags, sang revolutionary songs, and shouted for the overthrow of the autocracy. The Cossacks dragooned them through the narrow streets for three days, wounding many and killing some. On Feb. 21 St. Petersburg students and workmen made a demonstration denouncing the Emperor and his Gov-

ernment. On Feb. 22 students assembled with red flags in front of the university hall at Moscow and when ordered to disperse proceeded to wreck the buildings. A large number of women students participated in all these demonstrations, and these were beaten with Cossack whips as mercilessly as the men. On March 2 another riot took place in Moscow. Students barricaded themselves against the police and proclaimed the intention of setting up a republic. There were 537 students of the university, 111 students of other institutions, and 34 other persons of both sexes sentenced by administrative order for rioting or political disaffection. Of these, 95 were banished to eastern Siberia for periods varying from two to five years and 567 were sentenced to from three to six months' imprisonment in Archangel. After one or two large gangs of student prisoners had broken out of the jails in which they were confined it was decided to distribute these latter in the prisons of various towns throughout the empire. Some of them refused to eat in jail unless they were assured of a legal trial. The American consul received an appeal purporting to come from mothers and sisters of the students begging him, as the representative of a free nation, to make known to the Czar the cruelties to which they were subjected. A woman teacher named Allart fired a pistol at Col. Trepoff, chief of the Moscow police, and a few days later another attempt was made to assassinate him. In Kharkoff and Odessa student riots took place, and everywhere the working men had a part. In St. Petersburg 70 students and 200 workmen were arrested. The universities and high schools were closed, even the Warsaw Polytechnic after meetings of the students took place. From Kieff 80 students were rusticated in different villages, and others from Kharkoff were treated in the same manner. Strikes and labor riots occurred in all the industrial centers of south Russia, in the mining districts of the Urals, even in various places in Siberia. In Yekaterinoslav and other towns strikers were shot down by soldiers. At Tula the soldiers refused to fire upon strikers. At Moscow, where the officers received letters appealing to them not to order the troops to use firearms or cold steel against their brothers, a regiment of grenadiers showed such a mutinous spirit that it was withdrawn. In St. Petersburg a battalion of marine infantry would not fire upon the crowd when ordered to do so three times, and several officers were arrested for connivance with the revolutionists. At Rostoff a political demonstration was allowed to pass peacefully because the police were too weak to successfully interfere. At Poltava and other quiet country towns the banished students scattered incendiary proclamations, cheered for Tolstoi, and shouted confusion to despotism. The police issued warnings in the cities that any person found in the streets after they were ordered to be cleared would be liable to imprisonment. On March 16, a few days after the university was reopened, a revolutionary demonstration took place in St. Petersburg in favor of freedom of association and assemblage, free speech, a free press, and personal liberty. Committees of students and of working men arranged the affair, distributing and posting on walls thousands of proclamations and sending notices to the officers of the garrison begging them not to order the soldiers to fire upon the unarmed people whose only object was to make the Government acquainted with their demands by a peaceful demonstration. The demonstrators raised their red flags and uttered their revolutionary

cries only to be struck with the bare swords of the police and the knouts of Cossack horsemen, but none of them offered any resistance. Maxim Gorki, who was interned in the Crimea because he signed the protest of Russian authors against the brutality of the police in dealing with the students' demonstration of the previous year, was elected a member of the Imperial Academy of Sciences, but the Government annulled his election. On April 15 the Minister of the Interior was murdered by a student who pretended he was a messenger of the Grand-Duke Serge. He was the agent of a revolutionary society instructed to kill either M. Sipiagin or M. Pobedonostseff, whichever appeared first at the ministerial palace to attend a Cabinet meeting. Viatsheshaff Constantinovich de Plehwe, Minister for Finland, was appointed on April 17 to succeed M. Sipiagin. Exiled Russians in Paris were discovered by the secret police to have had cognizance of the intended murder of one or both of the ministers, who represented reaction and rigorous repression in the Russian Cabinet. On April 20 Gen. Vannovsky, who was appointed Minister of Education after the murder of M. Bogolepoff, resigned his post, his proposed reform of secondary education by giving studies a modern scientific direction and diminishing the time spent on the classical languages and literature having been condemned or postponed in consequence of the last revolutionary manifestations among the students. Assistant-Minister Zenger was immediately appointed Acting Minister of Public Instruction. The Ministry of War was not deterred by the prevalence of the revolutionary spirit from its efforts to raise the standard of general intelligence in the ranks of the army, primarily impelled thereto by the lack of an adequate supply of non-commissioned officers. It is essential that these should possess an elementary education, and those taken from the town population and the manufacturing districts on account of their possessing such education were found untrustworthy. Hence it was decided to enlarge the scheme of instructing the conscripts in the army, making instruction in reading and writing obligatory for all recruits in the infantry and artillery and for 10 or 12 recruits selected from each cavalry squadron. In May an attempt was made by a Jew to kill Gen. von Wahl, Governor of Vilna, for the flogging of persons who had taken part in seditious demonstrations. Like the other murderous deeds, this also was decreed by a central revolutionary committee and was preceded by threatening letters. Similar threats of murder were sent to M. Pobedonostseff, whose life was attempted in 1901, to M. de Plehwe, and to other high officials. The political assassins were tried by court-martial and executed. Some who were chosen by lot to execute the threatened vengeance of the revolutionary societies committed suicide rather than carry out the crimes. On Aug. 11 Prince Obolenski, Governor of Kharkoff, was wounded by an assassin and his life was saved by a lady conversing with him who struck aside the pistol. M. de Plehwe found that during the two years and a half that M. Sipiagin was in office 60,000 persons had been exiled from the principal cities, including workmen sent back to their villages. He found also that these exiles had created new centers of disaffection and that the banishment of men of intellect and independence of thought had an effect on the community contrary to the one intended. Therefore he let it be known to many professors, lawyers, doctors, and writers who had been expelled that he would consider petitions for a reconsideration

of their cases, and a large number of them were restored to their homes and civic rights. In the night of June 2 a fresh demonstration occurred at Kieff, where 192 persons were arrested. Disorders occurred also at Saratoff. The new Minister of Education removed some of the irksome regulations in the schools and placed the discipline in the universities and the adjustment of differences between students and professors under the jurisdiction of courts composed of members of the faculty. The German university authorities were enjoined from Berlin not to admit Russian students until the Russian embassy gave its approval in the case of every applicant.

Labor Agitation.—The immediate object of the working men was to obtain the right to organize in labor unions and to defend their interests by the methods that are free to the laborers of other European countries. The manufacturing industries of Russia are all new. When Russian capital was not forthcoming to develop the mineral resources of the country and build up domestic manufactures commensurate with the railroad facilities that had been created, M. Witte removed the restrictions on foreign capital and invited foreigners to start industrial enterprises, which were nursed by the Government, not only by high protective duties, but by every means in the power of a paternal despotism. In the last twenty years a large number of companies and syndicates have entered upon the exploitation of the vast sources of mineral and other wealth in southern Russia, the Caucasus, and the Ural mountains, which have hitherto been merely tapped in spots. Of the capital so invested 80 per cent. is French, Belgian, German, and British. Though the earlier companies have been successful, many of those that came later into the field obtained less desirable properties or such as could not be made profitable and financed them in a dishonest fashion, so that the public that took the stock was doomed to suffer losses. The failure of the harvest in successive years reacted on all industry. In 1902 two-fifths of the industrial enterprises were virtually insolvent and few were still making profits. Many concerns had already collapsed, carrying down with them banking and financial institutions equally unstable. All were obliged to curtail expenses, and wages felt the depression first of all. It was estimated that the losses and decline in industrial properties have amounted to 1,000,000,000 rubles in ten years. One of the conditions of the state-aided industrialism was a supply of labor that could be depended on. The foreign companies brought managers and skilled mechanics from Belgium, France, Germany, and Austria, and had no difficulty in obtaining an abundance of raw hands in Russia. Peasants who left the communes during a part of the year to earn wages in the factories developed into a working class, numerous in itself, yet small compared with the peasant population to which the workmen still legally belonged, each being a member of his village *mir*, liable for his part of the taxes and subject to being sent back home if he was not satisfactory to his employer.

The strikes that broke out in 1901 and 1902, doomed to failure because they occurred in the face of a depressed labor market and closing factories, but for that reason more bitter and desperate, were a novel and, in Russia, a revolutionary phenomenon. The strikers were generally treated accordingly as disturbers and malefactors, knouted by the Cossacks and dragooned by the soldiers wherever they were found assembled. There was nevertheless a strong feeling of sympathy throughout the south of Russia for the workmen and an-

tipathy against their employers, the foreign companies that were believed to be draining the natural resources of the country and extracting money from the Russian workmen to pay dividends to stockholders abroad. The nobility and peasantry alike were jealous of the industries that had flourished by the aid and protection of the Government on duties, taxes, special railroad rates, banking facilities, etc., all for the benefit of foreigners who had received concessions of the coal, oil, iron, and other minerals, railroad contracts, and industrial concessions that yielded large profits at the apparent expense of Russian agriculture and the primitive native industries. The demands of the Russian industrial workers, put forward under the instruction of their social-democratic teachers, were similar to those made or already attained in other countries, and in some places the Russian strikers obtained partial concessions. In St. Petersburg they demanded a legal ten-hours' work-day, restoration of holidays taken away in 1897, prohibition of labor of children under fifteen and night labor by women, fortnightly pay-days, stricter factory inspection, liability of employers for accidents, fixed rates of wages and fines, the right to confer by delegates with masters and authorities, arbitration of disputes, and trial in open court in the place of arbitrary arrest and administrative banishment. In Kieff they called for the rights possessed by their brethren in other European countries. In Moscow the workmen, among whom were educated socialists, who chose a life in the factories in order to teach revolutionary ideas, and also many socialistic artisans from other countries, were favored by the Grand-Duke Serge Constantinovich and the police previous to the revolutionary outbreak. The official policy there was to encourage their desire to form labor unions on the English model and treat with their employers as workmen do in France and England, and by supporting them in such economic liberties to prevent the growth of political revolutionary ideas. In tea-rooms established in Moscow and neighboring manufacturing towns benefit societies were started under the auspices of the authorities, and tea-rooms were founded by them in which labor matters, and political theories as well, were freely discussed. A clash occurred between the civil authorities and the manufacturers when the police actively intervened in a quarrel that one of the latter, the French manager of the largest silk-mill, had with his work-people. These complained that the manufacturer unjustly withheld many thousand rubles of their wages, and demanded arbitration. Col. Trepoff ordered the factory management to admit men he appointed to investigate and arbitrate, and when these men approved the claims and the manufacturer refused to pay, the weavers went on strike and were lodged and fed at the cost of the Government. In most places the strikes were for an increase of wages equal to recent reductions and a reduction of the hours of labor or a restoration of the hours that formerly existed. Silk, cotton, and other factories in Moscow and its vicinity were closed by strikes. When the new Minister of the Interior went to that city to investigate, a deputation of workmen submitted the rules of English trade-unions and threatened a general strike if the same privileges were not accorded to them. In November a serious strike of workmen in the railroad shops at Rostoff, organized by social democrats, did not end until Cossacks had killed and wounded many men. In St. Petersburg workmen were permitted to form associations for improving their position, subject to governmental scrutiny.

A new criminal code for Russia on which a commission of jurists spent fifteen years makes strikes criminal when directed against the Government or when they lead to injuries to persons or damage to property. The code of 1845 consisted of 1,711 paragraphs defining each particular offense and grading the punishments from a reprimand up, all other punishments, rising to transportation and hanging, being reckoned as equivalent to so many reprimands. The new code makes imprisonment of various degrees of severity and duration practically the only kind of punishment, estimates degrees of criminality according to the circumstances and state of mind, and classifies crimes, instead of giving minute definitions, so that in a third of the number of paragraphs it embraces a great many crimes that were unknown when the old code was framed.

Agrarian Disturbances.—The nihilist students, the socialist workmen, and others relegated to country villages, to check the revolutionary propaganda in the towns, found among the starving peasantry a fertile soil for propagating disaffection and creating turmoil. The *zemstvos*, charged with the duty of collecting the agricultural statistics, had to employ strangers of intelligence on this work, and many of these were revolutionary agents. The agrarian conditions in Russia are felt by everybody to be radically wrong. The peasants have since their emancipation from serfdom had their view of the causes of evils from which they particularly suffer, and radical social thinkers have sympathized with their view. The allotments of lands to the villages were generally inadequate, and they were often the poorer lands. In the spring of 1902, when in the provinces that suffered from famine there was no grain left for either food or seed, students and other agitators spread far and wide a forged ukase telling the peasantry that the Czar had decided to cut up the estates of the nobles and divide the land among the peasants, having found out that these lands were theirs by right, and giving them permission to go to the granaries and barns of the nobles and help themselves to the seed, fodder, provisions, tools, and cattle they needed. In the governments of Poltava and Kharkoff the peasants proceeded to act on this permission. With long processions of carts they despoiled the grain-bins and fodder-stacks of the great estates. On the farms of the Duke of Mecklenburg the laborers were strong and true enough to drive them off. The authorities called out the military, who put down the rioters with ruthless severity, yet not easily nor quickly, because there were 18,000 peasants helping themselves, and these, when they saw the troops aiding the nobles and large landowners to defeat what they supposed was the will of the Czar, began to sack mansions and to destroy in blind rage everything that they did not carry off. Reinforcements of troops from other provinces were necessary, and the Governor-General of Kieff took command of the military operations. When the peasants broke into the barns on the estate of the Grand Duke of Oldenburg, in the government of Voronezh, the troops, despite the appeal of the peasants that they were acting within their rights, charged with bayonets, killing and wounding a large number. Similar scenes took place on the properties of Prince Kotschulei, Gen. Durnovo, and the other principal landowners. In Voronezh the sugar estates were dismantled and large quantities of sugar were dumped into the river. In some districts the peasants held village meetings and appointed committees, who waited on the landowners and ordered them to vacate the lands wrongfully withheld from the

peasants after the emancipation proclamation. The agents of the landowners were driven off, and the peasants proceeded in an orderly manner to distribute the land and movables, leaving the noblemen 15 or 20 acres as their share of the estate. It was not until the authorities intervened that the work of destruction and incendiarism began. The ravages extended to about 60 estates in Poltava and 20 in Kharkoff. Landowners and their stewards fled in terror. Some of the officials endeavored to mollify the peasants, while others showed extreme rigor, which became the rule when the military authorities had the situation in hand. Rioters who were caught were flogged inhumanly. The disturbances lasted from April 1 to April 17. The Government granted 800,000 rubles as immediate aid to the nobles who were robbed and appointed a commission to value the damages and to assess the whole amount on the communes according to the part their members had taken in the work of destruction, to be repaid in instalments by an extra annual tax. M. de Plehwe, after visiting the provinces in which the disturbances occurred, decided to have the collection of agricultural statistics suspended in Poltava, Kharkoff, Tula, Simbirsk, Samara, Penza, Orloff, Kursk, Ekaterinoslaff, and Bessarabia, and to authorize the governors of the 22 other provinces having *zemstvo* institutions to suspend them if they thought necessary. He warned the local authorities to regard with suspicion traveling book agents and peddlers and all schoolmasters and theological students. The idea that the lands retained by the nobles and those assigned to the Cossack colonies belong to the peasants was spread far and wide. In the Caucasus persons collected money from the Russian peasants by pretending to be lawyers who could establish them in their rights. In June workmen demolished factories at Rostoff, on the Don, and peasants simultaneously looted the estates of landowners and smashed agricultural machines, incited by strangers disguised in gorgeous uniforms, who said the Czar sent them to tell the people that machinery was a device for grinding the poor by diminishing the number of laborers. The troops killed and wounded many rioters. In Saratoff, Kherson, Kieff, Voronezh, and in the northern Caucasus the lower classes were wrought up by the teachings of incendiary agents. A circular was distributed through the length and breadth of the empire and attributed to Tolstoi, urging the peasants and the workmen to refuse to labor for employers for two years, at the end of which all land and property would then be abandoned to them. The crops in southern and central Russia were good for the first time in two years. About 300 peasants were tried for participation in the agrarian disorders of Poltava and Kharkoff. Prince Obolenski, the new Governor, who had been shot at by an emissary of the militant social democracy for letting loose the Cossacks on the riotous peasants, obtained leave to deal with them severely.

The state of Russian agriculture was made the subject of a commission, of which M. Witte was president, with subordinate commissions in the provinces. The *zemstvos* were excluded from direct participation in the inquiry. The marshal of the nobility in each province was the official head of the provincial commission, which was made up of the landed gentry. The opportunity of bringing forward projects of political reform and constitutional liberty was not neglected by the Liberals of Russia, although the commissions were enjoined to confine themselves to economical discussions and practical suggestions, within which limits they were allowed the fullest scope. The

decline in the prosperity of the peasant class was ascribed by some authorities to their ignorance and indolence and the primitive methods of agriculture in use, and some ascribe their backwardness to the communal system of the villages which deprives the peasants of any incentive to improve the land and discourages individual enterprise and initiative. The agricultural classes find fault with the inadequacy of the provisions for the encouragement of agriculture and the education of the masses, compared with the sums devoted by the Government to the development of industry, and also with the incidence of protective duties. Experts estimate that the richest of the black soil is being robbed of the elements of fertility and value the annual deterioration at 725,000,000 rubles a year, which could be balanced by maintaining 30,000,000 more horses and cattle than Russia now possesses. The peasants of each *mir* in the majority of cases graze their cattle on common pastures and cultivate the fields in common, dividing the crops. In other communes, while pastures are common, the arable lands are allotted each year to heads of families. The Government decided to free the village communities of their joint responsibility for the payment of taxes and assess them separately on the individual members, so as to encourage thrift. In view of the existing distress it was decided to remit arrears of taxation amounting to 130,000,000 rubles. The famine of 1901 affected 17 governments having a population of 24,000,000, for whose relief the Imperial Government spent 33,500,000 rubles besides finding employment for 61,000 men. Under the communal system as it exists in Russia a peasant may not without the consent of the *mir* absent himself from the village, but must remain to do his share of the work and bear his share of the taxes and debts unless he has such consent. If he is allowed to go out to earn wages elsewhere he must still pay his share, and there is no legal way of severing his connection with the community, not even by abandoning his share in the common lands. The *zemstvos* have in many places distributed agricultural machinery among the communes at cost price, and have even employed agricultural instructors to teach the peasants better methods. Many of the local committees recommended for the improvement of agriculture education of the peasants, equality with other classes before the law, a juster distribution of taxes, the substitution of an income tax for the indirect taxes that press most upon the poor and have been doubled in twenty years, the increase of their allotments of land, and the reduction of the protective tariff on industrial products. The *zemstvos*, whose powers were curtailed in 1890, put in a plea through their members who were on the committees for independence of the restraints to which they were subjected by officials of the Central Government, for liberty to consult and cooperate among themselves, and in general for reorganization on a democratic basis. Because these suggestions were rejected as outside of the scope of the inquiry one committee dissolved. Other committees reported in favor of increasing the authority and independence of the *zemstvos*, giving the peasants as well as the landed gentry representation in these bodies, placing funds at their disposal, and consulting them on legislative measures affecting the rural population. To curb the discussion of local self-government and other political questions the Government imprisoned or exiled some of the leading members of the provincial and district committees who were responsible for dragging these matters into the reports.

Finland.—The grand duchy of Finland, when united to Russia in 1809, preserved by grant of the Czar Alexander I its constitutional form of government. Its legislative body is composed of representatives of the Four Estates, viz., the knighthood and nobility, the clergy, the citizens, and the peasants. Laws are prepared by the State Secretariat of Finland in St. Petersburg and submitted to the Four Estates, whose unanimous consent is necessary for amendments to the Constitution or for the imposition of new taxes. The Czar in Finland bears the title of Grand Duke. The Governor-General is Gen. N. Bobrikoff. Finland owes its high state of civilization to its excellent educational system. There are 1,757 elementary schools, of which 285 are Swedish, 16 Swedish and Finnish, 1 Finnish and German, and 1,455 Finnish; also 50 lyceums, 20 modern schools, 38 girls' high schools, 7 training-colleges for teachers, 46 technical schools, 1 polytechnic, 1 university with 2,355 students, and numerous agricultural and commercial schools.

The area of Finland is 144,255 square miles. The population in 1899 was estimated at 2,673,200, divided into 1,322,949 males and 1,350,251 females, the whole comprising 2,300,100 Finns, 362,500 Swedes, 7,500 Russians, 1,900 Germans, and 1,200 Lapps. Helsingfors, the capital, with Sveaborg, had 88,711 inhabitants. The number of marriages in 1899 was 19,539; of births, 88,358; of deaths, 53,042; excess of births, 35,316. The immigrants in 1899 numbered 79,074, and emigrants 76,320.

The receipts of the Government for 1900 were estimated at 87,506,882 marks, or francs, including 23,176,554 marks carried over from previous years and 3,000,000 marks from the reserve fund; and expenditures were made to balance the receipts, 21,254,786 marks being carried over to 1902. Direct taxes yielded 5,953,115 marks of revenue, and indirect taxes 34,055,000 marks. The timber of the Government forests yields a revenue of 3,000,000 marks a year. The expenditure for military purposes was 6,959,519 marks; for civil administration, 10,339,806 marks; for education and worship, 9,469,813 marks; for railroad construction, 12,774,460 marks; for the public debt, 4,971,160 marks. The amount of the debt on Jan. 1, 1901, was 111,488,864 marks, an increase of 26,357,920 marks since the previous year. The Finnish army is being assimilated to that of Russia. New military regulations, which go into force in 1903, provide that the Finnish recruits shall be incorporated in Russian regiments, mainly those stationed in the districts of Finland and St. Petersburg, to serve three years in the active army and fifteen years in the *Zapas*. The existing force consists of 9 battalions of rifles and 1 regiment of dragoons. Excepting the life-guard battalion and the dragoons these troops will be disbanded.

The agricultural production of Finland in 1899 was 50,666 hectoliters of wheat, 3,602,551 hectoliters of rye, 1,330,192 hectoliters of barley, 5,279,639 hectoliters of oats, 4,524,059 hectoliters of potatoes, 1,430 tons of flax, and 566 tons of hemp. The live stock consisted of 8,486 horses, 1,457,423 cattle, 1,031,185 sheep, 214,206 hogs, 119,917 reindeer, and 9,083 goats. The production of timber in 1898 was 2,348,604 cubic meters. The mineral production in 1900 was 90,600 tons of iron ore, 31,002 tons of pig-iron, 18,324 tons of bar iron. The imports of cereals in 1900 were 71,100,000 marks in value; of machinery, 16,600,000 marks; of cotton and cotton goods, 15,000,000 marks; of coffee, 14,100,000 marks; of iron and iron manufactures, 13,100,000 marks; of woolen goods, 11,100,000 marks; of sugar, 9,100,000 marks. The

exports of timber were valued at 113,900,000 marks; of butter, 23,700,000 marks; of wood-pulp and cardboard, 21,600,000 marks; of iron and iron manufactures, 13,100,000 marks. The values of imports from and exports to different countries in 1900 were in marks as follow:

COUNTRIES.	Imports.	Exports.
Russia.....	100,831,100	57,166,800
Germany.....	89,892,900	16,738,700
Great Britain.....	34,143,800	57,772,800
Denmark.....	14,762,600	14,894,600
France.....	5,537,000	17,535,600
Sweden and Norway.....	18,661,800	7,484,600
Spain.....	2,881,800	10,004,500
Other countries.....	9,565,900	16,148,100
Total.....	270,755,800	197,730,700

There were 8,438 vessels, of 2,017,957 tons, entered at Finnish ports during 1900, and of these 5,795, of 892,007 tons, were Finnish, 706, of 117,534 tons, were Russian, and 1,937, of 1,008,416 tons, were foreign; cleared, 8,562, of 2,040,088 tons, of which 5,901, of 907,336 tons, were Finnish, 717, of 124,771 tons, Russian, and 1,944, of 1,007,981 tons, foreign. The number of vessels that passed through the canals in 1900 was 31,770. The tolls amounted to 618,324 marks, and cost of maintenance to 340,396 marks.

The railroads of Finland on Jan. 1, 1901, had a length of 2,931 kilometers, and all belonged to the Government except 281 kilometers. They carried in the year preceding 6,898,775 passengers and 2,453,700 tons of freight; gross earnings, 27,698,000 marks; expenses, 20,545,254 marks; cost of construction, 250,780,000 marks. The post-office in 1899 transmitted 16,639,289 letters and postal cards, 19,010,557 newspapers, 3,190,429 parcels, and 1,254,179 registered letters and packets; receipts, 3,140,667 marks; expenses, 2,577,117 marks.

The Finnish people determined to oppose a passive resistance to all measures conflicting with or calculated to abolish their fundamental laws by refusing to comply with any imperial edicts that infringed on the constitutional right of self-government which the Czar's predecessors had promised to respect. The Finnish Senate, which at first had stood up for the ancient laws and liberties of the nation, was altered in composition and temper until it bowed to the decrees for the Russification of Finland issued from St. Petersburg, and justified on the ground that they dealt only with matters of imperial interest. The Senators deemed it unwise to endanger the remaining liberties by engaging in a conflict with the imperial power. The Russian authorities represented that only the Swedish oligarchy stood behind the Nationalist agitation; that the masses of the Finns were convinced of the benefits of a closer union with the empire. The young Finns, nevertheless, were unwilling to serve as Russian conscripts. They preferred to emigrate to the United States and Canada, for which countries 15,000 departed in 1901 and 1,000 were leaving every week in the beginning of 1902 before the conscription. Although the military service edict issued in July, 1901, was not to be applied abruptly, its effect could not be much softened by its gradual introduction. It meant eventually four years in Russian regiments side by side with Russian peasants and under the same harsh discipline, with liability to be called away from family and business afterward to fight the battles of Russia on her distant frontiers. It was ordered that, until the new district conscription boards were formed, the annual levy should be conducted by boards constituted under the old law, which contain two members elected annually by each commune to

protect the interests of the recruits from each locality. Except in the neighborhood of the Russian frontier the communes generally refused to elect representatives in the boards for the reason that the recruits would have to serve under the new edict, which was invalid, being contrary to the laws of the land both in substance and in the mode of its enactment. The Senate ordered the provincial governors to enforce penalties against the recalcitrant communes. A Russian had been appointed governor of one province, which also was against the law of Finland, and he alone ordered some of the communes to pay heavy fines. These could not be collected because the courts pronounced them illegal. The Senate then proceeded to nominate members on the conscription boards when the clergy refused to read the army edict from their pulpits, the communes would not elect members to the conscription boards, and the physicians resigned from the medical boards in order to escape being assigned to the duty of examining recruits. This was all in accordance with the Finnish patriotic program of passive resistance on a strictly legal basis. Gen. Bobrikoff had already made the people of Helsingfors acquainted with the Russian police system by doubling the police force, supplanting municipal by state authority, introducing a secret service, and threatening to have every house watched at the expense of the owner and every person entering a house reported. This was because of the monster petitions signed surreptitiously and sent to the Czar and of the pamphlets and political handbills that continued to be printed and circulated. On April 17, when recruits were ordered to report themselves at Helsingfors, a party of nobles and prominent burghers gathered in the hall and jeered the Governor when he attempted to read the articles of war and call off the names of the recruits. The proceedings were postponed, and on the following day a larger and more boisterous crowd interrupted them again and maltreated the officers of police. At the request of Senators the Governor ordered out two sotnias of Cossacks, who drove the people before them with their knouts, but were stoned from the houses. The Cossacks were ordered back to their barracks on the promise of the citizens to disperse. Only 57 recruits, most of them cripples and invalids, presented themselves, while 800 stayed away. Those who reported for conscription were severely handled by the people. Disturbances occurred in Viborg that the police were unable to quell. Throughout the country 60 per cent. of the recruits summoned failed to respond, subjecting themselves to the penalty prescribed for desertion. The Government finally declared the enforcement of the recruiting law postponed after prosecuting some of the 15,000 recruits who absented themselves and being defeated in the courts on the ground that the conscription law was unconstitutional. An imperial rescript warned Finlanders that a further evasion of military duty would be regarded as demonstrating the prosperous and peaceful development of the country under the form of government that had existed for a century. In consequence of continued disorder several regiments of troops were brought from St. Petersburg. The secret police kept all suspected persons under surveillance.

On Sept. 30 a series of imperial ordinances swept away some of the constitutional guarantees that were vouchsafed to the Finns by the Emperor Grand Duke in 1809. The supreme administrative authority, hitherto vested in the Senate, was transferred to the Governor-General, who has power conferred on him to decide any adminis-

trative matter at his own discretion or to disapprove any act of the Senate and refer it to the Emperor. The inferior officials can now be appointed by the Governor-General, or, when still appointed by the Senate, they must have his approval. Graduates of Russian universities and higher educational establishments are made eligible, even without naturalization, to Government posts in Finland on the same terms as persons educated in Finnish institutions, just as Finns already were eligible to appointments in the Russian service. Applications, addresses, and petitions intended, under the disguise of representations as to the needs of the country, to censure measures of the Government or disturb public order must not be dealt with by the Senate. On Oct. 1, 1903, Russian becomes the official language of the Senate. The Procurator-General may lodge with the Emperor representations as to illegal action of the Senate, but can no longer impeach the acts of the Governor-General. The article in the Constitution making judges and Government officials irremovable except by trial and judgment of a court of law is abolished. The Governor-General, through the Senate, is empowered to dismiss officials, but they can not be tried without the permission of their superiors. On the day when this law was published the judges of the Appellate Court were dismissed who had adjudged the military service law to be invalid. The Senate, having applied for permission to draw up a bill to be submitted to the Diet, setting forth the legislative matters that should be regarded as of imperial interest, the Emperor granted leave to draw up such a project to be submitted to him for approval, but not to the Finnish Diet. In the autumn the emigration of Finns to America was augmented in consequence of the destruction of the grain and hay crops by floods.

SALVADOR, a republic of Central America. The legislative power is vested in the National Assembly, a single Chamber of 42 members, elected for each annual session by universal adult male suffrage. The President is elected by the direct popular vote for four years. Gen. Tomas Regalado was elected President for the term beginning March 1, 1899. The Cabinet at the beginning of 1902 was composed of the following members: Minister of Foreign Affairs and Justice, Dr. Federico A. Reyes; Minister of the Interior, War, and Marine, Dr. Ruben Rivera; Minister of Charity and Public Instruction, Dr. J. Trigueros; Minister of Finance, Public Credit, and Public Works, Dr. F. A. Novoa.

Area and Population.—The republic has an area of 7,225 square miles. The population according to the census of March 1, 1901, is 1,006,848, composed of 493,955 males and 512,955 females. The number of Indians was 234,640, of Ladinos, or mestizos, 772,200. San Salvador, the capital, had 59,540 inhabitants; Santa Ana, 48,120; San Miguel, 24,768.

Finances.—The revenue in 1900 was \$6,293,462 in silver; expenditure, \$6,794,874. For the year ending May 31, 1901, the revenue was estimated at \$4,992,520, and expenditure at \$5,201,720. For 1902 the estimate of revenue was \$5,619,800, of which import and export duties yield \$4,483,500 and excise duties, stamps, and the post-office the remainder; expenditures were estimated at \$5,752,115, of which the public debt takes \$1,280,000, war and marine \$1,103,440, internal admin-

Asiatic Dependencies.—Bokhara, in central Asia, is tributary to Russia. Muzafferaddin, the late Amir, proclaimed a holy war against the Russians in 1886, in consequence of which his country was invaded and he was forced to cede the Syr Daria district to Russia, to admit Russian merchants, and to pay an indemnity. In 1873 he signed another treaty agreeing to exclude all foreigners without Russian passports. Seyid Abdul Akhad, the present Amir, born March 26, 1859, succeeded his father in 1885. The area of the state is 92,000 square miles, its population about 1,250,000. The products are grain, cotton, silk, tobacco, and hemp. Russian traders pay a duty of 2½ per cent. on imports and exports. The annual product of silk is 967 tons; of cotton, 32,000 tons.

The khanate of Khiva, having aided the Khirgiz in their rebellion against Russia, was subdued in 1872 and forced to pay an indemnity of 2,750,000 rubles in annual instalments. The area is 22,320 square miles, the population about 800,000, half of whom are nomads. About 48 tons of silk and 8,064 tons of cotton are raised annually. The reigning Khan is Seyid Mohammed Rahim Khan, born in 1845, who succeeded his father in 1865.

The territory of Kwangtung in China, including Port Arthur and Talienwan, was leased to Russia for twenty-five years by an agreement signed on March 27, 1898, and on Aug. 28, 1899, was made a Russian province. Port Arthur is reserved as a naval port for Russian and Chinese war-vessels, also a part of the harbor of Talienwan, while the other part is open to commercial vessels of all nations. Dalny, a new Russian town at the southern end of the port, is the commercial terminus of the Manchurian Railroad connected with the Transsiberian trunk line.

S

istration \$976,286, public works \$756,100. The Salvador Railroad Company in 1900 assumed the external debt, amounting to £726,420, giving its own securities on the guarantee of an annual subsidy of £24,000. The internal debt on Jan. 1, 1901, amounted to \$9,350,368.

Commerce and Production.—The products are coffee, indigo, sugar, rubber, cotton, dyestuffs, balsam, and tobacco. Cotton-growers receive a bounty of \$1 on every quintal exported. The mines produce gold, silver, copper, quicksilver, and iron. Exports in 1900 were valued at \$9,132,958, of which \$7,568,339 represent coffee, \$638,700 indigo, \$295,439 balsam, \$129,475 silver, \$111,127 tobacco, \$96,981 sugar.

Railroads and Telegraphs.—A railroad from the port of Atajutla to Santa Ana was extended to San Salvador in April, 1900. Another railroad runs from San Salvador to Tecla. The railroad company is building new lines in other directions. The telegraphs have 1,850 miles of wire. The number of messages in 1900 was 596,228. The length of telephone-lines is 750 miles.

SAMOA, a group of islands in the Pacific Ocean, formerly a kingdom under the joint protection of England, Germany, and the United States, divided between Germany and the United States in 1900 in accordance with the Anglo-German convention of Nov. 14, 1899, to which the United States assented in January, 1900. After the death of King Malietoa Laupepa in 1898 Chief-Justice Chambers decided that Mataafa, being a former rebel, was ineligible to the king-

ship, and recognized the claim of Malietoa Tanumafili. Mataafa rebelled on Jan. 1, the day following the decision, and fighting ensued in which his party was in the end victorious and compelled Malietoa Tanumafili to take refuge on a British cruiser. The German authorities upheld Mataafa and refused to recognize the American chief justice, who nevertheless reopened court under an escort of British bluejackets. The party of Mataafa plundered the private property of foreigners and, the fighting and anarchic conditions continuing, the British and American consuls, from whom the German consul had separated himself, called on the naval forces of their governments to intervene. The warriors of Malietoa that had fled to other islands were brought back and supplied with arms, and to support them the British and American war-ships bombarded Mataafa's forces back of Apia and in other places and landed parties to destroy their villages and to fight them in cooperation with Malietoan natives. British and American marines occupied Apia. The chief justice's decisions were carried out. Malietoa Tanu was installed as King. The German cruiser took no part in the conflict. A Joint Commission of the three powers arrived on May 13, 1899, and, after restoring order, it came to the conclusion that the joint control was impracticable and the kingship useless. Consequently the islands were divided, Great Britain receiving compensation from Germany in the Solomon Islands, in Tonga, and in Africa. Before the conventions were concluded for the partition of the Samoa group the three powers signed a convention on Nov. 7, 1899, referring claims for compensation made by their citizens to the arbitration of the King of Norway and Sweden. These claims were on account of losses suffered in consequence of the military action of officers of the signatory powers between Jan. 1, 1899, when Mataafa rejected and rebelled against the decision of the American chief justice, and May 13, 1899, the date of the arrival of the Joint Commission. These claims were to be adjudicated in conformity with the principles of international law or considerations of equity, and the arbitrator was empowered to decide whether, and to what extent, any of the three governments is bound, solely or jointly, with the others, to make good these losses. King Oscar laid the matters in dispute before M. Annerstedt, former Swedish Minister of Justice; ex-Premier Hagerup, of Norway; and M. Cederkranz, formerly Chief Justice of Samoa. In accordance with their views he gave his decision on Oct. 14, 1902. Claims presented by other powers were by arrangement brought within the arbitration. The German Government contended that the military action taken by British and American officers was wholly unwarranted, and that therefore the British and American governments were responsible for losses caused by their action to Germans and persons under German protection. The British and United States governments argued that the military action was necessary and justifiable, and that therefore no claims were entitled to consideration. They contended that under the general act signed at Berlin on June 14, 1899, any one of the signatory powers was authorized to enforce the decision of the chief justice. The Swedish-Norwegian jurists found nothing in the act giving one or a majority of the powers authority to enforce its provisions, but on the contrary a provision that neither of the powers shall exercise any separate control over the islands or their government. The military action of the British and Americans was considered to have the character of a serious

control. The evident intention of the powers was to establish the principle that in their dealings with Samoa they should proceed by common accord, and this principle was reaffirmed in supplementary agreements of 1892 and 1896, which permitted the use of a naval force to support the Supreme Court and the supplying of ammunition to the Samoan Government, yet only with the unanimous consent of the representatives of the three powers. The consular representatives of the three treaty powers had by a proclamation issued on Jan. 4, 1899, recognized Mataafa and his chiefs as the Provisional Government of the islands pending instructions from their governments, and hence the powers were bound by international good faith to maintain the situation thereby created until by common accord they otherwise decided. The military action of the British and Americans tending to overthrow the Provisional Government can not be justified either on the plea of the invalidity of the Provisional Government or on that of its establishment by force. The German consul had refused to sign a proclamation proposed by the two other consuls recognizing Malietoa as King immediately after the chief justice had decided in favor of his claim, and this refusal was held by the British and American governments to have been the cause and origin of the civil conflict that followed. The arbitrator did not find that the German consul had taken any steps contrary to the general act, did not consider him bound to sign the proclamation or support the decision of the chief justice, and therefore absolved his Government of responsibility for any consequences of his attitude. The British and American governments contended that, whether there was authority or not to insist by force on the acceptance of the provisions of the general act, the military action was warranted because it was necessary for the protection of lives and property, and alleged that firing on Mataafa's men was not begun until these were moving to attack the British and American consulates and threatened Mulinu, where a detachment from the ships was stationed, with war canoes. The arbitrator found from the evidence that the supposed movement on the consulates was directed to fleeing women of the Malietoan party and that the canoes were not going to Mulinu, but in the opposite direction; nor did it appear that the general condition of affairs was such as to render military action necessary to protect lives and property. Before the arrival of the United States vessel Philadelphia the Malietoans were completely defeated, deported to distant places, deprived of their arms, and unable to offer any resistance to the victorious Mataafans. The United States admiral ordered Mataafa away from Mulinu, and the Malietoans were brought back there by the British and United States military authorities; arms that when defeated they had surrendered to the commander of the British cruiser were returned to them, and ammunition was served out to them from the stock kept in reserve for the Samoan Government, although the arrangement of 1896 provided that it should be distributed only by the unanimous consent of the three consuls. It ought to have been foreseen that these actions, which can not be considered to have been justified by any threatening attitude of the Mataafans, would exasperate the latter and endanger the peace of the country and the situation created by the surrender of the Malietoans on Jan. 2 and by the establishment of the Provisional Government; therefore the British and United States authorities ought to have

abstained from such proceedings. When British and American forces took possession of the streets of Apia and stopped traffic, demanding a pass before allowing any one to proceed, they infringed the general act, as far as Germans so stopped were concerned, as these were guaranteed the same rights of residence, trade, and personal protection as citizens of the other two powers. The arbitrator decided that the military action, consisting in the bringing back of the Malietoans, the distribution to them of arms and ammunition, the bombardment, the military operations on shore, and the stopping of street traffic, was unwarranted; and therefore that the British and United States governments were responsible for losses caused by such military action. The extent to which the two governments, or each of them, may be considered responsible for such losses was reserved for a future decision. The action of the German consul and the German president of the municipal council of Apia in repudiating the decision of the chief justice and encouraging the pretensions of Mataafa, although the three consuls had been unanimous in exacting from him as the condition of his return from exile the renunciation of all pretensions to the kingship, was the real cause of the trouble. The German consul, disregarding the treaty agreement to abide by the decision of the chief justice in such cases, encouraged Mataafa, although it was on German initiative that this chief, whom the Germans had themselves deported in consequence of a former struggle for the kingship, was debarred from becoming a candidate. This sudden change of policy on the part of the German representative broke the concord which formerly existed; yet, as it was unaccompanied by force, although private German citizens supplied the Mataafans with weapons, the arbitrator did not hold the German Government responsible for the consequences.

German Samoa.—The German part of the group, embracing all islands lying west of 171° of east longitude, consists of the islands of *Savaii* and *Upolu* and adjacent islets. The former has an area of 660 square miles, the latter 340 square miles. The total population is 30,000, of Polynesian race, nominally Christians, converted by Protestant, Catholic, and Mormon missionaries, but still subject to pagan superstitions. There are about 200 whites and 300 half-breeds. The revenue for 1903 is estimated at 441,000 marks, including an imperial contribution of 170,000 marks. The imports are clothing, provisions, kerosene, etc., amounting to about 2,250,000 marks. The exports, valued at 1,875,000 marks in 1899, consist mainly of copra and cacao. The number of vessels that visited the port of Apia in 1900 was 69, of 84,488 tons.

Tutuila.—Tutuila, with Manua and the islets Tau, Olesinga, and Ofu, fell to the United States in the division of Samoa. Tutuila has an area of 54 square miles and about 3,800 inhabitants; Manua, 25 square miles, with 2,000 inhabitants. Both islands are hilly and covered with woods. There are about 20 whites and as many half-castes on the islands. The people collect copra for sale to traders and tropical fruits and vegetables for their own consumption. The United States took formal possession on April 17, 1900. The harbor of Pago Pago, the only safe one in Samoa and the best and largest in the Pacific, was made a naval and coaling station and the residence of the Governor, Capt. Uriel Sebree, in 1902.

SANITARY CONFERENCE, INTERNATIONAL. A conference of the American republics was held in Washington, D. C., on Dec. 3, 4,

and 5, in accordance with Article V of the resolution passed on Jan. 29, 1902, by the second International Conference of the American Republics held in the city of Mexico, providing that within one year a general convention of representatives of the American republics should meet in Washington for the purpose of discussing sanitary matters, recommending the negotiation of sanitary treaties, enacting rules that might be enforced in all countries for the common benefit, and suggesting measures that might be conducive to the fulfillment of the purposes and intents of the conference regarding these questions. The ideas of the conference on this subject are made clear by the report of the committee entrusted with the study of the matter, which was as follows:

"The advance in medical science in America has rendered it necessary that asepsis or sanitation take the place of antiseptics or quarantine. In other words, it is more important to put cities in such sanitary conditions that diseases can not propagate than to be under the necessity of preventing infection by means of quarantine, which hinders traffic and brings obstacles to commerce.

"The constant increase of common interests in the American republics renders it necessary for the present conference to adopt methods and make recommendations for the improvement of sanitary conditions, in order to attack contagious diseases, and that the restrictions of quarantine, so injurious to all, be substituted by precautions which may do away with the causes of quarantine itself. In this manner not only will its consequence be avoided, but the precious treasury of human life will also be efficaciously protected. A system of sanitation will free merchant vessels and railroads from the large expenses which they have to incur on account of the inconveniences of quarantine.

"Strict quarantines, and sometimes prohibitory, have been adopted whenever contagious diseases have appeared in several ports of the Continent, and the losses suffered on that account, as well as the discredit resulting from the existence of such contagious disease, cast upon the places where the disease has appeared, exceeds the amount of expense which the sanitation of those same ports might have required. And not only do the ports of embarkation suffer for such reasons, but the evil is also felt by the producer and the consumer, whose dependence on each other is so manifest."

The report quotes from several high authorities to support its statements, and then continues:

"The committee, on beginning its labors, carefully studied the project of the Mexican delegation on international sanitary police, preceded by a complete and well-proved study of the question, which tends to establish the fact that the solution of the problem of the prevention of contagion of the principal epidemic diseases has undergone modifications, made necessary by the continued advance of science, and for that reason, as well as in view of the wonderful discoveries made since the first Pan-American Conference of 1890, it appears indispensable to reconsider the recommendations that were approved on that occasion, in order to harmonize them with the requirements of maritime and terrestrial intercommunications and with the progress of science.

"The committee considers the foregoing observations as reasonable; but, with a view to reaching immediate results which unquestionably also call for immediate consideration, adhering

substantially to the conclusions in the project of the honorable delegation of Mexico, proposes the adoption of the following recommendations, which certainly will powerfully contribute to combat the plagues that have afflicted humanity, decimating it at the same time, and always causing restrictions to commercial traffic, obstacles to the progress of passengers, and on not a few occasions acts of real inhumanity, on account of the fear of infectious diseases and of an insufficient and capricious idea as to the way in which they are propagated and the prophylactic measures to combat them.

"The committee is pleased to be able to recognize the efficacious cooperation which it has obtained on the part of Dr. Eduardo Liceaga, president of the Superior Board of Health of the Mexican republic, as also of those of Dr. Wyman, surgeon-general of the Service of the Marine Hospital of the United States, and of Dr. M. J. Rosenau, assistant surgeon and director of the Hygienic Laboratory of the Service of the Marine Hospital of the United States. The reports presented at former conferences, and other works of the eminent Peruvian, Dr. D. Francisco Rosas, have been made use of."

Following this report the committee presented its project for the International Sanitary Conference. The project was signed in the form of a resolution by representatives of 15 of the countries represented, the signatures of the Argentine Republic, Brazil, Paraguay, and Venezuela not appearing to the resolution.

In pursuance of the authority granted it by the governing board the International Bureau of American Republics placed itself in communication with Dr. Walter Wyman, supervising surgeon-general of the Marine-Hospital Service of the United States, who at once prepared a plan of organization and a tentative program. Accordingly, and with arrangements made by the Bureau of American Republics, the conference convened at the New Willard Hotel, in Washington, on Dec. 3, with the following delegates representing their respective countries:

Guatemala: Dr. Antonio Lazo Arriaga.

Chile: Dr. Eduardo Moore and Eduardo Garcia Collao.

Paraguay: Mr. John Stewart.

Salvador: Ernesto Shernikow.

Mexico: Dr. Eduardo Liceaga and Dr. José Ramirez.

Nicaragua: Dr. Roman.

Honduras: N. Bolet Peraza.

Ecuador: Luis Felipe Carbo.

Cuba: Juan Guiteras and Carlos Finlay.

Uruguay: Dr. Luis Alberto de Herrera.

United States: Walter Wyman, surgeon-general, United States Marine-Hospital Service; M. J. Rosenau, director Hygienic Laboratory, United States Marine-Hospital Service; H. L. E. Johnson, American Medical Association, chairman Legislative Committee; James Taggart Priestly, Des Moines, Iowa, surgeon-general Iowa National Guard; Arthur K. Reynolds, Chicago, Ill., Commissioner of Health; Charles B. Adams, Sac City, Iowa, member State Board of Health; Edmond Souchon, New Orleans, president Louisiana State Board of Health; Fred. W. Powers, Reinbeck, Iowa, member State Board of Health; Joseph Porter, Jacksonville, Fla., State health officer of Florida; Alvah H. Doty, New York city, quarantine officer of the port of New York; L. M. Powers, Los Angeles, Cal., health officer; Frank William Porterfield, Atlantic City, Iowa, ex-president Medical Society of Missouri Valley; Walter D. McCaw; George P. Bradley,

United States navy, representative medical department of the navy.

Dr. Walter Wyman made an opening address at the morning session, welcoming the delegates to the city. He spoke of the International Conference held in Mexico as marking an era in the progress of civilization in the new hemisphere, in providing for an international conference on customs, a conference for the study of coffee production, and this one for the study of international sanitation and quarantine. "No topics are of greater importance," said he, "than those which will be considered by this conference, for protection against the inroads of disease and the providing of such environments of man as will enable him to cultivate the highest standard of health are the bases of our physical welfare and enjoyment, as well as our intellectual enjoyment and moral uplifting. Health, cleanliness, intellect, and morals might well be the motto of this conference."

Secretary of the Treasury Shaw said, in the course of a welcoming address, that he remembered very well the time when a lawyer was considered great when he succeeded in extricating his client from complications and difficult situations after he had got into trouble; but the successful lawyer now is the one who prevents his client from getting into complications. There was a time when the physician's principal ambition was to cure the individual case of disease, and little attention was paid to its spread among others; but now the physician endeavors to protect others from the epidemic as well as to cure the case in hand.

David J. Hill, Assistant Secretary of State, extended a cordial greeting from the Department of State. "When the first conference between the American republics was proposed," he said, "fears were expressed that it would never come to pass; but those fears have now been dispelled, and benefits are already apparent. What we need between these republics is a closer contact, a mingling with one another in the discussion of questions of mutual vital importance. I am glad to see that the conference held in the city of Mexico has already borne fruit, and that such meetings as this are to be continued."

Señor Quesada, minister and delegate for Cuba, spoke with much warmth of the part the United States had taken in bringing about better sanitation in Cuba, and paid tributes to Gen. Wood, recent Military Governor of Cuba, and to the late Major Walter Reed, for his part in driving the yellow-fever scourge from that island. The Mexican ambassador, Don Manuel de Azpiros, also made a felicitous address. Brief speeches were made by Major W. P. McCall, representing the United States army, and Medical Director George P. Bradley, of the United States navy.

When the conference proceeded to business, Dr. Ulloa, of Costa Rica, being elected temporary chairman, a committee on organization was appointed, and Dr. Walter Wyman was elected presiding officer, with a delegate from each of the countries represented as vice-president. Dr. Arthur K. Reynolds was elected secretary, and an advisory council was appointed, consisting of Dr. Rhett Goode, of the United States; Dr. M. J. Rosenau, of the United States; Dr. Juan Guiteras, of Cuba; Dr. E. Liceaga, of Mexico; Major Walter D. McCaw, United States; and Dr. Ulloa, of Costa Rica. It was decided that the proposed International Sanitary Bureau be composed of 5 members, 1 of whom should be the president of the conference, the other 4 to be nominated to the conference by the advisory council.

The second day's session of the conference was devoted largely during the morning session to hearing reports. A report by Dr. Juan Guiteras, of the sanitary department of Havana, Cuba, described the methods employed in Cuba for preventing the spread of yellow fever. He said there had not been a case of yellow fever in Cuba that had originated there in four months, an unprecedented record. He declared his implicit belief that yellow fever is spread through the agency of the mosquito, and that the most necessary precaution to prevent contagion was to keep the afflicted patient away from the insect. He said that several cases of yellow fever had been imported from Mexican ports and treated in Cuba recently. The patients were put under mosquito-netting from the time of landing until they were well. Although other patients, non-immune, were exposed, being put but a few feet away in the hospital, there was no spreading of the disease.

Dr. Charles J. Finlay, chief sanitary officer of Cuba, described the system of organization for sanitary work in Cuba; and Dr. Eduardo Moore, of Chile, told of sanitary methods in his country, and extended an invitation to the conference to hold its next meeting in Chile. Dr. Ulloa spoke of conditions in Costa Rica, which, he said, was quite free from contagious diseases. He declared that the restriction placed upon products from Costa Rica by the port of New Orleans were unjust, as the imports were not a menace to the health of the citizens of that port. The plan of organization of the sanitary office of Mexico and the methods used there were discussed by Dr. Eduardo Liceaga, president of the Superior Board of Health of Mexico, and he also invited the conference to hold its next meeting at the city of Mexico.

Dr. Wyman told of sanitary conditions in the United States, and said that, by the provisions of the act of Congress at its last session, providing for changing the Marine-Hospital Service into a board of health, thus adding to its functions, the national board of health was brought into closer relations with the State boards. He mentioned that the Government keeps sanitary officers in foreign ports, and spoke of the benefits accruing from the plan.

Dr. Rosenau, of the United States, gave a brief *résumé* of prevailing diseases in this country in recent years, and in speaking of the various epidemics, said there had been no great epidemic of yellow fever in this country since 1878-'79, but that several local epidemics had been recorded. Smallpox, malaria, cholera, and typhus fever were growing milder, and were coming to be less feared. Dr. Arthur K. Reynolds, of Chicago, reported on the conditions in the Northwest, and spoke for the necessity of uniform quarantine regulations, not only between the national and State boards, but between the boards of the American republics as well.

Quarantining of vessels from infected ports having on board yellow fever, cholera, or bubonic plague was discussed at length at the afternoon session. The subject was introduced in a paper by Dr. Eduardo Liceaga, and the discussion was principally on the question whether five days was long enough for detention of persons suspected of having yellow fever. Some of the delegates favored ten days, and the subject was finally referred to the advisory council, which presented a resolution for the detention of suspected cases of yellow fever and cholera for five days, and those of bubonic plague for seven days.

Dr. Edmond Souchon, president of the Board

of Health of Louisiana, read a paper, which was discussed at length, on maritime quarantine without detention of non-infected vessels from ports quarantined against yellow fever. He said: "The key-note of this stride in modern scientific quarantine was struck by the Louisiana State Board of Health when it passed, on Sept. 2, 1902, the resolution that reads: 'Free *pratique* shall be given to non-infected vessels, with or without passengers, from ports where yellow fever is suspected or prevails, provided said vessels are disinfected at the port of departure, or at the last port touched at, in a manner satisfactory to the Louisiana State Board of Health; provided, further, that said vessels upon arriving at the Mississippi river quarantine station shall be disinfected again, and provided still further that five full days shall have expired since the completion of the first disinfection before the second disinfection is done at the Mississippi river quarantine station.' These regulations are based upon the study, mostly, of the records of the Louisiana State Board of Health, which show that a number of non-infected vessels have developed yellow fever after a first disinfection."

At the closing session of the conference, on the third day, the mosquito received a good share of attention, and several resolutions bearing upon the subject of infection from the insect were discussed. Dr. Guiteras, of Cuba, presented a resolution to the effect that the mosquito was the only known cause of yellow-fever infection, which, after some modification, was adopted. Dr. Arthur K. Reynolds, of Chicago, offered the resolution that the different governments study in their respective territories the geographical distribution of the mosquito of the genus *Stegomyia*, in order that said study may have practical application in subsequent conventions. Another resolution offered by Dr. Reynolds was to the effect that bubonic plague and other diseases are spread by rats, mice, and other lower animals, which to a great extent find sustenance in animal and vegetable kitchen wastes, commonly called garbage, and that all organic waste or garbage should be kept separately on the premises until it can be removed or mixed with a disinfectant or destroyed. He said that, inasmuch as typhoid fever and Asiatic cholera are caused by swallowing food or drink contaminated by the discharges of previous cases, if all the discharges of every existing case were instantly disinfected, typhoid fever and Asiatic cholera would cease to be a menace to the world.

Papers were read on Simplicity in Sanitary Measures, by Dr. Joseph Y. Porter, State health officer of Florida; Vessels as Carriers of Mosquitoes, by Dr. S. B. Grubbs, Marine-Hospital Service; and Uncinariasis with Microscopic Demonstration, by Dr. Charles W. Stiles, Marine-Hospital Service. Regarding this parasite, popularly known as the hookworm, Dr. Stiles made the interesting statement that it was responsible for the condition of the so-called poor whites in the sand districts of the South. The presence of the hookworm, he said, was the cause of their poor physical and mental state, the parasite in the human system producing a condition of extreme anemia, similar in its symptoms to a severe attack of malaria, and that any generation of people placed under these conditions must deteriorate. The condition of the children in the factories of the South was not due so much to the work as to the effect produced upon the system by this noxious hookworm. Its eradication, he declared, was the only means for bringing about better conditions among these people.

Resolutions were adopted recommending that the International Sanitary Bureau urge each republic to transmit to the bureau at Washington, promptly and regularly, all data of every character relative to the sanitary conditions of their respective ports and territories, and to furnish said bureau with every opportunity and aid for a thorough, careful, and scientific study and investigation of any outbreaks of pestilential diseases that may occur within their territories. It was further recommended that the International Sanitary Bureau lend its best aid and experience toward the widest possible protection of the public health of each of the said republics, in order that disease may be eliminated, and that commerce between the republics may be facilitated, and to encourage and aid or enforce, in all proper ways, the sanitation of seaports, including the sanitary improvement of harbors, sewerage, drainage of the soil, paving, elimination of infection from buildings, and the destruction of mosquitoes and other vermin.

Santiago de Chile was selected as the place of meeting for the next conference, which is to begin March 15, 1904. Dr. Eduardo Moore, one of the Chilean delegates, thanked the conference for its choice, and assured the delegates that all Chile would welcome them. He said that a hygienic exhibition would be held in Santiago upon the convening of the conference, and he was assured that the attendance from the South American republics would be large. Short speeches were made by the representatives of the other republics, and the session was closed by tendering a vote of thanks to the president, Surgeon-General Wyman.

The details of all the arrangements were under the auspices of the Bureau of American Republics, and were successfully carried out under the direction of W. C. Fox, Chief Clerk of the bureau, and Dr. H. D. Geddings, of the hospital service.

SANTO DOMINGO, a republic in the West Indies, occupying the eastern part of the island of Haiti, or Santo Domingo. The Congress is a single chamber of 24 members. The President is chosen by an electoral college for four years. Gen. Juan I. Jimenez was elected President and Horacio Vasquez Vice-President for the term ending in 1903. The Cabinet at the beginning of 1902 consisted of the following members: Secretary of the Interior and Police, Gen. M. U. Gomez; Secretary of Foreign Affairs, Enrique Henriquez y Carvajal; Secretary of Justice and Public Instruction, G. Perez; Secretary of Fomento and Public Works, F. Despradel; Secretary of Finance and Commerce, E. Brache; Secretary of Posts and Telegraphs, Eliseo Grullon; Secretary of War and Marine, Gen. Rafael Rodriguez.

Area and Population.—The area of the republic is estimated at 18,045 square miles; the population, mostly of mixed Spanish, negro, and Indian blood, at 610,000. Santo Domingo, the capital, has about 20,000 inhabitants.

Finances.—The customs revenue in 1899 was \$1,529,903, and in 1900 it was \$2,392,052. Duties have been collected from both imports and exports, and they formed the bulk of the revenue. Export duties were abolished on May 1, 1901, and import duties were reduced. The total revenue and expenditure for 1902 was reckoned at \$1,238,440.

The foreign debt, converted in 1897, consists of £2,736,750 of 2½-per-cent. and £1,500,000 of 4-per-cent. bonds and a railroad loan of £500,000. The bonds were secured on the customs and other assigned duties, the collection of which was entrusted to the Santo Domingo Improvement Company of New York until, default having been made in the payment of interest on April 1, 1899,

and a dispute having arisen between the company and the new President, the Government took the collection of revenues into its own hands. The amount of foreign debt outstanding in 1901 amounted, with arrears of interest, to £4,188,362; internal debt, \$2,845,550 in gold and \$10,126,629 in silver.

Commerce and Production.—The value of imports in 1900 was \$3,233,000, and that of exports \$6,006,000 in gold. The export of sugar was 53,971 tons; of coffee, 3,952,000 pounds; of cacao, 11,231,000 pounds; of bananas, 285,000 bunches; of mahogany, 665,951 feet; of logwood, 2,234 tons; of tobacco, 8,696 tons. Hides, beeswax, rum, and divi-divi are also exported. The chief imports are cotton goods, provisions, and hardware.

The number of vessels that visited Dominican ports in 1900 was 544 entered and 380 cleared.

Railroads and Telegraphs.—There are 116 miles of railroad in operation, consisting of the line from Samana Bay to La Vega, 62 miles, which is being continued to Santiago. One is to be built from Barahona to the salt mountain.

The telegraphs had a length in 1901 of 430 miles, connecting with the French cable. New lines in the interior were projected.

Revolution.—A revolutionary uprising against President Jimenez was successful in all parts of the country. On May 2, 1902, the capital surrendered and the President took refuge in the French consulate. He signed a document resigning the presidency, which was assumed by Horacio Vasquez, the Vice-President. All adherents of the fallen Government were amnestied. The country was scarcely disturbed by the sudden change of rulers. The new provisional Government, with Vasquez as President, was constituted on April 7 as follows: Minister of the Interior, Casimiro Cordero; Minister of Foreign Affairs, Señor Sanchez; Minister of Finance, Señor Tejera; Minister of War and Marine, Gen. Pichardo; Minister of Justice, Cabral Baez; Minister of Posts and Telegraphs, Justino Castillo.

SERVIA, a monarchy in southeastern Europe. The legislative power, according to the new Constitution proclaimed by the King on April 19, 1901, is vested in a Senate and the Narodna Skupshtina, or National Assembly. The Senate consists of the heir to the throne, the Archbishop of Belgrade, the Bishop of Nish, 30 members appointed for life by the King, and 18 members elected for six years by the departments. The Skupshtina has 130 members elected for four years by all adult male Servians who pay 15 dinars in direct taxes excepting soldiers in active service. The reigning King is Alexander I, born Aug. 14, 1876, who succeeded to the throne on the abdication of his father, Milan I, March 6, 1889, and on April 13, 1893, dismissed the regents and assumed in person the royal powers. The ministry at the beginning of 1902 was composed as follows: President of the Council and Minister of Foreign Affairs, Dr. Michael V. Vuich; Minister of Public Works, P. Velimirovich; Minister of Public Instruction and Worship, L. Kovachevich; Minister of Commerce, Agriculture, and Industry, Dr. M. Milanovich; Minister of Finance, Dr. Michael M. Popovich; Minister of the Interior, N. Stefanovich; Minister of Justice, D. Stamenkovich; Minister of War, Gen. T. Miljkovich.

Area and Population.—Servia has an area of 18,630 square miles. The population, according to the provisional results of the census of Dec. 31, 1900, is 2,493,770, compared with 2,312,484 in 1895 and 2,161,961 in 1890. There were 1,282,625 males and 1,211,145 females in 1900. Belgrade, the capital, had 69,097 inhabitants; Nish,

24,451. The number of marriages in 1900 was 31,203; of births, 104,772; of deaths, 58,034; excess of births, 46,738.

Finances.—The revenue for 1901 was estimated at 74,018,070 dinars, or francs, and the expenditure at 73,992,543 dinars. Of the revenue 28,220,000 dinars came from direct taxation, 6,336,400 dinars from customs, 4,380,000 dinars from excise taxes, 3,390,000 dinars from other taxes, 20,148,970 dinars from monopolies, 9,496,500 dinars from public works, and 2,046,200 dinars from various sources. Of the expenditures 1,200,000 dinars went for the civil list of the King, 20,095,150 dinars for public debt charges, 1,560,000 dinars for dotations, etc., 454,310 dinars for the National Assembly, 406,500 dinars for general credits, 2,950,365 dinars for pensions, 1,792,228 dinars for the Ministry of Justice, 1,802,715 dinars for the Ministry of Foreign Affairs, 9,246,869 dinars for the Ministry of Finance, 17,602,700 dinars for the Ministry of War, 3,401,031 dinars for the Ministry of Public Instruction and Worship, 3,588,929 dinars for the Ministry of the Interior, 8,044,847 dinars for the Ministry of Public Works, 1,486,547 dinars for the Ministry of Commerce and Agriculture, and 360,352 dinars for the Court of Control. In the budget for 1902 the revenue was estimated at 72,845,081 dinars, expenditure at 72,816,047 dinars. The charge for the public debt was 19,422,000 dinars. Ordinary expenditure was reduced 1,176,495 dinars, extraordinary expenditure 2,120,424 dinars, and for the first time all was included in the ordinary budget and receipts were calculated on actual collections, the average for three years, not on assessments, which have proved illusory owing to heavy losses from uncollected arrears and remissions. A deficit of 4,645,000 dinars was expected in 1902.

The amount of the public debt on Jan. 1, 1901, was 422,402,684 dinars, of which 351,551,993 dinars consisted of the conversion loan of 1895, bearing 4 per cent. interest, 29,085,000 dinars of the lottery loan of 1881, 9,568,000 dinars of a loan raised in 1886, 9,535,000 dinars of a loan secured on the tobacco monopoly, 9,285,184 dinars of a loan obtained from the national bank, 3,750,000 dinars of a Russian loan, and 10,420,000 dinars of a loan raised at 5 per cent. in 1899. The floating debt in the middle of 1902 was 36,748,055 dinars.

The Army.—The law of Jan. 27, 1901, makes military service obligatory, lasting two years in active service from the age of twenty, nine years in the reserve, and six years in the first and eight in the second ban of the national militia. The effective provided for in the budget of 1901 was 661 officers and 14,000 men in the infantry, 101 officers and 1,400 men in the cavalry, 270 officers and 4,000 men in the artillery, 65 officers and 1,000 men in the engineers, 10 officers and 300 men in the train, 49 officers and 500 men in the sanitary corps, 68 administrative employees and 24 officers on the staff; total, 1,248 officers and 21,200 men, with 4,846 horses and 192 field-guns. In case of mobilization the active army and its reserves can furnish 110,245 men embodied in 5 divisions; 14,864 cavalry, engineers, fortress-artillery, etc., outside the divisions; and 35,643 depot troops, making a total of 160,752 men, in addition to whom the first ban can muster 126,610 and the second 66,005 men.

Commerce and Production.—In 1900 the grain exports were about 70,000 tons of wheat, 35,000 tons of corn, and 12,000 tons of barley. The exports of dried prunes are about 40,000 tons a year, and nearly as great a quantity are manufactured into brandy. There were 62,385 cattle, 78,700 live hogs, and about 40,000 pork carcasses

exported in 1900. The live stock of the country on Jan. 1, 1901, consisted of 180,871 horses, 942,087 cattle, 3,013,644 sheep, 940,609 hogs, and 425,565 goats. About 1,200 tons of copper are produced annually, and lead, antimony, and silver are mined, besides coal in considerable quantities.

The value of imports in 1900 was 54,027,228 dinars; exports, 66,521,959 dinars; transit trade, 17,723,444 dinars. The imports of agricultural and horticultural produce were 974,615 dinars in value, and exports 30,148,279 dinars; imports of animals and animal products 622,039 dinars, and exports 27,085,684 dinars; imports of colonial products 3,120,951 dinars; imports of hides, skins, and leather 3,829,702 dinars, and exports 3,060,849 dinars; imports of cotton manufactures 6,470,511 dinars, and exports 1,009,009 dinars; imports of wool and woollen manufactures 3,942,208 dinars, and exports 93,368 dinars; imports of articles of food and drink 962,671 dinars, and exports 3,207,329 dinars; imports of metals 6,667,474 dinars, and exports 445,120 dinars; imports of clothing 2,968,860 dinars, and exports 48,825 dinars; imports of pottery and glass 2,353,156 dinars, and exports 802,616 dinars; imports of timber and wood manufactures 2,606,579 dinars, and exports 247,993 dinars; imports of machinery 7,457,030 dinars, and exports 6,851 dinars; imports of chemicals and drugs 6,960,772 dinars, and exports 150,629 dinars; imports of hardware 1,615,340 dinars, and exports 231 dinars. The values of imports from and exports to the principal countries in 1900 are given in dinars in the following table:

COUNTRIES.	Imports.	Exports.
Austria-Hungary	25,598,000	56,584,000
Germany	15,016,000	3,913,000
Roumania	944,000	3,064,000
France	3,553,000	369,000
Great Britain	3,774,000	.....
Turkey	1,939,000	1,456,000
America	1,119,000	.....
Bulgaria	779,000	699,000
Italy	768,000	.....
Switzerland	351,000	115,000
Greece	431,000	.....
Belgium	387,000	60,000
Bosnia	41,000	223,000
Russia	197,000	81,000
Other countries	432,000	19,000
Total	54,027,000	66,522,000

Railroads, Posts, and Telegraphs.—The Belgrade, Nish, and Vranja Railroad with its branches has a length of 354 miles. The cost was 105,547,724 dinars; gross earnings in 1899 were 6,397,709 dinars, and in 1900 they were 6,776,824 dinars. A new line from Nish to Kladovo, to enter Roumania by means of a bridge over the Danube, has been authorized; also one from Nish to the Turkish frontier, to be continued through Albania. The former is to be prolonged to the Adriatic through Montenegro, forming part of a scheme for a Slav railroad. Lines are being constructed from Paracin to Zaichar and from Krushevatz to Stalacs.

The length of telegraph-lines on Jan. 1, 1901, was 2,550 miles, with 5,170 miles of wire. The number of despatches in 1900 was 1,079,435.

The post-office carried 18,211,000 letters in 1900. The receipts, including telegraph receipts, were 2,250,000; expenses, 1,406,150 dinars.

Political Affairs.—The Cabinet of Dr. Vuich was a combination of Moderate Radical and Progressist elements. It introduced economies in the budget, yet was not able to overcome the financial difficulties. The expenditures of the Government have increased from 20,000,000 dinars in 1880 to over 72,000,000 dinars, and receipts have

not kept pace. The deficits in the ordinary budgets in twenty years amounted to 100,000,000 dinars, the extraordinary deficits to an unknown sum. After the unification of the debt in 1895 it was hoped that an equilibrium would be maintained. The debt, however, continued to increase and the terms on which money could be maintained grew more onerous. A foreign loan was absolutely necessary to clear the floating debt, and one of 90,000,000 francs at 5 per cent. was sought in Paris, but no better terms than 75 could be obtained. On March 19, the Skupshtina, having approved a bill offered by the independent Radical leader to make officials irremovable except for cause and prevent a general change by each incoming Cabinet, the ministers offered their resignations, but the King declined to accept them and the Skupshtina passed a vote of confidence. On April 6 Dr. Popovich resigned his post. On May 15 the entire Cabinet resigned, and Nikola Pasich, former Radical leader, was entrusted with the formation of a new ministry. The Skupshtina was dissatisfied with the terms on which the new loan was arranged. The attempt to form a Radical Cabinet having failed, Dr. Vuich was asked to organize a new one, which was constituted on May 20 as follows: President of the Council and Minister of Foreign Affairs, Dr. Michael Vuich; Minister of Finance, Dr. Mika Popovich; Minister of Public Instruction and Worship, Dragotin Stamenovich; Minister of War, Lieut.-Col. Basil Antonich; Minister of the Interior, Nikola Stefanovich; Minister of Public Works, Peter Velimirovich; Minister of Justice, Aron Ninichich; Minister of Commerce, Dr. Gioka Nikolic. The Cabinet was composed of 4 Radicals, 3 Progressists, and 1 Independent. A loan of 60,000,000 dinars at 5 per cent., redeemable in fifty years, was placed in Paris at the issue price of 75 and approved by the Skupshtina in August, although a syndicate seeking the privilege of establishing a gambling casino offered to lend at 90. The Government received no ready money from the loan, but cleared off all floating obligations. On Oct. 14 the Vuich ministry resigned.

The King was not popular. The people resented the abrogation of the liberties they enjoyed under the old Constitution. In April a great many students were punished for a manifestation in favor of liberty of meeting and association. Early in the year the party of Peter Karageorgevich of the old reigning family made attempts to stir up a rebellion against the King. Letters were sent to the officers of the army telling them to prepare for a change of dynasty. On March 5 a political exile living in Austrian Mitrovitz, a former lieutenant named Radomir Alavantich, crossed the Save into Serbia, donned the uniform of a Serbian general, enlisted and armed some professional smugglers, ordered the frontier guards and custom-house officials at the river stations to follow him, and was obeyed, entered Shabatz, ordered the firemen to join his band, proceeded then to the prefecture and commanded the gendarmes to fall in. A few objected, but were quieted by threats, and the doors were locked to prevent any person from escaping. Two gendarmes who recognized the adventurer as a political conspirator who had been convicted for participating in the plot to kill King Milan got out through a window and informed their commanding officer, Capt. Nicolich, who hastened to the prefecture and called upon the impostor to explain his actions. Alavantich answered with a pistol shot which slightly wounded the captain, who disabled his antagonist by a shot in the leg and ordered the gendarmes to despatch him. Alavantich had

about 80 men under his orders when killed. The firemen and the frontier guards were condemned to prison for five years. Servians took little part in the Macedonian disturbances, which were largely directed against the Serbian nationality by the Bulgarian agitators. Many persons of Serbian race fell victims to Albanian lawlessness, and on this account Russia established a consulate in Albania. The long-deferred consecration of the Serbian Bishop Firmilian as metropolitan of the Greek patriarchate in Uskub was allowed by the Porte to take place in April under pressure from Russia, although it was bitterly opposed by the Bulgarians, who asserted that only a sixth of the Christians there were of Serbian nationality and another sixth Bulgarians and Greeks of the Greek Church, while two-thirds were Bulgarians of the exarchate, who have their own bishop in Uskub.

A new Cabinet was formed on Nov. 20 as follows: President of the Council, Gen. Zinzar Markovich; Minister of War, Gen. Milovan Pavlovich; Minister of the Interior, Velimir Todorovich; Minister of Finance, Miloran Marinkovich; Minister of Public Works, Paul Denich; Minister of Commerce, Liubomir Novakovich; Minister of Public Instruction, Lukas Lazarovich; Minister of Foreign Affairs, Lieut.-Col. Vaffe Eutonich. The Skupshtina was prorogued the same day. The head of the new Cabinet, who had been in favor with King Milan, was appointed commander-in-chief of the army earlier in the year. The chief task which King Alexander set before this ministry was a revision of the Constitution.

SHIP-BUILDING IN 1902. So far as is ascertainable in view of the divergence between the calendar years and the fiscal years of the maritime nations, the total shipping tonnage finished, under construction, or so far advanced toward completion as to justify mention, amounted in round numbers to about 3,000,000 tons. This shows a slight gain over the preceding year. The British ship-builders of course lead the list by an overwhelming surplus. The new construction in the United Kingdom during the year was not far from 1,700,000 tons, or more than 60 per cent. of the world's production. It is gratifying to know that in spite of all set-backs the United States is still her nearest rival, although she can claim only 317,775 tons. She is followed by Germany with 272,719 tons. In France there was a gain of a little more than 100,000 tons; in Holland, about 40,000; in Italy, 22,000; and in Japan, 15,000. All these amounts, so far as can be definitely judged from the returns, include war-vessels. In France the increase is to some extent accounted for a new bounty law, which has stimulated the industry rather more than would have been the case naturally.

While the vast preponderance of modern construction is in the direction of steel-built steamers of heavy tonnage, there is a marked tendency, particularly in Great Britain and the United States, toward an increase of the proportion of sailing vessels. In this respect Germany leads the record for Europe with a five-masted, full-rigged ship of 5,080 tons; but the American seven-masted schooner, described hereafter, exceeds this by 138 tons. In British yards the proportion of sailing ships in 1902 was 5.6 per cent. of the whole output.

The preponderating tendency is toward larger and faster ocean steamers. The Kaiser Wilhelm II, the latest accession to the German Atlantic fleet, was built at the Vulcan yards, Stettin, by the same firm that has constructed the rest of the great German liners, which at this time hold the

record for transatlantic speed. This great vessel is constructed in the usual way, with a double bottom, 4 separate decks, and 16 bulkheads extending from the keel to the upper deck. They are reinforced by a longitudinal bulkhead extending the whole length of the 2 engine-rooms, forming 4 separate compartments for the engines. Flush with the upper edge of the ship's plating is a spar-deck carrying a deck-house amidships 49 feet wide and 443 feet long, and an after-house 79 feet long. The roof of the deck-house affords a promenade 538 feet long, and above all this is an upper promenade deck, and above this again a boat-deck.

The length of the Kaiser Wilhelm II over all is 706½ feet; breadth, 72 feet; molded depth, 44 feet 2 inches; and displacement, 26,000 tons. This makes her 2½ feet longer than the *Oceanic*, 3 feet narrower than the *Cedric*, and about 1,000 tons less displacement than the last-named vessel. Her estimated speed is 24 knots an hour—that is to say, about 27 statute miles, which is faster than her speediest sisters in the Atlantic trade. She has accommodations for 775 passengers in the first cabin, 343 in the second, and 770 in the third. Her ship's company includes 48 engineers, 229 stokers and trimmers, 170 stewards and waiters, 61 cooks, and 46 sailormen. In her equipment are included the various novelties, such as a children's saloon and a *café* and grill-room on the upper deck, while the first-class dining-room exceeds in size the most spacious and luxurious of those that have heretofore distinguished the luxuries of transatlantic travel.

The two engines of the largest ship in existence prior to this could develop under favorable conditions 38,000 horse-power, but it was determined to make the Kaiser Wilhelm II the fastest vessel afloat, which, with her increased size, called for engines capable of producing 40,000 horse-power as called for by the contract, which means considerably more in actual service. Such enormous power could hardly be developed by the two engines that have been found sufficient in previous cases. It was therefore determined to use four engines, two on each side of the main bulkhead, arranged so that they could, as it were, be driven "tandem," or coupled in pairs to the separate shafts. There is, therefore, in each engine-room a complete four-cylinder, quadruple-expansion engine working on three cranks to secure the greatest efficiency. The common stroke of the four cylinders is 70.8 inches, and the crank-shaft of the forward engine is 20.87 inches in diameter; that of the after-engine is 25 inches. Each engine has its own individual condenser, containing 11,732 square feet of cooling surface. The two screw propellers are of bronze, 22 feet 9½ inches in diameter. The idea of using three screw propellers to attain greater speed has been abandoned by common consent, and was therefore not considered in preparing the plans for this greatest of ocean-liners. The reason is, that when three propeller-screws are in operation two of them do all the work, since they so effectually turn the water into foam that the third screw has nothing to push against.

The Kaiser Wilhelm II has in all 19 separate boilers, 3 double-enders in the first boiler-room, and in the second 3 double-ended and 3 single-ended boilers, the same number being allotted to the third boiler-room, while in the forward room of the four there are 3 double-ended and 1 single-ended boiler. This arrangement was adopted in order to facilitate the delivery of coal from the bunkers; the boiler pressure is adapted to 225 pounds to the square

inch. The total grate area is 3,121 square feet, and the total heating surface 107,643 square feet, an area believed to be unprecedented in steam service of this character.

According to published statements, there is a national prejudice on the part of the Germans against the use of forced draft, of which English and Americans are disposed to make use perhaps rather in excess; at all events, the great engines of the Kaiser Wilhelm II will be driven entirely under natural draft, which accounts for the necessity of extraordinarily large space for boiler-room and for the heating surfaces. It is probable, therefore, that she will in practise handsomely exceed her contract power, and though it is too early as yet to speak from actual figures, it is expected that she will develop certainly 45,000 and possibly 47,000 horse-power and attain a speed of perhaps 24½ knots.

While it is not strictly within the domain of ship-building, the problem of provisioning these great passenger-carriers for their ocean voyages is certainly germane to the subject, and though the description of supplies in pounds does not convey a very definite idea to the average mind, still it may be said that one of the great liners requires for a single voyage about 35,000 pounds of meat, divided about half and half between the salt and fresh varieties. The poultry for the same voyage weighs nearly 5,000 pounds; while beans, peas, rice, vegetables, and, on German ships, sauerkraut, reach about 25,000 pounds. Of eggs about 2,000 dozen are required, usually packed in cases of 30 dozen each. The bakers use more than 30,000 pounds of flour in the single voyage, and large quantities of fresh and salt fish are required to meet the views of those who fast on a Friday or who otherwise desire sea food for a change of diet. More than 6,000 pounds of butter are required, and fresh fruit to the amount of 11,000 pounds is often carried. In the matter of beverages, water, of course, heads the list, and several hundred tons of fresh water are habitually carried, besides that which is produced from day to day by the condensers. Canned milk is required to the amount of about 1,800 gallons, and of beers, wines, and alcoholic liquors the supply passes belief. It has been estimated that if one receptacle were constructed capable of containing all these liquids in bulk, its height would be more than 24 feet and its diameter more than 6 feet. Of course ice is an important item, as well for the preservation of fresh meats, etc., as for other purposes, and the larger liners usually begin their voyages with about thirty-five tons of ice ready for use; this, however, would be a mere trifle of the amount actually required during the voyage, and the remainder is made good by the refrigerating machines, which supplement the actual supply required at the outset.

One of the most interesting and promising devices introduced in recent years has been the turbine principle of propulsion as applied to yachts and other vessels, for the most part as yet in British waters. It has been said that the use of three screw propellers in the ordinary acceptance of the term has been found impracticable, but with the turbine plan of propulsion it is possible to use smaller screws at greater distances apart, to the number of six, two being carried astern near the rudder, and two others on separate shafts under each counter of the vessel. The original Turbinia had nine screws, and she was for a while the fastest vessel of any kind in the world. The passenger steamer *Queen Alexandra*, it is believed, is at present the largest turbine-driven vessel afloat. Her length is 270 feet; beam, 32 feet;

depth, 11 feet 6 inches; and speed, 21.63 knots. This indicates a gain in horse-power on the part of the turbine-fitted steamer of at least 20 per cent. over her larger sisters propelled by the ordinary type of screw. The turbine is as yet only at the beginning of its career.

At Sparrow Point, Maryland, two large steamers are under construction for the Atlantic Transport Company by the Maryland Steel Company. These vessels are so nearly completed that preparations for launching them are under way. Each of them will have a displacement of about 17,000 tons, with 507 feet in over-all length, 58 feet beam, and 43 feet molded depth; they are designed to carry about 10,000 tons in dead weight as cargo. Twin-screw propellers, the latest type of triple-expansion engines, and a speed of 12½ knots, are among the contract details. Both of them are designed as freight-carriers, wherein speed is sacrificed to stability and capacity. Each ship will have four masts and a full outfit of freight booms and winches to the number of 16; the upper decks will be arranged for the accommodation of 750 head of cattle.

Within the last generation an enormous fleet of oil-carriers has taken its place in the ocean commerce of the world. Its total tonnage may be as high as 300,000 tons. In the beginning vessels that engaged in this traffic were sailing ships, as some danger was apprehended from the necessary heat arising from machinery. Sailing vessels still perform a large part of the service, but an increasing number of specially constructed steamers now do duty, and they are under the flags of all the maritime nations. The vessels are divided technically into "tank-ships" and "case-ships." The last-named are largely sailing vessels and carry their cargo in packages, mainly barrels and cans. The tank-steamers are divided into separate tanks, which are filled with oil in bulk, and are of such shape and dimensions that the washing to and fro of the oil with the motion of the sea is not sufficient to cause any damage or inconvenience. These tank-steamers of course can be loaded and emptied with great expedition, an 8-inch hose being sometimes used for the purpose. When such a vessel reaches its destination and discharges its liquid cargo, the tanks are immediately washed out with scalding hot water forced by the ship's engine, and afterward disinfected and cleansed with a coat of whitewash. A few hours of fresh air renders them fit to receive return freight of any kind, and all sorts of miscellaneous cargoes are carried back to a market, and thence again to points where the great pipe-lines discharge the product of the oil regions.

An interesting feature of construction in these vessels is found in the bulkheads that separate the boiler- and engine-rooms from the oil-tanks; these fill the entire transverse section of the ship, like an ordinary water-bulkhead, but are made double, so that in case of need the interspaces can be filled with water, thus preventing the possibility of excessive heat reaching the oil-tanks. Ordinarily the air that fills this space of four or five feet is sufficient in its non-conducting properties for all reasonable security. The newest steamer of this type, now building at Greenock, Scotland, will carry more than 70,000 barrels of oil in bulk; she is intended to run between the United States and British ports. The vessels are fitted with all modern appliances of electric lights and quarters for the officers and crew, which compare favorably with those of anything afloat. Of course extraordinary safeguards must be taken against fire from the electric wires, but even in case of the ignition

of oil in a tank a sea-cock may be opened, the oil run out, and the compartment almost instantly filled with steam. Indeed, the entire hold can be filled with steam under pressure, which instantly extinguishes any fire.

The project of detailing these vessels for double duty in carrying oil in one direction and bringing back miscellaneous freight in another infringes very seriously upon what other freight-carriers regard as their special rights, and it may account to a very large extent for the low and often unremunerative rates that prevail on certain trans-oceanic routes. That this is one of the hardships of legitimate competition can hardly be denied, but the ultimate result is probably in favor of the general public, however it may incidentally favor the trust or other association that at present controls its interests.

The probable development of vast American interests on the Pacific Ocean has led to the construction of two great freight-ships for that trade. It is a singular feature of modern construction that it seems possible to install a plant for this kind of work at short notice and in places where nothing of the kind previously existed. In this instance the harbor of New London, Conn., was selected. Another instance is the Fore River Works, near Boston. The vessels referred to are not as yet named, but are popularly known as the "New London ships." They will belong to the International Steamship Company, of which James J. Hill is president. These vessels represent the most advanced modern construction. They are 630 feet long and 73 feet wide, with a molded depth of 56 feet. A maximum draft of 36½ feet is contemplated, and with that draft the displacement will be 37,000 tons. In extreme dimensions the New London ships are somewhat less than the Celtic and the Cedric, but they are deeper by several feet, so that their displacement nearly equals that of the longer and wider White Star boats.

While these vessels are not intended to attain a high rate of speed, compared with the ocean greyhounds, they are fitted with ample accommodation for passengers and will offer exceptional advantages in some respects from the great height of the promenade decks. Even when the ship is fully loaded, the navigating bridge will be 57 feet above the water-line, and when it is running light and drawing only 17 feet of water, as may sometimes be the case on return trips, the bridge will be 73 feet above the water-line and the upper promenade deck will be 65 feet above the same level. Quarters are provided for 150 first-cabin passengers, 100 second-cabin, 100 third-cabin, and 1,000 steerage. There are also spaces that may be adapted for transportation of troops to the number of 1,200; this, of course, in view of the Government transport service to our recently acquired Oriental possessions.

Notwithstanding the vast preponderance of steam construction for traffic on the high seas, there are those who still retain faith in canvas and the winds of heaven for certain spheres of navigation. The latest exponents of these ideas are found in the seven-masted schooner Thomas W. Lawson and the square-rigged five-masted ship Preussen. It goes without saying that the first-named is American in design and construction, and the second European. The Lawson was built at the Fore River Works, near Boston, Mass. Capt. J. G. Crowley, her master and managing owner, is credited with the idea of building such a vessel, and Mr. Crowninshield, of Boston, worked out the plans in detail. A tabulated comparison of the two vessels is as follows:

VESSELS.	Length over all.	Beam.	Depth.	Tonnage.	No. of crew.
Schooner...	408 ft. 4 in.	50 ft.	35 ft. 2 in.	4,914	16
Ship.....	440 ft.	50 ft.	38 ft.	4,000	46

Several fanciful suggestions were made for the naming of the seven masts, but the following was sensibly decided upon as good seagoing form, to wit: Fore, main, mizzen, spanker, jigger, driver, and pusher.

There can hardly be two opinions regarding the appearance of the two vessels under full sail. The ship is beyond question the more stately and beautiful; but the champions of the square rig, on the one hand, and of the fore-and-aft rig on the other, can never be brought to amicable agreement. The square-rigger holds, with good reason, that his craft is the better of the two with a fair wind. The fore-and-aft, with equally good reason, declares that his rig is by far the best going to windward, and he will by no means admit that it can be so very much outsailed running free. In the matter of ease and simplicity of handling, the schooner is far superior; and in regard to pay-roll her running expenses are about half those of the ship. Both vessels are fitted with donkey-engines and all modern conveniences.

The Lawson is built of steel, with the exception of deck and cabin furnishings. Her lower masts are steel cylinders 135 feet long, and her topmasts, of Oregon pine, 55 feet long. She spreads 43,000 square feet of canvas with all plain sail set. The sail-spread of the Preussen is considerably in excess of this, but exact figures are not at hand. The Lawson has given a good account of herself in actual service, and at present holds first place in the matter of carrying large cargoes at small expense. The revival of sailing craft will restore in some degree the romance of a seagoing life, which has been largely destroyed by the prosaic mechanics of steam navigation.

The Young America, a full-rigged sailing ship with auxiliary steam power, is now building, with the intention of fitting her out as a preparatory school for boys, whereon they may be fitted for college and at the same time may see the world and be subjected to wholesome naval discipline under highly favorable conditions.

SIAM, a kingdom in southern Asia. The King is advised by a Cabinet, called the Senabodi, composed mostly of his half-brothers and sons, each of whom is advised by a foreign expert except at present the heads of the army and navy. A Legislative Council was created in 1895, containing in 1902, besides the 10 ministers, 45 nominated members. It has authority to amend and complete the laws with the approval of the King. Many new laws have been made after European models, but the actual administration of the country by corrupt and oppressive local mandarins has not changed. The industries and local trade have passed into the hands of Chinamen, while Europeans have introduced enterprises with the encouragement of the Government. Belgian jurists have improved the administration of justice, and at present Japanese lawyers are preparing a new code of laws. An International Court tries cases between natives and foreigners. An Englishman has organized a police force and Sikhs are employed as police in the capital. English assistants are employed in the financial department and in the forestry, survey, customs, sanitary, mining, and other branches of administration. There are also numerous Belgian and Danish officials, and recently Japanese experts have been called to responsible positions, while

Siamese who have received a European education have replaced some of the Europeans. The reigning King is Chulalongkorn, born Sept. 20, 1853. Prince Vajiravudh, born Jan. 1, 1881, was proclaimed heir to the throne on Jan. 17, 1898. Siamese is the official language in all parts of the country. A system of education has been established by the Government under English guidance, and English is taught in some of the higher schools. There is a school for the children of nobles, many of whom, however, receive only the education of the lower vernacular schools. There were 90 young princes and others studying in Europe in 1902. The normal school has 60 pupils. A military school and a civil-service school prepare youth for an official career. The imported educational system has made little impression. There are 5,000 Buddhist temples and 60,000 priests, and of these 3,300 are teachers having 23,000 pupils. There is no class now between the nobility and the serfs, the Chinese having taken the place of the free Siamese.

Area and Population.—The present area is estimated at 220,000 square miles, the population at 7,500,000, of whom 2,500,000 are Siamese, 300,000 Laotians, 1,000,000 Malays, 3,000,000 Chinese, and 700,000 Burmese, Cambodians, Annamites, and Indians. The Chinese immigration in 1900 was 28,499, while 17,230 returned to China. The population of Bangkok, the capital, is about 600,000. The Siamese Government estimates the total population at 12,000,000. Slavery has existed from early times. One can become a slave by falling into debt. The insolvent debtor is sold to any bidder who assumes the debt. Forced labor is exacted from the laboring population for any public work and often for the benefit of the officials. This is being abolished and a poll-tax collected instead. Slavery also will be abolished by a decree of 1890 freeing all children of slaves born after Dec. 16, 1897, and reducing the redemption fees for all slaves. Free labor is very hard to obtain. Chinese coolies do the work in the rice-mills and mines of the south, and in the northern forests Karens, Khamus, and Burmese are employed.

Finances.—The revenue for 1901 was estimated at 33,000,000 ticals and for 1902 at 35,500,000 ticals, expenditure for 1901 at 32,669,966 ticals and for 1902 at 38,074,288 ticals. The actual receipts in the year ending March 31, 1901, were 35,611,306 ticals, and the actual disbursements 31,841,257 ticals. The receipts in 1900 were 30,022,640 ticals, and expenditures 27,052,077 ticals. The opium, spirit, and gambling monopolies, which are farmed out, yielded 4,568,622 ticals, 3,730,059 ticals, and 6,299,255 ticals respectively; land tax and fisheries, 3,001,145 ticals; customs, 4,450,523 ticals; forests and mines, 1,414,402 ticals; posts, telegraphs, and railroads, 795,753 ticals; personal tax, 1,664,400 ticals. There are taxes on boats and shops, on pigs and poultry, on Chinese cakes and birds'-nests, and on various other articles that yield in the aggregate 442,765 ticals. The revenue for 1903 was estimated at 39,000,000 ticals. The revenues in the last ten years have increased rapidly without change in the tax levy. The civil list and household expenses of the King amount to 6,500,000 ticals a year, besides which 90,000 ticals are expended in charities, 100,000 ticals on precious stones, 100,000 ticals in entertaining strangers, and 800,000 ticals in funeral expenses for the court. The sum expended on new roads in 1901 was 275,000 ticals.

The tical is the standard coin, equal in silver content to three-fifths of a Mexican dollar. The

dollars have been received and were legally current at that rate. In 1902 the English financial advisers induced the Government to adopt a gold basis similar to the Indian and to issue banknotes to take the place of silver, which can no longer be coined freely at the mint nor pass current in the shape of Mexican dollars, though the Government accepts dollars for the deposits it has in the banks at the old rate of \$3 for 5 ticals. The sterling rate for national coins and paper currency was fixed at 20 ticals to £1.

The Army and Navy.—The Government has 40,000 Mauser and 10,000 new Mannlicher rifles and many old bronze guns and maintains 5,000 men under arms and 7,000 reserves, who have been instructed by European officers. There is a conscription law requiring every young man to serve for three years from the age of eighteen and three months in every year thereafter, but Chinese pay a commutation tax and natives can obtain exemption by paying 6 ticals a year or can furnish a slave as a substitute, slaves, priests, and officials being exempt. There is a marine infantry numbering 15,000, who are on active duty by turns, 2,500 at a time, between the ages of twenty-two and forty.

The naval force consists of the cruisers *Maha Chakrri* and *Makut Rajakumar*, of 3,050 tons, 7 gunboats, 2 monitors, a school-ship, a torpedo-boat, 10 other armed vessels over 100 tons, and 40 smaller steamers. The vessels are armed with quick-firing guns. There are 10,000 trained seamen, of whom 2,000 are required to serve in the navy at one time and 2,000 more are held in readiness.

Commerce and Production.—The staple product of the country is rice, and the production is being greatly increased by the extension of irrigation canals. Most of the rice-mills are owned by Chinamen, a few by Europeans; Japanese are introducing silk culture. The teak forests are exploited by British companies. Pepper, salt, dried fish, cattle, and sesame are exported. The teak exported in 1900 was 45,261 tons. Stricter forest regulations will reduce the supply in the future, though vast quantities have been cut and all will not be got out for five years. An English forest official from India is conservator. Gold, rubies, sapphires, and copper are mined by European companies, tin by Chinamen. The imports of cotton goods in 1900 were £409,058 in value; opium, £141,149; silk goods, £128,127; iron and steel goods and machinery, £169,346; sugar, £101,819; kerosene, £97,887; gunny-bags, £91,432; cotton yarn, £53,260; hardware and cutlery, £33,112; other merchandise, £1,014,996; treasure, £336,304; total imports, £2,576,540. The exports of rice in 1900 were £2,225,470 in value; teak, £324,748; other woods, £31,724; sea products, £121,821; cattle, £48,524; pepper, £46,640; treasure, £20,115; total exports, £3,087,819. The imports come from Singapore, Hong-Kong, China, Europe, and Bombay, and the exports go to Singapore, Hong-Kong, Europe, Bombay, Saigon, and China. Salt, iron, silk, and tea come also overland from China and cotton goods and hardware are exported to Yunnan.

Navigation.—There were entered 454 vessels, of 380,073 tons, and cleared 450, of 378,073 tons, during 1900. The regular steamers, formerly British, have been sold to Germans.

Railroads, Posts, and Telegraphs.—A railroad, 16 miles in length, from Bangkok to the harbor of Paknam was opened by a Danish company in 1893. In 1898 the Government began to build a line from Bangkok into the northern and eastern provinces, and in the first two years

18,000,000 ticals were expended. The northern line was completed to Muang Khorat, 102 miles, by the end of 1900. A branch was built westward from the main line 26 miles to Lopburi, and is to be continued 347 miles farther to Kiangmai, and eventually to the Burmese frontier at Kiangsen, 124 miles farther west. A line is being constructed from Bangkok southwestward to Pechaburi, 94 miles. Another will run south and east to the port of Simaharatha, 87 miles. A private line, 10 miles long, runs from the Lopburi line to the Buddhist shrine at Prabat, and will be extended into the mineral and forest region beyond, and a company has undertaken to build one from Bangkok northwestward to the mouth of the Tattien river.

The telegraphs have a total length of 2,900 miles. Siam joined the International Postal Union in 1885. There were 583,460 domestic and 470,624 foreign letters sent in 1900.

The Malay States.—Siam from early times claimed suzerainty over the Mohammedan states of the Malay peninsula, invading them at times and attempting to rule, often deciding questions of succession, but usually being satisfied with the triennial tribute and emblem of vassalage, consisting of gold and silver flowers. Great Britain took Perak under its protection in 1874, and others of the southern states followed, Pahang in 1888. These events impelled Siam to assert authority in the peninsula in a more visible form. Petani was reduced to subjection by a Siamese army and divided into four states, each governed by a native rajah appointed by the Government at Bangkok. Siamese officials controlled the affairs of Kedah. After the latest extension of British protection the King visited Kelantan and Tringano and inaugurated a more active policy, introducing the Siamese postal system, raising the Siamese flag, and after taking advantage of a quarrel over the succession in Kelantan to place on the throne a subservient sultan, appointing a resident with an armed escort after the manner of the British. The Siamese officials in those states bordering on the Federated Malay States have not governed as justly or wisely as the British residents, and the British officials have been preparing the situation for a further extension of the British protectorate. The Rajah of Petani and the Rajah of Raman asserted their independence, and were taken as prisoners to Bangkok. The Sultan of Kelantan showed a similar restless disposition. The rulers and the people alike of these states expect to be more prosperous under British rule, witnessing the prosperity of their neighbors. In the Franco-English agreement of Jan. 15, 1896, respecting Siam, France recognized the Malayan peninsula as a British sphere of interest, as England recognized the Mekong basin as a French sphere. In September, 1902, the Sultan of Kelantan took 300 Sikh soldiers into his service as a counterpoise to the guard of the Siamese resident. A few weeks later he was visited by the Governor of the Straits Settlements. In October the Siamese and British governments came to an arrangement with regard to both Kelantan and Tringano, which border on Perak and Pahang and are regarded by the British as being in such a state of unrest and confusion as to constitute an impediment, while under exclusive Siamese control, to the peace and well-being of the British protectorate.

Rebellion.—Just as the British claim a right to intervene for the elimination of Siamese misrule and oppression of the Malays of the peninsula and Karens and Shans on the Burmese fron-

tiers on the ground that the neighboring populations over which they rule are disquieted, so the French claim a sphere of influence and a right of intervention in the parts of the Siamese Empire inhabited by Laotians, Cambodians, and the Shan tribes of the northeast. In April, 1902, troubles occurred on the upper Mekong, and the Siamese Government sent troops into the disturbed region. The French Governor of Indo-China at the same time made a military demonstration on the lower Mekong on account of some infringement by the Siamese in Battambang of the treaty obligations forced upon them in 1893. The Siamese rebels in the north crossed the Mekong and came into collision with the French forces posted there. These Shan rebels captured Muang Pray and held it against the Siamese troops, having put to death all the Siamese officials. The uprising became more formidable and extensive. When the French complained of the invasion of their territory the Siamese Government disclaimed responsibility for the acts of rebels and freebooters over which Siam has no control. The French Government had often to complain of the violation of the frontier by the Siamese and of their disregard of treaty obligations in the neutral zone. One of the conditions of the Anglo-French agreement of 1896 guaranteeing the inviolability of the Menam valley against either French or British encroachment was that the King of Siam should employ within it no British nor French troops. Yet he had engaged 1,500 Sikh soldiers as police in Bangkok. When the French objected the Siamese reply is said to have been that they were necessary for night patrols because the Siamese police could not be depended upon to keep awake. The rebellion in the north, caused by the exactions of Siamese officials, was quelled in the end by the troops. The rebel chiefs and many of the inhabitants took refuge in French Laos.

New Treaty with France.—Since the bombardment of the Paknam forts by the French and other hostilities that ended with the treaty of Oct. 3, 1893, the French have been excluded from all influence at Bangkok and from the commercial and other favors shown to the nationals of other powers, while British influence, which the French then sought to counteract, was not impaired. The French annexed at that time the territory of Luang Prabang that was claimed by Siam east of the Mekong; they have occupied the town of Chantabun, and though the occupation was declared to be temporary they have expended 15,000,000 francs there; they forced Siam to agree to keep no troops in a zone of 25 miles on the right bank of the Mekong; and the police rights of Siam were restricted, and she was forbidden to maintain troops or build fortifications in Battambang and Angkor, old Cambodian provinces.

The British expansion in Burma was the occasion of French aggression. In January, 1896, the grounds for a forward policy on the part of France were taken away by an agreement between France and England by which they mutually guaranteed to Siam the integrity of the Menam basin and the coast from Muong Bang Tapan to Muong Pase.

On Oct. 7, 1902, a treaty was signed at Paris by which Siam ceded to France the province of Meluprey, a part of the province of Angkor, and a part of the Laos territory west of the Mekong river. The boundary between Siam and Cambodia starts on the left bank of the Great Lake from the mouth of the Stang Rolnos river, runs westward to the Prek Kompong Tiam river,

northward to the Pnom Dang Rek mountains, thence along the Nam Sen-Mekong and Nam Moun watershed to the Pnom Padang chain, and along the summit of the mountains eastward to the Mekong. This is the old Cambodian province of Meluprey, and it includes also a slice of Angkor with the best part of the fisheries on the lake. The Laos boundary west of the Mekong starts from the mouth of the Nam Huong, follows the crest of the mountains separating the two valleys westward to the watershed of the Menam basin, and this watershed northward to the source of a tributary of the Nam Ngoum, descends it and the Nam Ngoum to the Ban Luak, ascends the latter river to the Menam watershed, runs along the watershed westward to the Nam Kop river, and follows the course of this river down to the Mekong. This is the Laos province of Bassak. The traditional relations between the King of Siam and the inhabitants of this province are not altered. France agrees to evacuate the town of Chantabun. The King of Siam will be free to maintain troops on the right bank of the Mekong, but binds himself to keep in the whole Siamese part of the Mekong basin only Siamese troops, commanded by Siamese officers, and if he wishes to construct ports, canals, or railroads, unless they shall be constructed with a Siamese staff and Siamese capital, he must first come to an agreement with the French Government. France abandons the clause of the treaty of 1893 requiring Siam to recognize as under French protection and subject to French consular jurisdiction all persons of Laotian, Cambodian, and Annamite descent and all Chinese coming from French territories, which has been a source of constant friction. In the new treaty it is stipulated that persons of Asiatic origin born on territory under the direct rule or protection of France since it became French and the children of such persons, but not their grandchildren and remoter descendants, shall enjoy French protection. Chinamen already inscribed in the lists of the legation and consulates will continue to be French *protégés*, but are amenable to Siamese law and can be judged by Siamese courts, a representative of the French legation or consulate having the right to be present at the trial and to demand a copy of the indictment and evidence. As regards the admission to French protection of persons not born on French territory, France will enjoy equal rights with any that may be accorded to other powers. As regards the use of harbors, canals, and railroads in any part of the kingdom no differential tax can be established. The French Government expected by restoring Chantabun and removing the causes of rancor to receive as good treatment as regards official appointments given to foreigners and the granting of commercial concessions as any other nation, to develop a French influence at Bangkok equal to that of the English, and to promote the trade of French Indo-China. The cession of territory embraces only a part of the provinces that were once Cambodian and were conquered by Siam, but in the treaty Siam recognizes French rights to a special position in the Siamese part of the Mekong basin, to which before she would not formally agree.

After the conclusion of the treaty the Siamese Government asked that a Frenchman be designated for a high official position and intimated a willingness to establish a department of hygiene and sanitation with a French staff. A French engineer was engaged to superintend public works at Bangkok. The mail subsidy to French steamers running between Bangkok and

Saigon was restored. The territory ceded to France has a total area of 7,750 square miles.

SOUTH AFRICA. With the conquest of the two Boer republics the whole of South Africa becomes British territory, with the exception of the coast regions belonging to Portugal in the east and west and the unproductive sphere of Germany in the southwest. British South Africa, thus expanded, has an area of about 1,000,000 square miles, of which 700,000 square miles are south of the Zambesi, for the most part already provided with civilized institutions, and 300,000 square miles are a promising region of great natural agricultural and mineral resources extending from the Zambesi northward to the boundaries of German East Africa and the Congo Independent State. The High Commissioner for British South Africa is Lord Milner.

Final Campaign.—At the beginning of 1902 the theater of the war still extended over the length and breadth of British South Africa excepting the coast regions and populous parts of Cape Colony and Natal; a circuit of about 40 miles radius around Bloemfontein, and the cultivated districts surrounding Pretoria and Johannesburg as far west as Rustenburg. The British had garrisons in all the considerable towns of the late republics and occupied the railroads so effectually that the Boers could no longer derail trains and help themselves to supplies on the principal lines of communication. The main line from Cape Colony was so effectually guarded by blockhouses and constabulary posts, connected with barbed-wire fencing, with trenches dug on both sides of the track in the threatened portions and spring guns and automatic electric-alarm signals, that the Boers could no longer cross it in large parties at any point between Pretoria and Bloemfontein or south of there. Lord Kitchener had ceased active operations while extending the blockhouse system not only along the railroads but east and west to garrisoned posts away from the railroads. All the 2,300 miles of railroads were blockhoused, but only completely enough to prevent Boers from crossing in the important sections separating the districts still held by the Boers. Constabulary posts of from 50 to 100 men were established along the railroads 5 or 6 miles apart, with 4 or more blockhouses around the circumference and an entrenched position for the garrison and horses in the center. These posts were connected by a chain of blockhouses manned by from 7 to 16 men, set at intervals of from 700 to 2,000 yards. The blockhouses, of corrugated iron, were strengthened by bags of earth and protected by spider-web entanglements of barbed wire and trenches. When these were completed trenches were dug from blockhouse to blockhouse and barbed wire stretched between them. More strongly garrisoned than the constabulary posts, but with unmounted troops for defense only, were the stations placed at sufficient intervals from which were distributed rations, water, and ammunition along the line and where convoys halted at night on the lines stretching away from the railroads, which were safe lines of communication by day. Along the Bloemfontein-Pretoria Railroad the country was safe by day for 10 miles on each side of the line. The lines of posts erected away from railroads proceeded rapidly in the beginning, and more slowly as the distance from the base increased, because materials and supplies had to be transported by ox-teams, and these were scarce.

The Boers had undisputed possession of the great quadrilateral in the eastern Orange Free

State from Frankfort on the north to Bethlehem on the south, and from Lindley on the west to Botha's pass on the east. This area the British proceeded to enclose with lines of blockhouses. Away from the blockhouse lines the Boers roamed at will and could concentrate 1,000 men or more at any point north of Basutoland, and the British could only move in large bodies. In the western Transvaal the region between Klerksdorp and Vryburg was Boer country. In the southeastern Transvaal, east of the strong blockhouse line running from the Natal to the Lourenço Marques Railroad the Boers under Commandant-General Louis Botha held the country undisputed. A line of blockhouses from Wakkerstroom to Piet Retief was intended to protect northern Natal and Zululand from their raids. In the northwestern Transvaal the British held the Magaliesberg range as well as the Pretoria-Rustenburg Railroad by numerous blockhouses. From Rustenburg and Zeerust northward the possession of the country by the Boers was not yet challenged, and there their most considerable force was still a coherent and disciplined body under the chief command of Gen. Delarey, while Gen. Christian de Wet was in the eastern part of the Orange Free State. Throughout the whole northeastern Transvaal north of the Delagoa Bay Railroad the Boers were left undisturbed, and they were numerous and busy, though not with directly hostile operations. These were not the fighting Boers, but the ones who supplied the fighting forces with food, clothing, and such war material as could be manufactured in the country. In the fertile valley north of Lydenburg they raised grain enough to feed their entire army and ground it into flour at Pilgrim's Rest and, after their mill was blown up by treachery, at Sabie Drift. A blockhouse line was being carried from Klerksdorp through Ventersdorp to the Rustenburg line to protect the Rand from raids, and it extended across the Vaal to Kronstad. When the completion of the line was of urgent necessity the blockhouses were placed wider apart, leaving the intervening ones and the fencing to be filled in later. The Vaal river from Klerksdorp to Standerton was lightly guarded with a long blockhouse line. A transverse line crossed the railroad in the Orange River Colony from Winburg to Bloemhof; one passed through Thaba Nchu to Maseru on the border of Basutoland, and through Ladybrand to Ficksburg; beyond these there was one connecting Fouriesburg with Bethlehem. There was a network no longer needed in the northern parts of Cape Colony, though bands of rebels were still at large in the hilly country north of Cradock and on the borders of Basutoland and Caffraria; in the west of Cape Colony, where the rebels were still active, a long line, stretched from Lambert's Bay to Victoria West on the railroad, protected the settled districts; and the railroad was well protected northward to Kimberley, and even to Vryburg and Mafeking, and lightly farther north, with lines crossing the country from Kimberley to Boshof and from Jakobsdal along the Riet to the cleared country about Bloemfontein. This cleared region, protected at first by the South African constabulary, was left principally to the national scouts, a body recruited by ex-commandants among surrendered Boers who wished to bring pressure upon the leaders still in the field to induce these to abandon what the Boers who had accepted British sovereignty at various times since the fall of Bloemfontein and Pretoria, contemptuously called "handups" by the others, considered a hopeless struggle that was ruining and extermin-

nating their race. The national scouts extended the area of occupation westward from Bloemfontein, just as the constabulary extended the territory held and patrolled west of Pretoria and the Rand. The British army of over 200,000 men rested in the garrison towns and in the blockhouses, relieved of the long marches and dangerous drives that had previously exhausted the troops actively employed. The Boers in the field were reckoned to be not over 8,000, though in reality they were twice as numerous; yet Lord Kitchener could not rely on his troops, constantly renewed by fresh drafts from England, more untrustworthy than the earlier volunteers. He was hampered still more seriously by lack of horses. The Government was buying horses in the British Islands, Hungary, the United States, Canada, the Argentine Republic, Australia, and India at enormous expense, requesting the remount department in South Africa to reduce its demands. During 1901 the Government sent 129,000 horses, and in 1902 continued sending them at the rate of over 13,000 a month. The United States alone furnished 201,000 horses and mules from the beginning of the war. The horses, however, were used up almost as fast as fresh shipments came owing to hard usage, sickness, and lack of proper nourishment. There were scandals in the contracts for horses and for fodder, clothing, and other army supplies. The British, American, and Canadian horses stood the work best. After the Boers had lost all their artillery the British discarded most of theirs and converted the men with their horses into mounted infantry. In January the acting President of the South African Republic, Schalk Burger, with his Government, was in the mountainous district northwest of Lydenburg in the vicinity of Roos Senekal, guarded by a commando under Stephanus Trichardt. To the northeast Commandant Muller protected the factories and the women's laager at Sabie Drift. Lydenburg, between the two, was strongly held by the British. Two British columns moved about in this region, but did not accomplish as much as the national scouts. Gen. Ben Viljoen, one of the best of the Boer leaders, was captured while journeying to a conference with Schalk Burger. In the western Transvaal Lord Methuen, from the Mafeking Railroad as a base, moved on the skirts of the territory commanded by Gen. Delarey, and Col. Kekeveich and other column leaders swept the border districts, but there were large and fertile regions in the interior where Boer farmers raised ample crops and reared herds of cattle with scarce any consciousness that war was going on in the country. The grazing country west of the Mafeking Railroad was also a source from which herds of cattle were driven through the thin line of posts on the railroad without hindrance. West of Kimberley Commandant van der Merwe was in communication with the rebels operating in the western part of Cape Colony. President Steyn of the Orange Free State was with Commandant de Wet, between the Frankfort and Bethlehem lines of blockhouses, which were being strengthened with the idea of enclosing the Boers in this area and breaking up this already weakened force by the first forward movement. In the towns permanently occupied by the British, like Rustenburg, Zeerust, Lichtenburg, Wakkerstroom, Utrecht, and Vryheid in the Transvaal and Lindley, Heilbron, Frankfort, Bethlehem, Thaba Nchu, Jakobsdal, and Koffyfontein in the Orange River Colony, acting resident magistrates were installed and schools were established. Lands in the neighborhood of Bloemfontein, Jo-

hanneburg, and Pretoria were apportioned out to surrendered Boers and loyalists for small cultivation. Large blocks of land near Thaba Nchu and Ficksburg were purchased for proposed British colonies. Railroads were extended. One was built to Thaba Nchu. The Australasian colonies and Canada raised fresh contingents for the war early in January, and Great Britain additional yeomanry regiments. Gen. Bruce Hamilton's cavalry columns were active against the commandos of the Bothas and Grobelaar near Swaziland frontier, while Lord Kitchener continued concentrating troops in the Orange River Colony to surround De Wet, who had collected the small parties into which his forces had been divided and scattered throughout the country into several large bodies and resumed aggressive tactics. Commandants Fouché, Myburg, and Wessels penetrated once more into the central part of Cape Colony. Commandant Kritzingen was captured. Commandant Scheepers, previously captured, was tried by court-martial and shot on Jan. 18, as Lotter and other leaders of the colonial rebels had been before. Other rebels were shot on charges of killing armed blacks or native spies, often on the testimony of blacks. Members of the Cape Legislature and magistrates were arrested for treason. The prisons of Cape Colony were crowded. The Cape Colonists were exasperated. There was an outcry in England against the courts-martial and the placing of all Cape Colony under martial law. The suspension of the Constitution and the failure to call a session of the Cape Parliament were condemned as illegal. The British ministers justified martial law in the coast districts where no rebellion occurred as a military measure to prevent the bringing of foreign recruits and arms to the enemy. The foreigners had in fact left the Boer army, and the only persons not of Dutch blood still fighting with the Boers were South African residents. The shooting of rebels by the decree of courts-martial composed of young British officers ceased. When Kritzingen was tried he was acquitted. Two Australian officers convicted of murdering 12 Boer prisoners, accused also by the German Government of having murdered a missionary to prevent his denouncing them, were executed and their commanding officer was cashiered for concealing their crimes.

The voluntary surrenders were procured mostly by the national scouts, of whom another corps of 1,500 was organized by Gen. Vilonel in addition to 2,000 organized by Gen. Piet de Wet. By the end of February all those who were willing to surrender voluntarily had come in. Many prominent Boers who believed the war to be hopeless gave themselves up with their commands when unable to escape British columns in that month. The Boer forces left in the field were the best fighting men, prepared for a long struggle to preserve some remnant of independence and to save from hanging the Cape Colonists who had fought with them. Of the Boer leaders 23 had been captured by the British and sent into perpetual banishment. The blockhouse system was gradually extended over the country, enclosing areas that were cleared in sections by mobile columns. The clearing consisted in burning all dwellings, destroying or carrying away all crops, stores, and other movables, driving off the cattle, and taking the people found on the farms into concentration camps. The native districts in the northeast part of the Orange River Colony were devastated in the same way, all huts and grain burnt, cattle seized, and the natives removed to concentration camps, but receipts were given for property commandeered or

destroyed. The raiders in the midland districts of Cape Colony were driven out once again by Gen. French's columns. Mobile columns were sent out next after De Wet. On Feb. 3 Col. Garratt captured a convoy with 2 of the guns that De Wet had taken from a British column on Dec. 24. The extension of the blockhouse lines brought the British nearer to the Boers and greatly improved the mobility of their columns. Almost every day a Boer laager or convoy was taken, with cattle and wagons, and a dozen or more prisoners reduced the fighting strength. The captures already amounted to more than the estimated strength of the whole Boer army. The result of the drive against De Wet was a Boer loss of 283 men killed, wounded, and prisoners, 1,700 horses, and 5,000 cattle. De Wet himself narrowly escaped capture. There were about 1,200 Boers with the leader north of Heilbron, and Lord Kitchener stretched out 10,000 troops to encompass them. De Wet divided his command into 3 main and many small parties, offering every man the opportunity to surrender to the British who was unwilling to fight to the end. Two of the larger bodies and several small ones broke through the girdle of British troops in the night of Feb. 6, and on the following night De Wet's own party broke the wire fencing by driving cattle against it, but only half got through. The Boers captured British detachments from Gen. Bruce Hamilton's force, which had been weakened to increase the forces that attempted to corner De Wet, and from the bodies operating in the northwestern Transvaal.

On Feb. 16 was begun another great drive with the object of capturing De Wet and Steyn, who were not aware of the movement until the columns were extended and advanced to push them upon the blockhouse line from Vrede to Botha's pass. In the night of Feb. 19 a commando of Transvaalers that had inflicted severe losses on a detachment of mounted infantry a week before rushed their cattle upon the wire fence and passed through the blockhouse line without loss. In the night of Feb. 24 De Wet and Steyn broke through the cordon of troops at Botha's pass, though not without a heavy loss inflicted by the New Zealanders, who likewise had 60 killed and wounded. The Boers drove a herd of 6,000 oxen ahead of them against the position of the New Zealanders, but these kept up so sharp a fire that the onset was checked, and beasts and men were piled up as a rampart. The new tactics of stampeding their own cattle to break the British lines or obstructions lost for the Boers the services of many of their native ox-drivers. A third body fought its way through the cordon, and on Feb. 27 the commando of Jan Meyer surrendered. The total Boer losses were 800 men, with 2,000 horses, great numbers of sheep, wagons, and 23,000 cattle. There were 750 Boers who gave themselves up when cornered. A third great drive in March resulted in the capture of much baggage, the discovery of a Boer arsenal in a cave, and some 50 surrenders, but the Boers in parties of 200 or more passed through the gaps in the cordon and De Wet broke through the blockhouse line, passed between blockhouses on the railroad unobserved, and joined Commandant Paris, who had long defied the British in the vicinity of Potchefstroom, and afterward President Steyn joined Delarey's forces in the Transvaal.

The Boers were able to move about freely in small parties and to concentrate by appointment or on command even in the districts cleared by the British troops. They could not, however, feed themselves long without returning to their base

of supplies, and they were obliged to be vigilant. Gen. de Wet issued orders that any burgher found sleeping in a house should be fined or flogged with the sjambok. The commandos never slept on the same spot two nights in succession, thus making it difficult for the British to carry out successful night raids. De Wet and Delarey had their scouts so well posted that if a British column or convoy moved from any post every commando within 70 miles knew it before night and could prepare for a combined attack or vanish out of the district. The British could obtain intelligence from the natives by paying for it, but native spies and guides were not trustworthy at times. When the surrendered burghers became sick enough of the war that kept them from their farms and families and the Boers weak enough and they themselves numerous and bold enough not to fear the sjambok, they acted as guides and latterly fought in the British ranks, besides forming the bodies of burgher scouts, whose principal service was to go among the wavering commandos and persuade them to surrender also. The sjambok was frequently used by commandants to bring wavering Boers back into the line, and it was the disgrace more than the pain of the punishment that was effective.

Members of the Boer commandos entered Johannesburg, Krugersdorp, and Pretoria frequently and learned all that the civil population could tell of the military conditions and plans of the British. The British general who let a body of 300 Boers pass because they wore khaki raised a complaint against this breach of the customs of war. Many of the Boer commandos were supplied with khaki uniforms, which they had taken from prisoners or captured convoys. They wore them as lounging clothes, but in action they wore at least their distinctive Boer hats. Most of the Boers were clad in home-made leather garments.

The English, if they failed to encompass the Boers, nevertheless reduced the area of Boer occupation by clearing the country swept by their columns. On the night of Feb. 24 a large force of Boers in the western Transvaal suddenly attacked Col. von Donop's convoy near Klerksdorp, stampeded the mules, and received the surrender of Lieut.-Col. Anderson and 475 of his yeomanry and volunteers. The absolute losses of the British were still as heavy as those of the Boers. The captured British did not affect their fighting strength appreciably and were invariably set free by their captors. The men and rifles captured from the Boers reduced their numbers materially. On March 7 Lord Methuen, who, with 1,200 men and 5 guns, was marching from Vryburg to join Gen. Grenfell south of Lichtenburg, was attacked at Tweebosch by the commandos of Delarey and Kemp, which surrounded the rear-guard and delivered so sudden and accurate a fire that the yeomanry fled in a panic, mingled with the stampeded mules. The infantry attempted to make a defense until the Boers completely surrounded them and Lord Methuen was incapacitated by a wound.

This was the last important success of the Boers. Delarey released Lord Methuen and the surrendered troops. The Orange River Colony was already made untenable for any large body of Boers. Lord Kitchener began vigorous operations against Delarey. On March 23 Col. Kekeovich recaptured the guns taken from Lord Methuen's column. It was a big drive, like those that had been carried out against De Wet, and was not more successful in the capture of Boers in the enclosed area, although 8 columns took part and some of the lightly equipped mounted troops marched 80 miles in

twenty-four hours. The Boer losses were 12 killed, 185 taken prisoners, 5 guns, and a part of their cattle, horses, mules, and wagons. Commandant Kemp slipped round one end of the enveloping line, while Commandant Liebenberg placed his men, clad in khaki, in the order of a British column and was allowed to pass through unmolested. Peace negotiations were proceeding, but no truce was made, so that the operations against Delarey were not interrupted. On March 31 Col. Kekewich and Gen. Walter Kitchener attempted to close in upon Delarey's main force near Barberspan. A part of the latter's force became engaged with Kemp's men on the Hart river. The British entrenched themselves in a good position, and held it against a determined attack from all sides. A Canadian detachment of 54 men under Lieut. Bruce Caruthers fought till all were slain. A new contingent of Canadians and the ninth contingent from each Australian colony and from New Zealand were on the sea. The latest estimate of the Boer effective forces was still 8,000 men. In the Orange River Colony no single force exceeding 400 was able to concentrate. In Cape Colony the bands of 100 or 200 that appeared intermittently in the midland districts or on the northwestern border could always be driven back into the hills or the desert. In the eastern Transvaal the largest body under Botha was 400 men led by Commandant Alberts, and in the north Beyers had about as many men and other leaders had smaller bands about Lydenburg. Delarey was still able to muster 2,000 men or more for an attack. The remnants of the Boer army were being used up at the rate of 150 a week. The total number of prisoners taken by the British from the beginning of the war was about 29,000.

Col. Colenbrander carried the war into the northern Transvaal. With a strong force he invested the laager of Commandant Beyers in the mountains, which he captured with over 100 prisoners. In the west Gen. Ian Hamilton took charge of the columns. Commandant Potgieter, who led a fierce attack against Col. Kekewich's force on April 11 at Rooiwal, was killed, with 43 of his men, and 34 were wounded, while the British lost 6 killed and 52 wounded. The Boers were pursued and lost 88 more men. A movement of Gen. Bruce Hamilton from Middelburg resulted in a loss to the Boers of 145 in killed, wounded, and prisoners. Col. Lawley led a small column unawares into the laager of Commandant Prinsloo at Boschman's Kop, and in a hand-to-hand fight the British regulars fought their way out, killing or wounding the Boer officers and 60 of their men. Drives in the east and the west were still carried out in May. The Boers, with peace in prospect, showed more disposition to surrender than to fight. Several commandos, consisting mainly of Transvaalers, continued to operate in the eastern part of Cape Colony, and laid siege to the town of Ookiep until driven off by British reinforcements. Of the captured Boer leaders 30 more were sent into perpetual exile in accordance with Lord Kitchener's proclamation of Aug. 7, 1901.

The war came to an end on May 31. The number of Boers estimated by the British intelligence department to be still on commando had risen to 8,900. The British garrison in South Africa in August, 1899, was 9,940. Before the outbreak of the war on Oct. 11, 1899, it was increased by 12,546 troops, and before Aug. 1, 1900, by 155,535 regulars from Great Britain and the colonies, 1,891 from India, 11,584 colonials from Australasia and Canada, 30,319 raised in South Africa, 21,457 militia, 10,731 yeomanry, and 11,129 volunteers

from Great Britain, making the total, including the garrison before the war, 265,132 officers and men. Between then and May 1, 1901, there were sent out 22,987 regulars from home and the colonies, 5,790 colonials in addition to 22,095 raised locally, 3,939 militia from home and the colonies, 16,733 yeomanry, 5,805 volunteers from the United Kingdom, and 5,180 South African constabulary recruited in the United Kingdom for the special pay of 5s. a day; and before the end of 1901 the additional reinforcements were 22,746 regulars from the United Kingdom, 3,857 from India, 1,194 colonials, 8,562 militia, 921 yeomanry, 407 volunteers, 454 Scottish horse, 1,709 South African constabulary from the United Kingdom, and 1,238 from Canada.

Further reinforcements till May 31, 1902, were 20,280 regulars from home and the colonies, 6,578 from India, 10,827 colonial troops, 11,608 militia, 7,135 yeomanry, 2,515 volunteers, 379 Scottish horse, and 384 South African constabulary. The total sent to and raised in South Africa from the beginning of the war, including the original garrison, was 17,559 officers and 430,876 men. The numbers of volunteers, constabulary, and other troops raised in South Africa after the first enlistments are not known and are not included in the total, which comprises, besides the original garrison of 9,940 regulars, 228,171 regulars, 45,566 militia, 35,520 yeomanry, 833 Scottish horse, 19,856 volunteers, and 7,273 South African constabulary from the United Kingdom; 18,229 regulars and 305 volunteers from India; 29,090 in the colonial contingents, 1,238 South African constabulary, and 52,414 men raised in South Africa. Of the total 68,531 returned to England in health and 12,294 to the colonies, 10,134 regulars were ordered to India and 3,578 to the colonies, 389 militia were stationed at St. Helena, 75,430 were taken back to England sick or wounded or died on passage, 9,713 were in hospitals in South Africa at the end of hostilities, 6,685 were disbanded in South Africa, 16,168 died in South Africa of disease or wounds, 5,774 were killed in battle, and 22,829 were wounded. The war came to an end because the Orange Free State was practically cleared and held by the British and in the eastern Transvaal foodstuffs were exhausted. In the west the Boers still had provisions, but the British columns, released from the Orange River territories, could be concentrated for drives that would soon clear all except the wilder and more distant parts.

The mortality from battle among British officers was 71.48 per 1,000 in the first, 21.94 in the second, and 32.63 in the third year of the war; from disease, 29.09 in the first, 15.03 in the second, and 16.40 in the third year. Among the rank and file 19.62 per 1,000 were killed or died of wounds in the first, 10.87 in the second, and 11.13 in the third year; and 31.07 per 1,000 died of disease in the first, 20.56 in the second, and 18.24 in the third year. The average rate of mortality of British troops on foreign service is 15 per 1,000. In the American civil war the death-rate from all causes was not reduced below 46.49 per 1,000 in the last year of the war, and in the Franco-Prussian War the average was 46 per 1,000 per annum, while in the Boer War it was brought down to 30.03 in the closing months. In the two years, seven months, and twenty days that the war lasted 728 officers and 7,862 non-commissioned officers and privates were killed or died of wounds or of accidents and 344 officers and 13,008 non-commissioned officers and privates died of disease. The Boers had about 50,000 combatants at the beginning of the war. No foreigners joined them after the first

year. The number who went into the field from first to last is estimated at 75,000. Their losses during the war were 3,700 killed or died of wounds and 32,000 prisoners of war, of whom 700 died.

After the terms of peace were signed Lord Kitchener appointed as commissioners to receive the surrenders of armed burghers Gen. Bruce Hamilton for the eastern and Gen. Walter Kitchener for the western Transvaal; Gen. Elliot for the Orange River Colony, and Gen. French for Cape Colony. Gen. Louis Botha, Gen. Delarey, Gen. Christian de Wet, and other influential Boer leaders accompanied the British commissioners and induced all the burghers to surrender except some that joined commandos in the remote wild regions of the north and west that were British territory or trekked beyond into German and Portuguese territories. The commissioners received the surrenders of 11,166 armed Boers in the Transvaal, 6,455 in the Orange River Colony, and 3,635 in the Cape Colony; total, 21,256. The surrendered burghers who were unwilling to take the oath of allegiance were permitted to sign a declaration that they accepted British sovereignty and would not again take up arms against Great Britain. The prisoners of war in St. Helena, Bermuda, India, and Ceylon were brought back to their own country on subscribing to the oath or the declaration, which, however, some of them refused to do.

Conclusion of Peace.—On Jan. 25, 1902, the Dutch Government, in view of the exceptional circumstances in which one of the belligerents was placed, the Boer authorities in South Africa being unable to communicate with the delegates in Europe, who bore no instructions later than those drawn up in March, 1900, binding them so strictly to the independence of the republics that they could not even accept the *status quo ante bellum* unless a mode of settling disputes were laid down at the same time, seeing that the Boer delegates were in Netherlands territory and accredited to that Government alone, offered its good offices as a neutral power to bring about negotiations for peace that could not otherwise be opened. The Dutch memorandum proposed that the Boer delegates proceed under a safe-conduct to South Africa in order to deliberate with the Boer leaders and return with full powers to conclude a treaty of peace binding the Boers in Africa and the Boers in Europe, in which case the Netherlands Government offered to place them in communication with plenipotentiaries sent over to Holland by the British Government.

The British Government declined to accept the intervention of the Dutch Government, intimated a belief that the Boer delegates in Europe have no influence over the representatives of the Boers in South Africa, stated its understanding that all powers of government, including those of negotiation, were vested in Mr. Steyn and Mr. Schalk Burger, and therefore inferred that the quickest and most satisfactory means of arranging a settlement would be by direct communication between the leaders of the Boer forces and the British commander-in-chief in South Africa, who was already instructed to forward any offers he received for the consideration of the British Government.

On Sept. 5, 1901, Schalk Burger sent a communication to Lord Kitchener to ascertain what measure of self-government would be left to the republics and what conditions could be obtained for the Cape rebels if the Boers should lay down their arms. Lord Kitchener replied on Sept. 22 that the annexation of the republics must stand to prevent South Africa from again being con-

vulsed with war and to protect those who had accepted British rule, and that amnesty to rebels was the prerogative of the ruler of the state, pointing out that the Republican Government had tried and shot traitors and that the commandant-general had threatened to burn the farms and confiscate the property of burghers who, after taking the oath of allegiance to Great Britain, refused to rejoin the commandos.

Presidents Steyn and Schalk Burger, supported by Commandant-General Botha, Gen. de Wet, and the rest of the Boer leaders, still held out in the hope, not of intervention by any European power, but of a revulsion of feeling in Great Britain, caused in part by the farm-burning, the hanging of Cape Colonists, compelling their neighbors and relatives to witness the spectacle, the arming of natives to fight the Boers, the concentration camps, and other practices denounced by the Liberal leader in the British Parliament as "methods of barbarism," and in part by the cost and apparently interminable nature of the guerrilla war, which kept a larger British army in the field than ever and entailed heavier expenses than ever, the total cost from the beginning having already exceeded £220,000,000, which was three times the cost of the Crimean War and more than the indemnity paid by France to Germany. The Boers, moreover, were encouraged to believe that the British nation would recognize, now that formidable hostile action on their part was no longer possible, the unconquerable national spirit and love of independence that they had inherited from their fathers.

The correspondence between the British and Dutch governments was forwarded by the British authorities to President Schalk Burger, who decided to act on the intimation that, although the British Government would not treat with the Boer delegates in Europe, it would listen to proposals from the Boer authorities in South Africa. President Burger went into the British lines and obtained permission, on March 23, to consult President Steyn. Accompanied by Lucas Meyer, State-Secretary Reitz, Attorney-General Krogh, and their colleagues, Jacoby, Vanderwalt, and Van Velden, he was conducted to Kroonstadt. There the members of the Acting Government of the South African Republic remained until the Government of the Orange Free State could be reached. President Steyn and the chief commanders Louis Botha, De Wet, and Delarey, met them in consultation at Klerksdorp, and on April 12 all went to Pretoria to open formal negotiations with the British High Commissioner and the British commander-in-chief. Their first proposal was that the two republics should concede the demands made by the British Government before the war as to the franchise for Uitlanders and similar matters. Their proposals were franchise, equal rights for the English and Dutch languages in education, a customs union, dismantling of forts, postal and railroad union, arbitration of differences by Boer and British commissioners, and mutual amnesty. If these terms were not satisfactory they desired to know what the British Government would offer. When these proposals were forwarded to the British Government Mr. Brodrick telegraphed back his astonishment that the Boer delegates should persist in misapprehending the situation and referred them to the terms offered at Middelburg a year before as the minimum. Although the reduction in the Boer forces and the additional sacrifices thrown upon the British by the rejection of those terms would justify more onerous demands, the British Government was willing in the interest of permanent

peace and reconciliation to accept a general surrender on the lines of that offer with modifications in detail to be mutually agreed upon. The Boer leaders then asked to be allowed to consult the Boer authorities in Europe or to have these deputize one of their number to go to South Africa to assist in the peace conference. Lord Kitchener returned a categorical refusal to this demand, and a message was sent from London that negotiations had better terminate at once if the Boers did not intend to make serious proposals. The delegates announced that they had no power to accept peace on the basis of the surrender of the independence of the republics, and asked for an armistice to enable them to obtain authority from the burghers. Lord Kitchener refused to grant an armistice, but undertook not to molest burghers while actually holding any meetings necessary for securing the authority required by the delegates. The delegates left Pretoria on April 19 to consult the burghers in the field, with the understanding that the British authorities would not treat with them further unless they had full powers, to which President Steyn took exception. The commandos in the field elected delegates.

A national convention of 160 Boer representatives, all prominent burghers, met at Vereeniging on May 15, and gave the peace delegates power to negotiate subject to ratification by the convention. The convention commissioned Louis Botha, Christian de Wet, Judge Hertzog, Delarey, and Smuts to negotiate on the basis of surrender of independence in foreign relations, self-government under British supervision, and surrender of part of the territories. Lord Milner and Lord Kitchener refused to negotiate on this basis, and proposed to draw up a document to be submitted to the convention for a simple affirmative or negative vote. The Boer commissioners at Pretoria and the British High Commissioner and commander-in-chief arranged on May 21 the terms to be submitted to the Boer convention, but it was not till May 28 that the British Government finally communicated the exact terms it was willing to offer, and these were finally accepted by the convention on May 30. Schalk W. Burger, F. W. Reitz, Lucas Meyer, Krogh, J. H. Delarey, and Louis Botha, as delegates of the South African Republic, and M. T. Steyn, C. R. de Wet, J. B. M. Hertzog, J. Brebner, and C. Olivier, as Free State delegates, went to Pretoria and signed the treaty of peace on May 31, which they were authorized to do by resolution of the convention, explaining that the reduced and dwindling numbers of Boers in the field, and consideration for the 20,000 deported prisoners of war and the dying inmates of the concentration camps, which threatened the extermination of the whole race, compelled them to surrender their national independence. The terms of peace were substantially those that Lord Kitchener had offered to Gen. Botha at Middelburg. The burghers in the field were to hand over all arms and ammunition and acknowledge British sovereignty. Those outside the limits of the Transvaal and the Orange River Colony were to be brought back to their homes on acknowledging allegiance to the King, and all prisoners of war were to be repatriated on the same terms, including leaders doomed to perpetual proscription by the proclamation of Aug. 7, 1901. Burghers surrendering or returning were not to be deprived of their personal liberty or their property. No proceedings, civil or criminal, would be taken against any of them for acts in connection with the war, except certain acts contrary to the usages of war that had been notified by the British commander-in-chief to the Boer generals, which would

be tried by court-martial immediately after the close of hostilities. The Dutch language will be taught in public schools of the Transvaal and the Orange River Colony where the parents of the children desire it, and will be allowed in courts of law when necessary for the better and more effectual administration of justice. The possession of rifles will be allowed in the Transvaal and Orange River Colony to persons requiring them for their protection on taking out a license according to law. Military administration in the Transvaal and Orange River Colony will at the earliest possible date be succeeded by civil government, and, as soon as circumstances permit, representative institutions, leading up to self-government, will be introduced. The question of granting franchise to the natives will not be decided until after the introduction of self-government. No special tax will be imposed on landed property in the Transvaal and Orange River Colony to defray the expenses of the war. As soon as conditions permit, a commission, on which the local inhabitants will be represented, will be appointed in each district of the Transvaal and Orange River Colony, under the presidency of a magistrate or other official, for the purpose of assisting the restoration of the people to their homes and supplying those who, owing to war losses, are unable to provide themselves with food, shelter, and the necessary amount of seed, stock, implements, etc., indispensable to the resumption of their normal occupations. The Imperial Government will place at the disposal of these commissions £3,000,000 for the above purposes, and will allow all notes issued under the law of 1900 of the South African Republic and all receipts given by officers in the field of the late republics, if found by a judicial commission to be appointed by the Imperial Government Commission to have been duly issued in return for valuable considerations, to be received by the commissions as evidence of war losses suffered by the persons to whom they were originally given.

In addition to the free grant of £3,000,000, the Imperial Government will be prepared to make advances on loan for the same purposes free of interest for two years, and afterward repayable over a period of years with 3 per cent. interest. No foreigner or rebel will be entitled to the benefit of this clause.

With regard to the Cape Colonists and Natalians who had been in rebellion Lord Milner read a statement on behalf of the Imperial Government that they would be left to be dealt with by the colonial governments according to their laws, and the Irish and other British subjects who had fought with the Boers would be subject to trial under the law of that part of the British Empire to which they belong. He also stated the views indicated by the Cape Government as to the terms to be granted to Cape Colonists in the field or such as had surrendered since April 12, 1901. With regard to the rank and file, on giving up their arms, they should sign a document acknowledging themselves guilty of high treason; their punishment would be, provided they had not been guilty of murder or acts contrary to the usages of war, that they should not be entitled during their lives to vote at any parliamentary or local election. Justices of the peace, field-cornets, or other colonial officials and all Cape Colonists who had been commandants of rebel or burgher forces would be tried for high treason, but in no case should the death penalty be inflicted. The opinion communicated by the Natal Government was that rebels should be dealt with according to the law of the land.

The Boergenerals Louis Botha, Christian de Wet, Delarey, and Lucas Meyer went to Europe soon after the peace, visited Paul Kruger, Dr. Leyds, and the Boer delegates Wolmarans, Fischer, and Wessels. They had a conference with Mr. Chamberlain and endeavored to secure from the British Government an allowance or annual grant for the support of widows and orphans of burghers and maimed burghers unable to work; also the equality guaranteed in the peace convention of the Dutch and English languages in schools and law courts; the restoration of farms confiscated and sold under the proclamation of Aug. 7, 1901, the repatriation of all the proscribed leaders, amnesty for British subjects who fought with the Boers, pardon for persons convicted of acts committed in connection with the war, the reinstatement of officials of the republics or compensation for loss of office, compensation of private persons for property seized or destroyed by British troops, and for use of properties taken possession of, the reconsideration of the decision to annex Transvaal territories to Natal, and the recognition as lawful obligations of the debts incurred by the republics during as well as before the war. The Colonial Secretary declined to reopen any question settled in the treaty. The generals visited other countries and appealed to the public of the Continent of Europe and of the United States to assist the widows and orphans of fallen Boers.

Cape Colony.—The colony of the Cape of Good Hope has responsible government. The legislative authority is vested in a Parliament consisting of a Legislative Council of 23 members elected for seven years and a Legislative Assembly of 95 members elected for five years by the registered electors, who must be able to write their names, and occupations and are qualified by the occupation of a house worth £75 or the receipt of a salary of £50. Speeches in Parliament may be made in either English or Dutch. The Governor of Cape Colony is Sir Walter F. Hely-Hutchinson. The Cabinet at the beginning of 1902 was composed as follows: Prime Minister and Treasurer, Sir Gordon Sprigg; Colonial Secretary, T. L. Graham; Attorney-General, Sir J. Rose-Innes; Commissioner for Public Works, Dr. J. W. Smartt; Secretary for Agriculture, Sir Pieter Faure; without portfolio, J. Frost. The appointment of Sir J. Rose-Innes as Chief Justice of the Transvaal necessitated changes in the Cabinet. Mr. Graham on Feb. 19, 1902, became Attorney-General, and Mr. Douglass succeeded the latter as Colonial Secretary.

The colony has an area of 221,311 square miles, with 376,987 white and 1,150,237 colored inhabitants at the last census. Of the white population, 27,667 are of English, 6,646 of Scottish, 4,184 of Irish, and 6,540 of German birth, and over 325,000 were born in South Africa. The colored population consists of Hottentots, Kafirs, Fingoes, Bechuanas, Malays, and mixed races. The number of marriages in 1900 was 8,736. The births among Europeans were 15,195 and deaths 8,480 in number; births among the rest of the population 37,376 and deaths 38,889. The number of arrivals by sea was 29,848 and departures 21,163. The total estimated population of the colony on Jan. 1, 1901, was 2,350,000.

The revenue for the year ending June 30, 1900, was £6,565,752, of which £2,495,925 came from taxation, £3,466,002 from railroad and other services, £236,011 from the colonial estate. £128,336 from fines, stores issued, etc., £128,376 from loans. The total expenditure was £7,773,230, of which £1,415,685 were for the public debt,

£2,017,424 for railroads, £223,429 for defense, £564,395 for police and prisons, £191,347 for civil establishments, £1,087,160 out of loans.

The debt of the colony on Jan. 1, 1900, amounted to £31,409,755, including £3,525,677 raised by harbor boards with a Government guarantee.

The revenue of the divisional councils in 1900 amounted to £187,493, and expenditure to £168,901; debts, £36,440. The revenue of municipalities footed up £942,317, and expenditures £922,992; debts, £2,396,105.

Cape Colony in the year ending May 31, 1899, produced 2,220,847 bushels of wheat, 1,810,611 bushels of oats, 830,730 bushels of barley, 2,857,809 bushels of mealies, 2,000,000 bushels of Kafir corn, 304,491 bushels of barley, 4,826,432 gallons of wine, 1,107,344 gallons of brandy, 35,179,900 pounds of wool, 6,707,379 pounds of mohair, 278,167 pounds of ostrich-feathers. The live stock consisted of 387,824 horses, 90,379 mules and asses, 1,263,992 sheep, 5,572,793 goats, 245,947 hogs, and 260,672 ostriches.

The total value of imports in 1900 was £19,678,336, of which £16,106,984 represent merchandise. The exports of colonial produce were valued at £7,042,358; total imports, £8,147,670. The exports of diamonds were £3,433,832 in value; of ostrich-feathers, £876,801; of wool, £837,809; of copper ore, £498,552; of Angora hair, £389,905; of hides and skins, £346,800; of gold from the Transvaal, £336,795; of wine, £29,541; of grain and meal, £14,472. The exports of diamonds from 1867 amounted to £95,447,399. The chief imports were food and drink of the value of £5,584,600 and textile goods and clothing of the value of £4,301,331. The imports of Cape wool into Great Britain in 1900 were 37,463,754 pounds, against 84,032,536 pounds in 1899. Of the total value of imports in 1900 Great Britain sent £11,052,428, and received £6,854,175 of the exports, British possessions furnished £2,477,692 of imports and took £238,047 of exports, foreign countries furnished £3,631,691 of imports and took £554,460 of exports.

The number of vessels entered from abroad at the ports in 1900 was 1,555, of 4,803,456 tons; cleared, 1,506, of 4,701,536 tons. Of those entered 1,188, of 4,306,656 tons, were British, of those cleared 1,165, of 4,232,057 tons. The number of coasting-vessels entered was 1,266, of 4,608,893 tons; cleared, 1,266, of 4,558,851 tons.

The shipping registered in the colony consisted on Jan. 1, 1901, of 5 sailing vessels, of 331 tons, and 33 steamers, of 5,810 tons.

The Government owned 2,089 miles of railroads on Jan. 1, 1901, and operated 587 miles more owned by companies, while 238 miles were owned and operated by companies and 139 miles were being built by companies with a Government subsidy. The Government railroads cost £21,842,000, or £10,456 per mile. The gross earnings in 1900 were £3,520,537; expenses, £2,198,205; number of passengers carried, 13,640,414 in 1900; tons of freight, 1,370,248.

The number of letters that passed through the post-office during 1900 was 31,112,004; newspapers, 11,547,990; postal cards, 806,663; books and samples, 2,750,050; parcels, 503,282; receipts for the year, £342,431; expenses, £346,779.

The telegraph-lines had a length of 7,467 miles on Jan. 1, 1901, with 22,597 miles of wire. The number of messages in 1900 was 3,562,039; receipts were £202,454, and expenses £205,986.

In Cape Colony parliamentary government was suspended during two-thirds of the period of the war and for some time after its close, and it was practically under military rule. Parlia-

ment was prorogued from one date to another. Some of the members had been convicted by military tribunals, some were kept in prison without trial, some had fled overseas to avoid a like fate, and elections were not held to fill their places because none but men of the same principles could be elected in their districts. When peace was signed a petition was signed by a large majority of the members of Parliament belonging to the Progressive party, which was the ministerial party, begging the Imperial Government to suspend the Constitution. The Premier, who had assented to the military measures of the army authorities during the war and organized the bodies of Cape volunteers for local defense and auxiliary service in the war, rejected the proposition from the start, the ministry refused to countenance it, and the Imperial Government finally decided against it and advised the convening of Parliament at an early date so as to test the willingness of the House of Assembly to pass the measures necessary for the maintenance of orderly government, including indemnity bills for acts committed under martial law and for unauthorized expenditure. Sir Gordon Sprigg assured Mr. Chamberlain that he could pass these indemnities and the budget, although he could not rely on the support of a fourth of his former followers. Dr. Smartt, Commissioner of Public Works, resigned in May and took the leadership of the party in favor of suspension, and as 42 members of the Assembly supported him he practically displaced the Premier as head of the Progressive party. The Constitution was suspended already. Martial law and press censorship were still in force after the war ended. The Parliament had not been convened for eighteen months, although the Constitution requires that twelve months shall not elapse without a session. The ministry had expended in the defense of the colony all the ordinary resources and £2,600,000 raised for railroads and harbors, and had no power to levy taxes. What the Progressives wanted was the repeal of the Constitution. They proposed that the Cape should be ruled as a Crown colony until the seats could be redistributed in such a way as to give them, the active English Imperialist party, a majority. The petition for the suspension of the Constitution was sent before the peace was signed. It could not be done without sanction of the Imperial Parliament. Lord Milner was in favor of suspension, but Mr. Chamberlain on July 2 declined to propose such a measure to the British Parliament unless the Cape Parliament should fail to pass the bills of indemnity and other measures indispensable for the maintenance of British interests. Parliament was convened on Aug. 20. The withdrawal of the martial-law proclamations was declared in the Governor's speech to be dependent on the passage of a bill indemnifying the Governor and all persons concerned for acts performed in the administration of martial law. The House of Assembly was further called upon to pass bills dealing with the failure to summon Parliament within the prescribed period, the failure to register voters at the biennial term, unauthorized expenditure, and various minor infractions of the law. Measures were announced prohibiting the immigration of Asiatics not British subjects, and of paupers and persons suffering from loathsome and contagious diseases, dealing with betting and gambling, forbidding the sale of liquor to aboriginal natives, providing for the location of natives, and authorizing railroad extensions, harbor and irrigation works, local loans, and the contribution of £20,000 to the im-

perial navy in addition to the previous annual grant of £30,000. There were 9 seats vacated by rebels or refugees, and in declining to have them filled until the repeal of martial law the Premier opposed his former party which he had led for twenty-five years, only 5 members of which, besides the ministers, still followed him, and was supported by the party of the Afrikaner Bond, the Dutch party. The Government further offended the Progressives by proposing a commission to inquire into the administration of martial law and commandeering. The Imperial Government sent over a commission of judges to revise the sentences passed by military tribunals with a view of releasing imprisoned persons whose offenses were not serious and criminal. Jurists pointed out that with the removal of martial law all unexpired sentences lapsed and no person could be held in duration unless resentenced under the law of the land. The Chief Justice of Cape Colony ruled that after the conclusion of peace martial law became void and the courts could not recognize any subsequent proceedings taken under martial law. The general indemnity bill was passed on Sept. 3. Under martial law the Boer sympathizers had to suffer severely. They were deported from their homes, their business was ruined, their property was taken from them, and when they were not confined they were compelled to make long journeys to report to the military. Now the loyal Dutch and the British colonists who profited by their misfortunes were boycotted and made to suffer in turn, but the Government would give them no redress. When Parliament was before in session and martial law had been proclaimed in a few districts, after the first rebellion had been quelled Sir Gordon Sprigg promised in August, 1900, to appoint a parliamentary commission to inquire into its administration. Parliament was prorogued, and afterward came the second rebellion. Martial law was extended over all the colony, and finally embraced even the port towns. For a year and a half it constituted the Government of the country. The grievances and wrongs that arose from the despotic rule of English officers were admitted by everybody, and hence the imperialists desired to cover with oblivion the whole period. The ministry and Parliament could not ignore, however, the wrongs that many were still suffering in consequence of martial law. The Legislative Council investigated the cases of two of its members who had been punished by military tribunals and found that they had been thoroughly loyal citizens. Many persons were still confined in prison under unjust and capricious sentences. The Royal Commission, composed of Baron Alverstone, Lord Chief Justice of England, Justice John C. Bingham, and Sir John Ardagh, examined into 721 cases tried in Cape Colony, 59 in the Transvaal and Orange River colonies, and 14 in Natal, and in accordance with its recommendations 119 prisoners were released at once, and in most other cases sentences were reduced—a life sentence to one of two or three years—and fines were remitted.

The financial indemnity bill covered a total unauthorized expenditure of over £11,000,000. The Parliament authorized new loans of £4,400,000 for railroads and harbor works. The ministers, supported by the Progressives, mustered only 27 votes on Sept. 4 against 41 given by the Bond for enlarging the powers of school commissioners, yet all the indemnity bills were passed. The expenditure for the two years ending June 30, 1902, was £19,224,000 and the revenue £17,030,000, leaving a deficit of £2,194,000. For the next year

a revenue of £10,370,000 was expected, and a surplus of £286,227. The bonds of the Free State given for the Bloemfontein Railroad built by Cape Colony would pay the war cost of £1,800,000. The 3,437 rebels who surrendered under the proclamation of June 11, 1902, were disfranchised for life, in addition to 2,337 voters convicted by the special tribunals constituted in 1900, besides whom 1,217 were convicted who were not voters. A bill provided for raising a loan of £1,250,000 for compensating war losses, first of those not found guilty of treason, and second of those found guilty, though not such as had twice rebelled. On Nov. 4 the Government was defeated on a bill to reorganize and augment the mounted troops of the colony by 34 votes to 29. In elections to fill the vacant seats Progressives were elected. The Afrikaner Bond changed its name to the South African party, and put forth as its program the realization of the unity of the different nationalities in South Africa and the federation of the South African colonies with due regard to their individual interests and the supremacy of the British Crown. Martial law was repealed on Sept. 17, and at the same time the peace preservation act was proclaimed, enabling the Government to control the importation and possession of arms and requiring the registration of all arms and ammunition. In the new colonies the importation of arms was forbidden; only specially licensed persons could have them, those needing them for defense against natives; and no dealer could keep more than a certain small stock of ammunition. One of the causes of quarrel between the Premier and his party was that he would not duplicate this legislation in Cape Colony and introduce more stringent treason and sedition laws, but he insisted that existing laws were sufficient.

Bechuanaland.—The native territory west of the Transvaal and east of German Southwest Africa, extending northward to the Zambesi, belonging to the Bamangwato under Khama and the Bakhatla under Lenchwe, the Bakwena under Sebele, the Bangwaketse under Bathoen, and the Bamaliti under Ikaning, is a British protectorate over which there is a resident commissioner under the High Commissioner for South Africa. There is a European mounted police of 12 officers and 115 men and a native police of 60 men. The natives pay a hut tax, which is collected by their chiefs. The Resident Commissioner in 1902 was R. C. Williams. When British Bechuanaland, including the suppressed Boer Republic of Stellaland in the country of the Baralong under Montsioa, with an area of 51,736 square miles and a population of 72,736, including 5,211 whites, was incorporated in Cape Colony in November, 1895, new arrangements were made with Khama, Sebele, and Bathoen, through whose districts the railroad to Rhodesia was afterward built. The area of the protectorate is about 213,000 square miles, and the population 200,000.

Basutoland.—The Basuto country, lying between Cape Colony, Natal, and the Orange Free State, was made a British protectorate in 1868, annexed to Cape Colony in 1874, and taken directly under the authority of the Crown in 1884. It is administered by a Resident Commissioner, H. C. Sloley in 1902, under the High Commissioner's direction. Chiefs allied to the family of Moshesh hold authority in the wards into which the 7 districts are subdivided. European settlement on the land is not allowed. There were 674 European officials, missionaries, and traders in 1891 and 263,500 natives, who grow mealies, wheat, and Kafir corn and rear live stock. There were 81,

194 horses and 320,934 cattle. The police force consists of 21 Europeans and 238 natives. The revenue in 1901 was £74,891, derived from a hut tax of 20s., licenses, the post-office, and a share in the customs duties. The dutiable imports, consisting of clothing, groceries, blankets, plows, saddlery, and hardware, amounted in the year ending June 30, 1901, to £145,474. The exports, consisting of grain, wool, horses, and cattle, amounted to £361,647.

The British authorities had difficulties with the Basutos during and after the war. The young chief, Joel, offered to make common cause with the Boers, but was told it was a white man's war. He nevertheless gave them valuable assistance in food and horses, and his men served them on their farms and in the field. After the war the British proposed to try him for treason. Lethorodi, the paramount chief, demurred, but he was arrested and tried at Maseru, and sentenced to pay a fine in cattle and spend a year in prison.

Natal.—The colony of Natal has a representative government. The Governor appoints the ministers and the Legislative Council, and his assent, which can be revoked within two years, is necessary for the enactment of laws. He may also present laws to the Assembly or the Council. The Legislative Council has 12 members, 1 of whom represents Zululand, which was annexed to the colony on Dec. 30, 1897. The Legislative Assembly has 39 members, including 2 for Zululand. They are elected for four years by owners of £50 worth of real property or occupants of property paying £10 rent or possessors of an income of £96. All money bills must be introduced by the Governor. The Governor is Col. Sir Henry Edward McCallum. The ministry formed on June 9, 1899, was composed as follows: Premier and Minister of Lands and Works, Lieut.-Col. Sir A. H. Hime; Attorney-General and Minister of Education, H. Bale; Secretary for Native Affairs, F. R. Moor; Colonial Secretary, C. J. Smythe; Treasurer, W. Arbuckle; Minister of Agriculture, H. D. Winter.

The colony contained 18,750 square miles before the annexation of Zululand, which added 10,450 miles to its area, making a total of 29,200 square miles. The population in 1900, exclusive of military, foreigners, and refugees from the Orange River State and the Transvaal, consisted of 64,951 whites, 70,369 East Indians, and 794,650 Kaffirs. Durban had 48,410 inhabitants on Dec. 31, 1900; Pietermaritzburg, 28,500.

The revenue of the colony for the year ending June 30, 1900, was £1,886,710, and the expenditure £1,990,522. Of the revenue £792,384 came from railroads, £560,415 from customs duties, £154,817 from stamps, licenses, and the native hut tax, £78,366 from sales of land, £69,529 from the post-office, £52,106 from port dues, and £28,909 from excise duties. Of the expenditures £756,044 were for railroads, £127,035 for public works; loan expenditure, £816,213. The public debt on June 30, 1900, amounted to £9,019,143. The cost of the police in 1900 was £163,803, and the expenditure of the colony for the Natal volunteers was £52,716, in addition to which the volunteers and police on active service were paid by the colony. The white police force numbered 671 men, the volunteers 1,471 men, not counting the naval defense corps of 101 men.

The sugar-crop of 1900, impaired by drought, was only 333,768 hundredweight. There were 4,162 acres planted in tea, yielding 1,679,600 pounds. The total cultivated area was 636,374 acres, of which 176,655 acres were planted by Europeans, 38,268 acres by Indians, and 421,451 by

natives. The live stock of the Europeans consisted of 29,222 horses, 202,591 cattle, 530,754 sheep, and 70,310 goats; that of the natives numbered 24,874 horses, 145,409 cattle, 55,701 sheep, and 331,554 goats. The output of coal for 1900 was 241,330 tons, only from June, when the British recaptured the mines. Iron-mining has begun, and copper has been found in the north. The total value of imports in 1900 was £9,789,104, and of exports £4,792,097. About 63 per cent. of the imports come from Great Britain, but in 1900 only 17 per cent. of the exports went to Great Britain. The imports of machinery were £669,262; of dry-goods, £409,344; of clothing, £374,711; of iron manufactures and hardware, £368,342; of flour and grain, £287,707; of wine, ale, and spirits, £202,000; of leather manufactures, £191,071; of cotton goods, £85,969; of woolen goods, £40,136.

The number of merchant vessels entered in 1900 was 664, of 1,318,885 tons; cleared, 641, of 1,296,468 tons. Of those entered 109, of 165,887 tons, came direct from Great Britain and 354, of 966,500 tons, from Cape Colony, of which 339, of 766,483 tons, came from Great Britain; of those cleared 53, of 111,255 tons, sailed direct for Great Britain and 254, of 567,863 tons, for Cape Colony.

The length of railroads in 1902 was 612 miles, all operated by the Government, and all, except 50 miles in Zululand, owned by the Government. The main line from Durban through Pietermaritzburg to the Transvaal frontier, 306 miles, connects with the line to Johannesburg and Pretoria. The branch from Glencoe to the Buffalo river is to be extended to Vryheid. The capital cost of the railroads was £7,808,216. The receipts in 1900 were £1,242,280, and expenses £891,089. The net receipts were equal to 4.49 per cent. on the capital.

The British Government, acceding to the request of the Natal Parliament, annexed to Natal the Transvaal districts of Vryheid and Utrecht, but refused to add the districts of Piet Retief and Wakkerstroom and the Harrismith and Vrede districts of the Orange River Colony.

Orange River Colony.—The annexation of the Orange Free State to the British Empire under the name of the Orange River Colony was proclaimed on May 24, 1900, after the occupation of Bloemfontein, the capital, by the British forces. The entire territory was still under military administration in the beginning of 1902. The British Government promised to restore civil government as soon as circumstances would permit. Lord Milner was appointed Governor of both the Orange River Colony and the Transvaal, and Brig.-Gen. H. J. Goud-Adams Lieutenant-Governor under him of the Orange River Colony.

The area of the colony when the annexation was declared was 48,326 square miles, with a population in 1891 of 77,716 whites and 129,787 natives. Of the whites 10,761 were farmers, and of the colored 41,817 were servants of the whites. The normal revenue in time of peace was estimated by Sir David Barbour, appointed by the British Government to investigate the financial resources of the conquered territories, at £740,000, and expenditure at £494,000. The British administrators calculated for 1902, on the basis of a restoration of peace, on a revenue of £756,200 and an expenditure of £691,140, including £300,000 for the South African constabulary. The receipts of the British administration from May 24, 1900, to June 30, 1901, were £402,925; but the civil revenue was £301,800, of which £151,000 came from customs, £43,636 from the post-office, £28,000 from licenses and stamps, £11,823 from quit-rents, and £10,100 from the native poll-tax. The

total expenditure for the same period was £386,038, the expenditure for purely civil purposes £217,974.

The revenue of the Boer Government in 1898 was £799,758, including £408,578 from railroads, and the expenditure was £956,752, including £508,478 for railroads. For 1899 the revenue was estimated at £656,914, and expenditure at £948,523. The Government in 1898 had a debt of £30,000, exclusive of the debt to the Cape Government for building the railroad, while it owned £70,000 of stock in the national bank and possessed telegraphs, etc., worth £496,381. The Government lands had an area of 565,000 acres. The Boers raised sheep, horses, cattle, and ostriches and cultivated grain, although much of the land is too dry for agriculture. There are extensive coal-fields and diamond-fields which yielded £1,508,661 in 1898. The British authorities settled military colonists on farms in the conquered districts and furnished them with implements, stores, and breeding stock with the object of checking Boer influence and restocking the country with animals. Large tracts in the Ficksburg and Thaba Nchu districts were acquired with the object of dividing them among British settlers.

All merchandise imported into the country figures in the imports of the Cape Colony or Natal except cereals from Basutoland, which are consumed or reexported to the Transvaal, as also Basuto cattle and horses, and the wool from Basutoland, which appears again in the Orange River wool exports. Of £1,190,932 of imports in 1898 the value of £849,540 came from Cape Colony, £224,029 from Natal, £68,708 from Basutoland, and £48,655 from the South African Republic. Of £1,923,425 of exports £910,289 went to the South African Republic, £820,467 to Cape Colony, £147,177 to Natal, and £45,492 to Basutoland. The length of the Government railroad, traversing the country and connecting the Transvaal mines and towns with the Cape network, is 392 miles, built at a cost of £2,771,945. The telegraphs in the colony have 1,480 miles of line, with 1,700 miles of wire, besides 420 miles of line and 1,119 miles of wire on the railroad.

The Transvaal.—The South African Republic after the occupation of Pretoria by British troops was declared on Sept. 1, 1900, to be annexed to the British dominions under the name of the Transvaal Colony. Sir Alfred Milner, created Lord Milner, was appointed Governor of both the Transvaal and the Orange River Colony, being replaced as Governor and Commander-in-Chief of Cape Colony by the Governor of Natal, but retaining the office of High Commissioner for British South Africa.

The area of the Transvaal is 119,139 square miles. The imperfect census of 1896 gave the population as 245,397 whites and the colored population was estimated at 622,500. An official estimate of 1898 made the colored population 748,759, raising the total to 1,094,156. Pretoria, the capital, had about 10,000 inhabitants; Johannesburg, 102,078, of whom 50,907 were white, 42,533 Kaffirs, 4,807 Indians and Chinese, 952 Malays, and 2,879 of mixed race. The revenue of the Republican Government in 1898 was £3,983,560, and expenditure £3,971,473. For 1899 the revenue was estimated at £4,087,852, and expenditure at £3,951,239. Sir David Barbour, in a report on the finances made to the British Government, estimated the future revenue at £3,341,920, and expenditure at £2,607,121. From customs a revenue of £1,100,000 is expected to be obtained; from stamps and licenses, £480,000; from the Netherlands Railroad Company's line

to Delagoa Bay, £375,000; from prospecting and mining licenses, £200,000; from the post-office, £135,000; from taxes on natives, £110,000. The Boer Government imposed a poll-tax of £2 on all adult male natives except those living with white people as servants, also a native hut-tax of 10s. The chief expenditures as estimated by Sir D. Barbour were £528,788 for public works, £383,480 for police and prisons, £344,220 for posts and telegraphs, and £200,000 for education. The receipts under British administration, with balances left in bank by the late Government, were almost sufficient to defray the expenses of civil administration, exclusive of the Boer concentration camps and the constabulary, so that from an advance of £1,500,000 voted by the British Parliament for the Transvaal and Orange River Colonies only £250,000 were required by the Transvaal. The debt left by the South African Republic amounted to £2,660,394 on Jan. 1, 1899. The Government owns lands in the gold-fields of the Rand and the whole of the Barberton gold-fields, valued at millions of pounds sterling.

Several parts of the Transvaal are well adapted for agriculture, but not more than 50,000 acres are cultivated, and the bulk of vegetable foods must be imported. Cattle and sheep were kept on the great farms of the Boers. There were 12,245 farms in 1898, of which 2,861 belonged to the Government, 1,612 had passed into the hands of non-resident owners and companies, and 7,772 were owned by Boers. Gold was first produced in the Transvaal in 1884 in small amounts for the first years, reaching an annual production of £967,416 in 1888, and rising to £16,044,135 in 1898, after which the war interrupted regular mining operations. The entire production up to the end of that year was £69,844,643. In 1899 the mines of the Witwatersrand produced 4,069,066 ounces. From the beginning of October, 1899, to the end of March, 1900, the Republican Government operated the Rand mines, taking out 251,677 ounces in the first quarter of 1900. Then mining ceased until operations were resumed in May, 1901, by 8 companies, which in six months extracted only £624,012 worth.

New regulations framed by the British authorities are intended to protect the native laborers from fraud and oppression, and to suppress the illegal liquor traffic. Labor agents and overseers of compounds are obliged to take out licenses. The passport regulations have been made lighter for natives, and labor contracts can not be made with them unless approved by the native commissioner for a longer period than one year. There were about 13,000 whites and 77,000 natives employed in the mines of the Witwatersrand in the beginning of 1899.

Diamonds are found near Pretoria and in other parts of the Transvaal. In 1898 the value of £43,730 was produced. Copper, silver, and lead exist, and good coal is mined in the neighborhood of the gold-fields. In 1898 the output was 1,907,808 tons, valued at £668,346.

The dutiable imports in 1898 were valued at £10,632,893. In 1899 the value was £3,385,349; in the year ending June 30, 1900, until the war interrupted trade, £737,356. Under the British administration the imports for the first six months of 1901 were £1,143,192, exclusive of supplies for the army or military purposes or for the railroads or the Government. The chief articles were dry-goods, clothing, boots and shoes, preserved meats, groceries, flour, butter, condensed milk, sugar, preserved fish, whisky, mealies, woolen cloth, hats, cigarettes, cigars, and smoking tobacco.

The length of railroads completed in the Trans-

vaal in 1898 was 774 miles, and 270 miles were building and 252 miles projected. The telegraph-lines have a length of 2,200 miles, with 5,650 miles of wire.

The Rand mines were opened gradually as the military authorities allowed the refugees from Johannesburg to return. Permission was given for 450 stamps before the end of 1901, and in July 2,000 stamps were working. During the war the Boer Government operated some of the mines until their evacuation of Johannesburg, and from these and the vaults and trains the Boers obtained £2,700,000 of gold, besides which the mines sustained direct losses from the war amounting to £3,400,000. Capital did not flow readily to Johannesburg, and there was a fall in mining shares after the peace and the reopening of the mines owing to uncertainty as to the part of the war debt that the British Government meant to make the mining industry bear. The cost of living was higher than it ever had been. The railroad tariffs, customs duties, and other taxes were as high or higher. Before the war the Republican Government imposed a direct tax of 5 per cent. on the profits of mines, promising to counterbalance it by reducing railroad freights and customs duties. Lord Milner abolished duties on building materials, machinery, and other articles needed for the rapid development of the country, and American machinery, structural steel, and timber were sold in quantities auguring a recovery of enterprise. The labor difficulty affected mining more than anything else. The black laborers that formerly worked in the mines were scattered. The chiefs in the northern Transvaal furnished some. The Basutos were employed mostly in transport. The Government employed other blacks on the railroads that were being constructed to Thaba Nchu and Vereeniging. The mines obtained no considerable supply until an arrangement was made with the Portuguese authorities for natives from the coast territories. On inquiry it was found that there were not half enough blacks in all South Africa for the mines, farms, and other industries. White labor was tried in some mines, but was found too expensive.

The restoration of the burghers to their farms with their families in the concentration camps was a slow business. The Boers had many complaints to make of the way in which it was carried out. Tools, stock, material for houses, seed, and provisions were to be furnished from the fund of £3,000,000, but this was administered in a way that did them little good. Even those that had means could not get permits to return or leave to take their families from the concentration camps. Martial law was not withdrawn until Nov. 19, and it was succeeded by an indemnity and peace preservation act confirming all acts and sentences of the courts-martial, empowering the authorities to arrest and detain without a warrant persons suspected of sedition and to expel from the country persons considered dangerous to the peace, and requiring permits to be taken out by any person wishing to enter the country, which would not be granted to burghers unless they take the oath of allegiance or make the equivalent declaration. The Boer generals complained to Mr. Chamberlain that under the peace convention the oath of allegiance could not be required. The Boers of the *dykwohner* class who had no land or capital of their own, by arrangement with the landowners, received small farms on lease and were assisted by the Government with implements and farm animals. The Transvaal was nearly denuded of live stock excepting the remaining draft-oxen used in transport. Cattle

for restocking the farms were brought from Madagascar and other countries by the Government, and Boers were allowed to go to Cape Colony to buy breeding stock. Lord Milner had a plan for settling British farmers on irrigated farms of 20 acres or more and grazing farms of 2,000 or 3,000 acres. Excepting some of the discharged soldiers, no settlers were found suitable to form colonies, nor could they be started until large sums had been spent on irrigation works for the agricultural colonies. The Government possessed large tracts of land and also many town lots. The most valuable undeveloped mining lands in the country belonged to the Government. Those whose capabilities were known had been promised by the Republican Government to the miners, to be apportioned by lot. The lands next to the Rand mines under which the ledges run far below the surface were promised to the mining companies at a fixed price. Mr. Chamberlain disappointed the miners and prospectors when he intimated that the Government would not, like the Republican Government, give away such valuable assets in the future, and the opinion of the mining community was that unless prospectors were, on paying a small license fee, allowed to peg claims no one would explore new territory for gold. The Government increased the tax on mining profits from 5 per cent. to 10 per cent. Lord Milner was perplexed by the financial difficulties that beset him. He endeavored to induce the Cape and Natal governments to abolish the duties on mealies and other foodstuffs imposed for the protection of their agriculture from overseas competition and also to reduce their railroad tariffs. When they refused he intimated to the Cape Commissioner of Public Works that the military rule might be restored in Cape Colony. The freight in the Transvaal sections of the railroads is twice as high as on the Cape and Natal railroads, and he could not reduce that without a deficit in his budget. The South African freights are the main cause of the dearth of living in the Transvaal. Goods transported 1,500 miles in the United States and thence by steamer pay higher rates for the rest of the carriage to Johannesburg than the rail and ocean freights to Delagoa Bay. The estimate of revenue for the Transvaal for the year ending June 30, 1903, is £4,000,000, and of expenditure £3,700,000. Sir Arthur Lawley was appointed Lieutenant-Governor of the Transvaal under the High Commissioner and entered upon office on Sept. 1.

Swaziland.—The native territory of Swaziland, inhabited by a branch of the Zulus, was a dependency of the South African Republic. It has an area of 8,500 square miles and a population of about 65,000 natives and 1,000 whites. The latter are Boers who have obtained farms from the native chiefs and British traders. Ngwani, or Bunu, the paramount chief, died in December, 1899, and a queen regent rules the natives. When the Boer War broke out the Boer officials and almost all the other whites left the country. The revenue is about £32,000 and the expenditure has been £80,000.

Rhodesia.—Matabeleland and Mashonaland were declared to be within the British sphere of influence in 1888, and in 1889 the British South Africa Company was chartered and empowered to administer these countries and to exploit their mineral and other resources with the object of promoting trade, encouraging colonization, and extending northward the railroad and telegraph systems of Cape Colony. The sphere over which the administrative powers and commercial privileges were extended, after the agreement to

which Portugal, yielding to superior force, subscribed on June 11, 1891, embraced all the regions north of the Transvaal and Cape Colony and south of the Congo State and German East Africa, west of the territories of Mozambique and Lourenço Marques left to Portugal and east of the Portuguese colony of Angola and German Damaraland and Namaqualand. British Bechuanaland was subsequently annexed to Cape Colony, the British Central African Protectorate obtained the right to retain its separate administration, and the Bechuanaland Protectorate was placed under the immediate direction of the High Commissioner. On Nov. 25, 1898, after Dr. Jameson's raid from Matabeleland into the Transvaal, a new scheme of government was promulgated. A Resident Commissioner is appointed by the Secretary of State for the Colonies, and to assist the company's administrator there is an Executive Council, consisting of the Resident Commissioner, the administrators of the different divisions, his subordinates, and 4 members appointed for three years by the company with the approval of the Secretary of State. A Legislative Council was created, consisting of the company's administrator, who presides, the Resident Commissioner, 5 members appointed by the company and approved by the Secretary of State, and 4 members elected by the registered electors. The life of the Legislative Council is three years unless it is dissolved previously. It has power to pass ordinances which have the effect of law when approved by the Resident Commissioner, but may be vetoed at any time within a year. Financial estimates for each year are submitted to the Legislative Council by the company's administrator, and when passed must have the approval of the Resident Commissioner. Judges are nominated by the company and confirmed by the Secretary of State. Natives are on an equal political footing with whites, excepting that no arms, ammunition, or liquor may be sold to them. A secretary for native affairs looks after their interests under the direction of the Resident Commissioner, who has entire control over the military police. If the company takes possession of mineral lands within the native reservations, other lands must be given in exchange. The Resident Commissioner in 1902 was Lieut.-Col. Sir Marshal J. Clarke. The administrator of Southern Rhodesia was W. H. Milton; administrator of Northeastern Rhodesia, Robert E. Codrington; administrator of Northwestern Rhodesia, R. T. Coryndon. The capital of the British South Africa Company, originally £1,000,000, has been successively increased to £4,375,000 of stock and £1,250,000 of debentures. The revenue, derived from mining, trading, and professional licenses, business stands, and the postal and telegraph services, amounted to £469,000, and expenditures, including supplementary estimates, to £758,582. The regions covered by the charter of the British South Africa Company have a total area of over 1,000,000 square miles, of which 300,000 lie south and 700,000 north of the Zambezi river. The division bounded by 22° of south latitude and the Limpopo on the south and the Zambezi on the north, known as Southern Rhodesia, embracing Matabeleland and Mashonaland, has an area of 144,000 square miles. The population of Matabeleland in May, 1901, comprised 4,021 Europeans, 187 Asiatics, and 328,729 natives. The population of Mashonaland comprised 7,011 Europeans, 906 Asiatics, and 162,211 natives. At the end of 1901 there were over 300 companies or syndicates formed for the purpose of mining in Rhodesia, mostly for the development and ex-

exploitation of the gold-fields of Mashonaland and Matabeleland, which have an extent of 5,250 square miles. The quantity of gold extracted up to that time was 337,056 ounces. A company has the concession of the coal-fields of Wankies, which have an area of 600 square miles. Silver, copper, zinc, lead, antimony, and arsenic have been found.

The Rhodesian Railroad, which joins the Cape system at Vryburg and runs through Bechuanaland and Matabeleland to Buluwayo, has been taken over by the Cape Government. It will be extended by the company to the Wankie coal-mines, and thence to the Victoria Falls of the Zambesi and northward to Lake Tanganyika. A branch will run southward to Gwanda, and thence to Tuli. A railroad built by the Mashonaland Railway Company from Beira across Portuguese country to Umtali has been completed to Salisbury, and a line is being built from that town, which is the seat of the administration, through Hartley and Gwelo to Buluwayo. A railroad 75 miles long connects the mines of Lomagundi with Salisbury.

The post-office in 1901 carried 661,444 South African letters and postal cards and 279,921 for places beyond the seas; number of newspapers, books, and parcels, 228,783; registered packets, 31,889. The postal revenue was £16,730; expenditure, £27,237.

The length of telegraphs in Rhodesia on April 1, 1901, was 3,554 miles, with 5,215 miles of wire. Of the African transcontinental line, which has reached Blantyre in British Central Africa and been carried to Tanganyika and along its shore through German territory to Ujiji, and is being extended to the Nile north, was 1,308 miles. There were 185,408 telegrams received and 211,267 despatched in 1901; receipts, £34,653; expenses, £27,321; receipts from telephones, £4,230.

The undeveloped region north of the Zambesi is divided into Northwestern Rhodesia, embracing the native kingdom of Barotseland, and Northeastern Rhodesia. Northeastern Rhodesia, comprising the region lying between the lakes Tanganyika, Nyasa, Mweru, and Bangweolo has an area of about 120,000 square miles and a population exceeding 300,000. There were 165 British residents in 1901. It is divided into the districts of Tanganyika, Mweru, Awemba, Luapala, Kafue, Zumbo, and East, West, and North Loangwa. The seat of administration is Fort Jameson, on the Tanganyika plateau. The forces of the British Central Africa Protectorate preserve order. Settlers have begun to plant coffee and to utilize the abundant fiber-plants which grow wild. Rubber and ivory are the chief exports at present. Coal and gold have been discovered.

In Barotseland the seat of the administration is at Victoria Falls. There are 6 stations altogether. Col. Colin Harding has organized a native police force. The slave-trade has been suppressed and the traffic in liquor is regulated, with the concurrence of Lewanika, the Barotse king, whose kraal is at Lealui.

Central Africa Protectorate.—The British Central Africa Protectorate, constituted on May 14, 1891, is administered by a Royal Commissioner under instructions from the Secretary of State for Foreign Affairs. The area is 42,217 square miles, south and east of Lake Nyasa. The population is about 900,000. There were 450 Europeans and 250 East Indians in 1901. Europeans cultivate coffee in the Blantyre province, exporting 1,100 tons in 1899. Rice is grown with success, and wheat has been introduced. Horses thrive in the highlands. The revenue collected in 1900

was £47,077, and expenditure £96,366, the deficiency being supplied by a grant from the Imperial Government. In 1901 the local revenue was £49,215, and expenditure £78,366. The military force maintained to preserve order and combat the slave-trade consists of 215 Sikhs and one of the battalions of the native Central Africa regiment, the other battalion of which has served in Mauritius and Somaliland and in active operations on the west coast of Africa. There is also a police force of 200 men. The Gwendolen, of 350 tons, and two other gunboats are maintained on the upper Shire and Lake Nyasa, and British gunboats by arrangement with the Portuguese Government patrol the lower Shire and the Zambesi. At Chinde, the port at the mouth of the Zambesi, merchandise is transhipped to and from river steamers free of duty in the British concession. A railroad is being constructed from Chirromo to Blantyre. The imports, consisting of cottons, machinery, provisions, hardware, and agricultural implements, rose steadily from £78,655 in 1897 to £176,000 in 1900; the exports, consisting of ivory, coffee, and rubber, from £23,299 to £79,000. Coffee, owing to a decline in price and failure of transport, fell off in the latter year, and still more in 1901, when the total value of imports was £146,063 and of exports £38,722. The transit trade was £31,300 in 1900 and £51,333 in 1901.

Portuguese Possessions.—The Mozambique and Loanda territories, now separated by British Central Africa and Rhodesia, are nearly all that remains of the former colonial empire of Portugal. Portuguese East Africa, divided into the districts of Mozambique, Zambesi, and Lourenço Marques, the last including the Inhambane and Gaza territories, has a total area of 301,000 square miles, with about 3,120,000 inhabitants. The chartered Nyasa Company has a commercial monopoly and administrative authority over the northern part lying between the Rovuma and Lurio rivers and Lake Nyasa. The Mozambique Company has sovereign rights till 1941 over Manica and Sofala. The Zambesi Company conducts agricultural and mining enterprises and trading operations on the Zambesi river. The Inhambane Company failed to utilize its privileges in the district conceded to it and forfeited its charter. The Portuguese Government keeps up a military force of 3,904 men, of whom 2,468 are natives, reducing it to 2,250 when there are no disturbances. The local revenue in 1902 was estimated at 2,837,545 milreis, which the metropolitan Government has to supplement to provide for a total expenditure of 3,050,301 milreis. The imports of the territories under Government administration were 5,829,880 milreis in value, and exports 5,836,404 milreis; imports of the Mozambique Company were 4,737,723 milreis, and exports 270,601 milreis; imports of the Nyasa Company were 469,396 milreis, and exports 320,060 milreis; total imports, 11,036,999 milreis; total exports, 6,427,065 milreis; transit trade, 6,263,867 milreis. The port of Mozambique had in 1900 a population of 285 Europeans, 226 Asiatics, and 5,000 natives; Chinde, 218 Europeans and 1,300 natives; Beira, 1,438 Europeans and 2,000 natives; Inhambane, 100 Europeans, 250 Asiatics, and 3,000 natives; Lourenço Marques, 5,130 Europeans and 1,500 natives. The imports at Lourenço Marques in 1898 were £751,931; exports, £16,800; transit trade, £1,770,082; tonnage entered, 1,032,543. At Beira in 1900 the imports were £1,075,161; exports, £60,133; transit trade, £926,402; tonnage entered, 726,725. At Quilimane imports were £117,987, and exports £73,587; tonnage entered,

102,959. At Inhambane imports were £50,337; exports, £30,565; transit trade, £137,955; tonnage entered, 41,000. At Chinde the transit trade amounted to £69,419. At Mozambique the imports were £90,351; exports, £62,434; tonnage entered, 266,239. The imports into the Portuguese colony consist of cotton goods, hardware, and liquors. The exports are rubber, ores, ivory, and wax. The gold-fields in Manicaland have been prospected by British and other miners, and their claims are awaiting transport facilities before they can be developed. There were 23 steamboats, of 742 tons, and 106 barges, of 3,320 tons, plying on the Zambesi and Shire rivers in 1900. The Delagoa Bay Railroad has a length of 57 miles in Portuguese territory to the Transvaal border, and from there to Pretoria, 290 miles. The Beira Railroad runs for 222 miles in Portuguese territory and is continued to Salisbury. The telegraph-lines in the colony have a length of 1,850 miles, connecting with those of the Transvaal and Rhodesia. Brig-Gen. Raphael Gorjão was Governor-General of Portuguese East Africa in 1902.

The colony of Angola has an area of 484,800 square miles and a population estimated at 4,119,000. It is divided into the districts of Congo, Loanda, Benguela, Mossamedes, and Lunda. The military force is 4,731 men, of whom 3,602 are natives, reduced in time of peace to a total of 2,721 men. The revenue for 1902 was estimated at 1,844,075 milreis, and expenditure at 1,994,072 milreis. The Governor-General was Dr. F. X. Cabral d'Olivierá Moncada. Portuguese and Belgian companies have commercial, mining, and industrial privileges. Copper, iron, petroleum, salt, and gold exist. The chief exports are rubber, coffee, wax, vegetable oils, ivory, cattle, and dried fish. The coconut-palm flourishes. Sugar-cane is raised for the distillation of rum. The total value of imports in 1900 was 7,267,239 milreis, and of exports 5,369,818 milreis. The export of rubber was 1,995,934 kilograms. The number of merchant vessels that called at the ports of Ambriz, Loanda, Benguela, and Mossamedes in 1900 was 348, of 505,146 tons. There are 244 miles of railroad and 1,170 miles of telegraph-lines.

German Southwest Africa.—The German Southwest Africa Protectorate has an area estimated at 322,450 square miles, with a population of about 200,000 Hottentots, Bushmen, Damaras, and Bantus. The number of Europeans on Jan. 1, 1901, was 3,388, of whom 2,104 were Germans, including 761 soldiers, besides whom a native force has been organized and trained. The Governor in 1902 was Col. Leutwein. A German company has commercial and mining privileges in the coast districts of Namaqualand and Damaraland, and in the north an Anglo-German company has obtained concessions. Refugee Boers have settled on grazing lands in the northeast. The German Government offers to advance 4,000 marks without interest to establish German settlers on the land. The Damaras have great herds of cattle and flocks of sheep and goats. Johannesburg capitalists have undertaken to develop copper, graphite, and asbestos deposits. The imports consist of provisions, iron manufactures, and textiles, and in 1899 amounted to 8,941,000 marks; the exports, consisting of live animals, guano, wax, feathers, etc., amounted to 1,399,478 marks. The expenditure for 1903 is estimated at 9,458,900 marks, to which the Imperial Government contributes 7,634,900 marks.

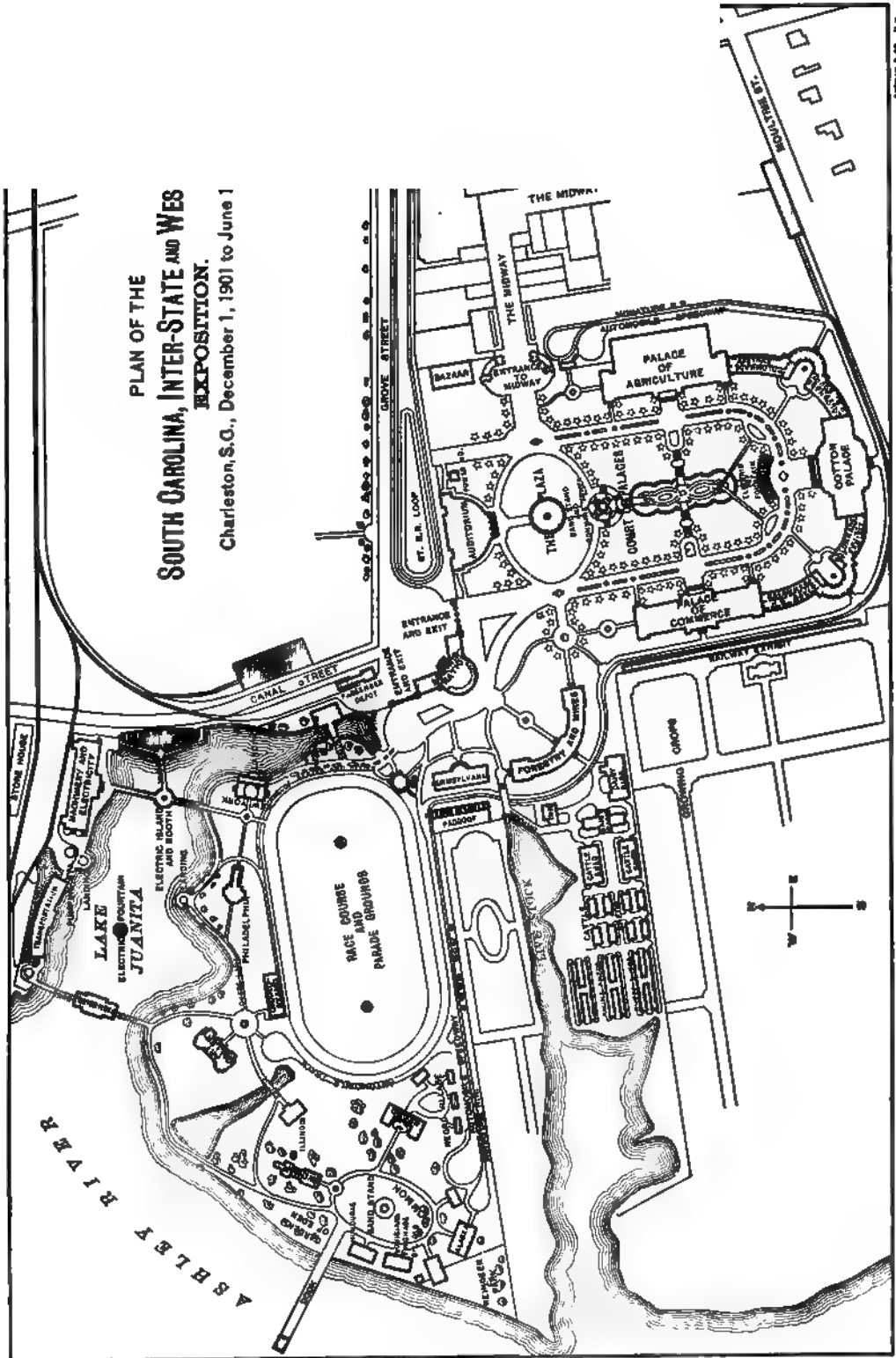
SOUTH CAROLINA. (See under UNITED STATES.)

SOUTH CAROLINA INTERSTATE AND WEST INDIAN EXPOSITION. This was held in Charleston, S. C., from Dec. 1, 1901, to June 1, 1902. It had for its special objects the establishment of new industries and commerce in the South; the opening up of new foreign markets, particularly in the West Indies; the development of American culture of silk and tea; the promotion of Southern manufactures of cotton and iron; the establishing of new steamer lines from Charleston, the central seaport of the great Southeast; and the presentation to the world of the resources and attractions of the territory along the Southern seaboard.

Organization.—A resolution approving the project of holding such an exposition in Charleston was passed by the General Assembly of South Carolina in January, 1900, and a year later an act appropriating \$50,000 for the purpose of erecting a State building on the exposition grounds and making a complete display of the products and resources of the State was unanimously adopted. Soon afterward the Governor of the State appointed a special commission of five members to direct the State exhibit. Meanwhile, the City Council of Charleston appropriated \$50,000 in aid of the exposition. A company was organized, with a capital stock of \$250,000, of which the officers were as follow: President, F. W. Wagener; vice-president, W. H. Welch; treasurer, Samuel H. Wilson; director-general, John H. Averill; assistant director-general, Algar M. Wheeler; general counsel, John F. Ficken; general auditor, P. J. Balaguer; manager of publicity and promotion, J. C. Hemphill; manager of exhibits and concessions, E. L. Tessier, Jr.; manager of law and legislation, John F. Ficken; manager of admissions and collections, H. J. Fleming; manager of negro department, Booker T. Washington; manager of live-stock department, George F. Weston; president of woman's department, Mrs. Sarah Calhoun Simonds.

Location.—A tract of 250 acres about two miles from the business center of Charleston was chosen as the site of the exposition. It included the old Washington race-course and an old plantation settled in colonial days, which had become the property of the president of the Exposition Company. The slightly rolling country lent itself readily to varied and artistic effects, and the live-oaks with their pendants of Spanish moss formed a feature that was specially attractive. The groves and green slopes of the Wagener farm provided a permanent background for the architect and landscape gardener to work upon. The grounds were easily accessible from the city by the electric railway system, and on the west side by means of Ashley river, to which the grounds extended.

Buildings.—Owing to the happy shape of the irregular tract constituting the site, it was possible to divide the grounds into a Natural Section and an Art Section, with the Administration Building marking the separation of the two. In the Natural Section were the Art Palace, the Transportation and Machinery Building, the Woman's Building, and the Negro Building, all shaded by century-old live-oaks, besides the Avenue of States and Cities, including the State buildings from New York, Pennsylvania, Maryland, Illinois, Missouri, and city buildings from Philadelphia and Cincinnati, and also Lake Juanita, covering 30 acres, over which extended the main bridge with its electrical booth and fountain. To the west were the breakwater and the building devoted to the fisheries exhibit made by the Government. To the east and south of the Adminis-



PLAN OF THE
SOUTH CAROLINA, INTER-STATE AND WEST
EXPOSITION.
Charleston, S.C., December 1, 1901 to June 1

Adams & Co., N.Y.

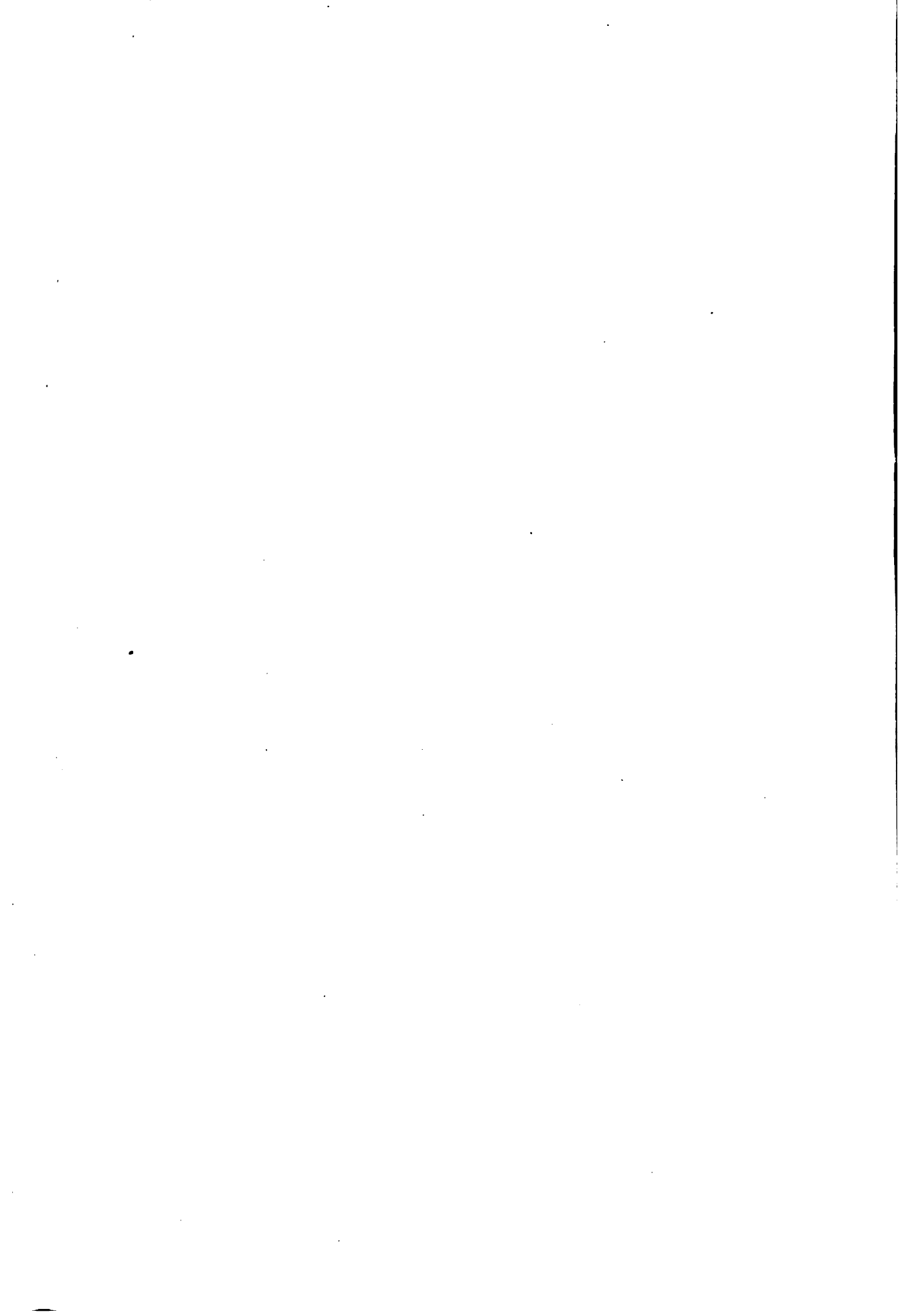


THE MUSIC-STAND.



A SECTION OF THE NORTH CAROLINA BUILDING.





tration Building was the Art Section, in which were the main buildings. These were designed by Bradford L. Gilbert, who was architect in chief of the exposition, and were constructed of strong timber framework, with such iron as was needed for stiffness and additional strength, and the entire exposed surfaces were covered with stucco, the predominating color of which was a soft ivory, with white trimmings, and in some instances a color enrichment in shades of red and orange. The color tint used led to the designation of the grounds and building as the "Ivory City." The most imposing building on the grounds was the Cotton Palace, which had a facade 350 feet long and a dome rising to a height of 160 feet, while the floor space was 50,000 square feet. It was connected on either side with the Palace of Commerce and the Palace of Agriculture, two splendid buildings of lesser dimensions but similar architecture, by means of curved colonnades, broken by four exedrae of artistic design on either side. These colonnades and exedrae contained most of the Government exhibits. The three buildings, with colonnades, formed the Court of Palaces, and from an architectural standpoint was the most striking feature of the exposition. The projections and domes, red-tiled roofs and turrets, were in a typically Southern style of architecture. The motif was Spanish-American, with huge masses, simple and strong contour and outlines, with enrichments of terraces and sculpture at various entrances and initial points. In front of the Palace was a court, or *patio*, filled with tropical plants and enriched by fountains, and included the Sunken Garden with its lake. The Administration Building stood at the entrance of the grounds and covered about 15,000 square feet. It was composed of a central tower and two flanking wings placed at nearly right angles, at the extreme end of which were pylons, connected with the main building by a covered way. These covered ways formed the entrances and exits to and from the grounds. The entire length of the building and entrances was more than 400 feet. The central dome and rotunda was 75 feet in diameter, and extended about 40 feet above the roof, to a height of about 75 feet above the ground. The striking feature of this building was a great round balcony, which projected boldly into the grounds. Opposite was the building devoted to Mines and Forestry, which was circular, and was designed after one of the old palaces of Spain. It was one story high, with windows high above the ground, deeply recessed, giving restful, shadowy effects to the general design. In this building were shown the products of the mine and forest, both in the natural and the manufactured state. To the left of the Administration Building, and at the northern end was the Auditorium, capable of seating about 4,000 persons. The outside of the building toward the Court was circular, and the decorations were symbolical of the uses for which the building was designed. The acoustics received considerable attention, and one of the largest organs ever constructed was built for this exposition.

In the Natural Section, to the west of the Administration Building, and on the north side of Lake Juanita, was the Transportation Building, a long, low structure, with a deep roof covered with Spanish tiles, having many arches and columns. The design was massive, though simple, and the entire ornamentation of the building was massed on the gable above and on either side of the entrance, which showed the graceful curves of the Spanish Renaissance style of architecture. Still westward was the Machinery Building, also

on the north side of Lake Juanita. It was likewise long and low, with a *loggia* consisting of many arches and columns, simple yet massive in outline, most of the ornamentation being confined to a central porch, which formed the entrance, and above it a gable presented the picturesque curves of the Spanish Renaissance type. On the south side of the lake, and west of the Administration Building, was the Art Palace, of purely classical design and entirely of brick. It was 140 feet long and 50 feet wide, and the height of the interior walls was 30 feet. A very large skylight, 24 feet wide, extended the entire length of the building, giving ample light to display the art works. Four groups in the Dewey Arch, originally erected in New York city—War, Peace, The Army, and The Navy—adorned the exterior on the east and west. The Negro Building, after architectural features of the Spanish Renaissance order, of a strongly Mexican mission type, was in the western part of the grounds. The building resembled the letter H in general outline, with two wings enclosing an outer court, and contained 12,000 square feet of flooring. The Woman's Building was a good specimen of colonial architecture, and was once the home of William Lowndes, the statesman of South Carolina, and the headquarters of Sir Henry Clinton in the war of the Revolution. It was at the extreme west of the grounds on Ashley river. It was built of

THE AUDITORIUM.

black cypress and cedar, with fine wainscoting and panel walls, and the high mantels and stucco walls of the period. It was of special interest, owing to the large historical collections that were shown in it by the Society of the Colonial Dames.

In the Natural Section were the State buildings, the first of which, after passing the Administration Building, was that erected by Pennsylvania. In general outline it resembled the Administration Building, having the same projecting balcony, and being also in the Spanish Renaissance style of architecture. It was larger, however, being 150 feet long by 80 feet wide, with a half-circular court and piazza 12 feet wide. There were four square towers, on which the staff detail was very elaborate, and the coat of arms of Pennsylvania was above the entrance. It cost \$35,000. The Maryland Building, on the shore of Lake Juanita, was of pure colonial design, with wide piazza, tall columns, and an ample hall. The color effects of the main *loggia* were very rich and fine, and the interior complete down to the smallest detail. It cost \$25,000. The New York Building was of the Spanish Renaissance type, built about a *patio* or open court filled with tropical plants. The corners and main pediments of the building were en-

riched by beautiful columns and cloisters about 30 feet in height, supporting wide overhanging roofs covered with Spanish tile. A wide piazza at the back overhung Lake Juanita, and was shaded by the large live-oaks. Its cost was \$15,000. The Illinois Building was in the colonial style, with a wide and many-columned piazza and moss-green shingled roof. It was in the western part of the grounds, and cost \$25,000. Among the city buildings was that erected by Philadelphia, with a square Independence Hall tower, round dome, and rostral columns, in which was preserved the Liberty Bell, lent to Charleston during the exposition. Cincinnati had a modest building of one story, with a two-story tower, which was surrounded on three sides by an arcaded veranda and covered by a roof of deep-red tile. It contained numerous attractive exhibits, lent by the manufacturers of Cincinnati. Among the minor larger buildings were the buildings devoted to the interests of Cuba, Porto Rico, and Guatemala.

Statuary.—The buildings and grounds of the Charleston Exposition were generously adorned with mural decorations and statuary. The former were in the form of panels, among which were those that decorated the interior of the Auditorium, and were also in the form of gargoyles, such as the striking heads seen above the doors of the Cotton Palace and the Palaces of Commerce and Agriculture. The statuary was placed at conspicuous sites in the grounds, and included six original groups, as follow: The Aztec, by Louis A. Gudebrod; The Indian, by Carl Tefft; The Negro, by Charles A. Lopez; The Colonial, by Oscar Lenz; and The Huguenot, by Miss Elsie Ward, which were in the Court of Palaces; and Mother and Child, also by Miss Elsie Ward, which stood before the Woman's Building. A low balustrade of shells and dolphins around the Sunken Garden, as well as the baby mermaid and dolphins, and the admirable New South just beyond the bandstand on the plaza, were also original groups. Besides these, there were numerous reproductions from the antique and from modern studies. Among them was a reproduction of Macmonnies's Pan, which formed the fountain above the Sunken Garden, and French's Washington on Horseback (which was at the Paris Exposition), which stood on the great plaza in front of the Auditorium. In a little grove near the Woman's Building was the Betrothal, by Amendolz, and on the Art Building the four groups War, Peace, The Army, and The Navy, from the Dewey Arch in New York.

Amusement Features.—These were in the southeastern portion of the grounds, which were designated by the now conventional title of Midway, and included an Eskimo Village, Fair Japan, and Streets of Cairo, as ethnological features. The Cuban-American Theater, Cyclorama of Manassas, Wild West and Mexican Bull-Fight, and Wild-Animal Arena, which were theatrical, while the Moorish Palace and Crystal Palace, Night and Morning, and Palace of Light, were spectacular. In addition to these were the Old Mill, Temple of Fortune, Beautiful Jim Key, and the Ostrich Farm.

Opening Exercises.—Owing to the fact that Dec. 1 fell on Sunday, it was deemed advisable to postpone the opening of the exposition until Dec. 2, although on Dec. 1 exercises appropriate to the day were held, beginning with an invocation by Bishop Capers, of South Carolina, and followed by the singing of a dedication ode by George H. Sasse, of Charleston, set to music by Theodore Saul, and accompanied by the First Artillery Band. Then came addresses by various clergymen, and the benediction was pronounced by Mgr. Quig-

ley. The formal opening began with an imposing parade of military and civic bodies, which escorted the guests to the exposition grounds, after reviewing which the guests assembled in the Auditorium, where the ceremonies began, consisting of an invocation by Rev. Charles S. Vedder and addresses of welcome by F. W. Wagener, president of the Exposition Company, and M. B. McSweeney, Governor of the State. The orator of the occasion was Chauncey M. Depew, who was introduced by Mayor J. A. Smith, and, after reviewing the condition of the Southern States in 1866, said that in improving it the unconquerable and invincible grit and pluck of the American were never more splendidly illustrated, after which he discussed the present conditions in the South, and said that capital and enterprise are rapidly converting the vast pine forests of the South into settlements of thrift, productiveness, and happiness. At the conclusion of the oration, President Wagener, by means of a wire connected with the White House in Washington, sent cordial greetings to the President of the United States, and informed him that the building of the exposition at Charleston had been completed. President Roosevelt responded with "heartly congratulations upon what had been achieved, and my earnest wishes for the complete success of your undertaking. I hope it may prove of great and lasting benefit to our industries and to our commerce with the West Indies." The exposition was then formally declared to be open by the presiding officer.

Exhibits.—The exhibits were classified under 22 divisions, as follow: *Agriculture*.—1. Agricultural and dairy products; 2. Agricultural implements and machinery; 3. Live stock; 4. Foods and their accessories; 5. Horticulture (pomology, floriculture, viticulture). *Forestry, Fisheries, and Mines*.—6. Forestry and forest products; 7. Fish and fisheries; 8. Mines and metallurgy. *Machinery and Electricity*.—9. Machinery; 10. Electricity and electrical appliances. *Transportation Exhibits*.—11. *Good Roads, and Ordnance*.—12. Transportation exhibits and good roads exhibit (railways, vessels, vehicles, good roads exhibit, road-making machinery); 13. Ordnance and munitions of war. *Manufactures and Graphic Arts*.—14. Manufactures; 15. Graphic arts (topography, lithography, steel and copperplate printing, photo-mechanical processes, drawing, engraving, bookbinding). *Liberal Arts, Ethnology, and Archeology*.—16. Liberal arts and education (education, engineering, public works, sanitation, constructive architecture, social economy, music and the drama); 17. Ethnology and archeology. *Collective Exhibits*.—18. State collective exhibits; 19. County collective exhibits; 20. City collective exhibits; 21. Cuba and Porto Rico, and other islands of the West Indies; 22. Philippines and Hawaii; 23. Foreign exhibits. These divisions were again subdivided into groups, of which there were 135, and the groups into classes, of which there were 576. A Jury of Awards was called to the exposition on April 7 to examine the exhibits, and they made awards of diplomas of the grades of gold medal, silver medal, bronze medal, and honorable mention. Selim H. Peabody was chairman of awards.

Closing Exercises.—These occurred on Saturday, May 31, which was appropriately designated as Charleston Day. Business was suspended during the afternoon, and a program was arranged, consisting of a tournament, which was held on the race-track, and prizes were given for the best exhibitions of horsemanship. Later in the afternoon exercises were held in the Auditorium under the direction of Theodore Melchers, chairman of

THE ADMINISTRATION BUILDING.

THE COTTON PALACE AND THE SUNKEN GARDEN.

the Executive Committee. These began with a prayer by the Rev. Charles S. Vedder. Then came addresses by J. Adger Smyth, Mayor of Charleston; F. W. Wagener, president of the exposition; Capt. S. G. Butler, of the United States Marines; Henry E. Dosch, commissioner from Oregon; John F. Ficken, counsel of the exposition; and others; after which resolutions presenting the thanks of the people of Charleston and the State of South Carolina to the exposition officials were offered by Wilson G. Harvey. A military parade,

vernities, learned societies, and the most highly assessed taxpayers. Princes of the royal family, grandees of Spain having 60,000 pesetas of income, captains-general of the army, admirals of the fleet, archbishops, and Supreme Court judges are members by right of birth or of office. There are 80 of these and 100 appointed for life, and the rest are elected for ten years or the duration of the Cortes. Members of the Congress are elected for five years by universal adult male suffrage. The reigning King is Alfonso XIII, born May 17, 1886, son of Alfonso XII and Archduchess Maria Christina of Austria, who was Queen Regent from the King's birth until he came of age on May 17, 1902. The Cabinet constituted on March 6, 1901, was composed as follows: President of the Council, P. M. Sagasta; Minister of Foreign Affairs, the Duke of Almodovar; Minister of Justice and Worship, the Marquis Teverga; Minister of War, Gen. A. Weyler; Minister of Marine, the Duke of Veragua; Minister of Finance, Señor Urzaiz; Minister of the Interior, Señor Gonzalez; Minister of Public Instruction, Count Romanones; Minister of Agriculture, Industry, Commerce, and Public Works, M. Villanueva.

THE MANUFACTURES BUILDING.

terminating in a sham battle, fought on the race-course, brought the exercises to an end. The buildings were closed at dusk, but the Midway continued open until midnight, when taps were sounded, a salute was fired, and the lights were turned out.

Results.—At its close it was conceded that considerable good had been accomplished by holding an exposition in Charleston, but the number of exhibitors was comparatively small, and the attendance light. It was estimated that at least a million persons would visit the exposition, but at its close the returns showed that fewer than half that number had attended. This was due largely to the fact that the white population of Charleston is comparatively small, and of that number many could not afford to visit the exposition as frequently as was expected. It naturally followed, therefore, that there was a deficit at the close of the exposition, which was estimated to be about 30 per cent., and in consequence the Exposition Company went into the hands of a receiver. Subsequently, a bill was introduced into Congress asking for an appropriation of \$160,000 to make good the deficit, and a bill affording relief became a law. At the close of the exposition the City Council adopted a report recommending the purchase of 70 acres of the exposition site, agreeing to pay \$32,500 for it, largely in response to a sentiment that a lasting memorial of the exposition should be had as a suburban park.

Literature.—During the life of the exposition a monthly periodical, entitled *The Exposition*, was regularly issued, and illustrated articles, with the titles of the Ivory City, by T. Cuyler Smith, appeared in *Frank Leslie's Popular Monthly* for March, 1902, and *A Great Southern Exposition*, by James B. Townsend, appeared in the *Cosmopolitan* for the same month. The illustrations in this article were furnished by Edward Block.

SOUTH DAKOTA. (See under UNITED STATES.)

SPAIN, a kingdom in southwestern Europe. The legislative power is vested in the Cortes, consisting of a Senate of 360 members and a Congress of 401 members. Of the Senators half are hereditary, official, and life members, and half are elected by provincial and communal assemblies, uni-

Area and Population.—The area of the kingdom is 197,670 square miles, including ports on the coast of Morocco having an area of 13 square miles and 11,003 inhabitants. The total population of the kingdom at the census of 1897 was 18,089,500, consisting of 8,773,730 males and 9,315,770 females. The non-Spanish elements are about 440,000 speaking the Basque language in the Pyrenees, 60,000 Moors in the south, 50,000 gipsies and a comparatively small number of Jews. The legal population in 1897 was 18,226,040. The population of the chief towns was as follows: Madrid, 512,150; Barcelona, 509,589; Valencia, 204,768; Sevilla, 146,205; Malaga, 125,579; Murcia, 108,408. The number of marriages in 1900 was 161,201; of births, 627,848; of deaths, 536,716; excess of births, 91,132. The number of emigrants in 1900 was 63,020, against 53,862 in 1899.

Finances.—The ordinary revenue for 1900 was 994,818,665 pesetas, and the ordinary expenditure 906,063,503 pesetas. For 1901 the provisional returns are 957,243,491 pesetas for revenue and 930,854,193 pesetas for expenditure. In the estimates for 1902 the revenue is placed at 974,437,749 pesetas, of which 413,470,377 pesetas come from direct taxes on land, trade, mines, incomes from personal property, deeds, mortgages, bonds, Government salaries, etc.; 339,590,000 pesetas come from indirect taxes; 162,820,000 pesetas come from the tobacco monopoly, the lottery, the mint, etc.; 21,025,368 pesetas are revenues from, and 8,350,000 pesetas come from sales of national property; and 29,182,014 pesetas come from the public treasury. The estimates of expenditure for 1902 amount to 971,176,259 pesetas, of which 9,406,849 pesetas are for the civil list, 1,838,086 pesetas for the Cortes, 413,811,806 pesetas for the public-debt charges, 1,456,190 pesetas for courts of law, 71,780,500 pesetas for pensions, 986,883 pesetas for the Council of Ministers, 5,334,662 pesetas for the Ministry of Foreign Affairs, 64,202,655 pesetas for the Ministry of Justice and Worship, 154,506,716 pesetas for the Ministry of War, 35,941,702 pesetas for the Ministry of Marine, 52,578,158 pesetas for the Ministry of the Interior, 43,360,160 pesetas for the Ministry of Education and Fine Arts, 74,375,820 pesetas for the Ministry of Public Works, Agriculture, and Commerce, 19,337,253 pesetas for the Ministry of Finance, 30,259,820 pesetas for collection of taxes, and 2,000,000 pesetas for colonial charges.

The public debt on June 30, 1901, amounted to

9,651,503,304 pesetas, requiring 399,005,177 pesetas for the payment of the annual interest. The state debt consisted of 1,029,296,700 pesetas of external and 7,594,251,135 pesetas of internal debt, on which the interest charges were 41,201,685 pesetas and 321,535,806 pesetas respectively; a treasury debt of 1,027,955,469 pesetas, on which the interest is 25,276,786 pesetas; and various obligations of the treasury of amount not stated bearing 10,990,900 pesetas interest. Included in the state debt are debts of the colonies devolved upon Spain, amounting to 1,175,258,000 pesetas.

The Army.—The military forces consist of a permanent army, an active reserve, and a sedentary reserve. Any Spaniard at the age of twenty may be drawn to serve three years in the permanent army unless he buys exemption by the payment of 1,500 pesetas. The army is organized in 8 corps, of which 2 have 3 divisions, 3 have 2 divisions, and 3 have 1 division. There are, moreover, 3 divisions of infantry in the Balearic Islands, the Canary Islands, and Ceuta, and 1 brigade at Melilla. The peace strength of the regular army in 1900 was 50,273 infantry, 13,498 cavalry, 13,571 artillery, 4,536 engineers, 4,879 administrative troops, 436 royal guards, 15,261 civil guards, and 15,320 carabinieri; total, 117,774 men. The war strength was 132,000 infantry, 17,156 cavalry, 12,166 artillery, 11,027 engineers, and 11,623 administrative troops, etc.; total, 183,972 men. The annual contingent of recruits is about 80,000. The number of depot battalions is being increased, and each reserve battalion is located in a particular district, where active troops and reserves are associated in regimental organization. By this method it is expected that the total fighting strength of the nation can be raised to 1,083,595 men. The troops are armed with Mausers of the model of 1893, having a caliber of 7 millimeters. There are 16,600 horses and 272 guns.

The Navy.—The Spanish navy after the American war had only a single battle-ship left, the Pelayo, of 9,900 tons, with a speed of 16 knots, having 18 inches of armor at the water-line and 19 inches on the barbette turrets, in which are 4 9.4-inch Canet guns, and besides these there are 9 5.5-inch quick-firers and smaller guns. The first-class cruisers Cataluña, Cardenal Cisneros, and Princesa de Asturias, of 7,000 tons and 13,000 horse-power, giving a 20-knot speed, though begun before the war are not yet ready for sea. The Emperador Carlos V, of 9,235 tons, can make 20 knots with engines of 15,000 horse-power and carries a strong armament, consisting of 2 11-inch guns and 10 5.5-inch, 4 4.7-inch, and 2 3-inch quick-firers.

Commerce and Production.—The yield of cereals in 1900 was 2,740,700 metric tons of wheat on 3,568,700 hectares, 1,234,800 tons of barley on 1,389,000 hectares, 553,200 tons of rye on 731,000 hectares, 238,500 tons of oats on 379,200 hectares, and 660,800 tons of corn on 475,800 hectares. Of rice 195,600 tons were grown on 33,750 hectares. Vineyards covering 1,997,046 hectares yielded 28,089,000 hectoliters of wine in 1898 and 1,092,238 hectares of olive-groves produced 2,829,111 hectoliters of fruit. Oranges and hazelnuts are exported, as well as various preparations of fruits. Minor crops are esparto, flax, hemp, and beans. There were 2,046 mines in operation in 1900, producing 8,675,749 tons of iron ore, 2,514,545 tons of bituminous coal, 68,427 tons of anthracite, 91,133 tons of lignite, 2,747,714 tons of copper ore, 131,437 tons of lead ore, 182,016 tons of silver-lead ore, 30,214 tons of quicksilver ore, 86,158 tons of zinc ore, 112,897 tons of manganese ore, 742 tons of silver ore, 64,364 tons of sulfur ore, and 450,

041 tons of salt, the whole valued at 189,137,559 pesetas. The metallic and other products of reduction were valued at 216,446,780 pesetas, including 91,126 tons of pig-iron, 54,307 tons of wrought iron, 144,355 tons of steel, 29,652 tons of copper, 98,189 tons of lead, 74,341 tons of silver lead, 1,095 tons of quicksilver, 2,855 tons of block zinc, 2,756 tons of rolled zinc, and 99,901 kilograms of silver.

The total value of imports in 1899 was 954,156,701 pesetas, and of exports 768,207,934 pesetas. The values of the imports from and exports to different countries in 1899 are given, in pesetas, in the following table:

COUNTRIES.	Imports.	Exports.
Great Britain.....	240,687,682	279,340,901
France.....	144,564,896	213,686,360
United States.....	119,558,539	18,195,777
Cuba.....	21,876,477	73,778,216
Germany.....	64,543,780	25,496,218
Belgium.....	35,349,215	28,913,108
Portugal.....	26,594,170	29,627,197
Russia.....	46,043,435	1,867,944
Italy.....	23,200,446	15,594,073
Argentine Republic.....	24,843,715	13,049,623
Philippine Islands.....	21,181,968	11,658,146
Sweden and Norway.....	21,091,476	2,702,859
Porto Rico.....	9,751,437	13,042,623
Spanish colonies.....	4,544,864	10,919,358
Uruguay.....	2,226,393	5,910,586
Brazil.....	1,060,348	2,009,233

The cotton-mills had 2,614,500 spindles, the woolen-mills 662,000 spindles. The production of raw silk in 1901 was 700,000 kilograms. The output of sugar was 49,027 tons from beets and 29,654 tons from cane in 1900 and in 1901 a total production of 115,000 tons was estimated. The production of the sardine canneries is valued at 15,000,000 pesetas a year.

The value of imports, including specie, in 1900 was 862,396,600 pesetas; of exports, 723,867,883 pesetas.

Dependencies.—The colonial possessions of Spain since the relinquishment of sovereignty over Cuba, the cession of Porto Rico, the Philippine Islands, and Guam to the United States, and the transfer of the other Ladrões and the Caroline and Pelew Islands to Germany, are reduced to the island of Fernando Po and its dependencies, the Rio Muni territory, and the desert coast region of Rio de Oro, south of Morocco. Fernando Po, with Annabon, Corisco, Elobey, and San Juan, has an area of 850 square miles and about 30,000 inhabitants. The Rio Muni territory is about 9,900 miles in extent. The Rio de Oro territory, with the portion of Adrar conceded to Spain in the convention concluded with France on March 29, 1901, has an area of about 100,000 square miles. The convention defines the southern boundary of Spanish territory in this region as running through the middle of the promontory of Cape Blanco to 21° 20' of north latitude, then due east to 14° west of Greenwich, then northwest and afterward northeast to where the meridian 13° west of Greenwich crosses the tropic of Cancer, from which point it runs due north. This delimitation secures for France the salt deposits of Idjil and the districts of Adrar and Temur. The Rio Muni territory extends from Muni to the Campo river and the frontier of Kamerun and inland to 10° 20' east of Greenwich. The Franco-Spanish convention gives the right of preemption to France in case Spain ever desires to sell or part with any of its possessions on the African mainland or any of the islands adjacent to the coast. The total revenue of the colonies for 1902 was estimated at 137,417 pesetas, necessitating a grant of 2,000,000

pesetas from the Spanish treasury to cover their expenses.

Politics and Legislation.—The Minister of Finance in January came into conflict with the directors of the Bank of Spain by proposing to create a separate issue department, with a reserve of gold and silver coin and the loans of the bank to the Government, viz., 150,000,000 pesetas borrowed in 1891 and 900,000,000 pesetas of 2½-per-cent. warrants on account of the war, the note issue to be restricted to 1,500,000,000 pesetas, half of it protected by a metallic reserve, after this war debt is reduced to 300,000,000 pesetas, and half the reserve to be gold coin or bullion. Various amendments were suggested and the minister at last insisted on resigning. The Minister of the Interior made himself unpopular by his treatment of labor strikes at Barcelona, which spread to other places. The Government took no measures to prevent labor troubles, but when a general strike at Barcelona resulted in riot troops were called out and a score of persons were killed. Both ministers offered their resignations on March 12, upon which all the ministers handed theirs to Señor Sagasta. The Queen Regent asked him to form a combination Cabinet, and when he refused she asked Señor Silvela, who also declined to go outside of his party. Leaders of the small groups were consulted, and one or two agreed to undertake to form a coalition Cabinet if the Liberals or Conservatives would agree to be neutral. The leaders of the two historical parties would not depart from the system of party government with full responsibility that was traditional in Spain. Señor Sagasta was therefore commissioned to form a new Cabinet, which was constituted on March 18 as follows: President of the Council, P. M. Sagasta; Minister of Foreign Affairs, Duke of Almodovar; Minister of Justice, Señor Monttilla; Minister of Finance, Señor Rodríguez; Minister of the Interior, Señor Moret; Minister of War, Gen. Weyler; Minister of Marine, Duke of Veragua; Minister of Public Instruction, Count Romanones; Minister of Agriculture, Señor Canalejas. The new Minister of the Interior had to carry out the decree of Sept. 19, 1901, requiring all religious associations excepting those authorized by the concordat to become registered within six months on pain of being dissolved. The ministry proposed to establish a Government department to deal with labor questions. There has been very little protective legislation for working men in Spain, and for this reason the laborers often resort to violence.

The Cortes, having adjourned during the ministerial crisis, met again on April 3. The new bill on bank notes, requiring the Bank of Spain to carry a cash reserve, half in gold, for all over 1,200,000,000 pesetas, was opposed by the bank directors, and also the provision that the bank should derive profits from selling Government securities. The bill stipulated that the debt of the Government to the bank should be cleared off in ten years, and provided for a foreign loan for this purpose, but this the Cortes would not authorize. The high price of food had become a serious question, with meat averaging 3½ pesetas a kilogram. A Government bill suspended the duty on meat and live cattle for six months. The municipalities were asked to substitute other taxes for the *octroi* duties on foodstuffs. In introducing the budget for 1903, showing 591,178,227 pesetas of revenue and 948,661,898 pesetas of expenditure, the Minister of Finance proposed changes in the liquor and sugar duties and in retiring pensions. The decree for closing unregistered religious associations was temporarily suspended pending negotiations with

the Vatican, which contended that all religious orders that the Government had authorized stood on the same footing as those authorized in the concordat. The Government reached a *modus vivendi* with the Holy See, agreeing temporarily to recognize all religious communities, authorized or unauthorized, that apply for civil inscription. The Radical members in the Cabinet were ignorant of this *modus vivendi*, and when it was divulged after the adjournment of the Cortes a Cabinet crisis occurred. There was a truce until the festivities of the enthronement were over. Alfonso XIII on May 17, when he reached the age of sixteen, his legal majority, took over from his mother, the Queen Regent, the powers of government as constitutional King of Spain. On May 28 Señor Canalejas resigned, and on May 31 Suarez Inclan was appointed Minister of Agriculture. The members of the Cabinet agreed on the principles that no religious association can establish itself without previous authorization, to be obtained by means of a law; that religious orders that are established must conform to the general laws regulating instruction and submit to sanitary inspection; that religious orders can not hold land except their place of residence; and that religious orders can be dissolved by unanimous vote of the Council of Ministers for reasons of public order. Señor Canalejas called for the reassembly of the Cortes to consider a bill embodying these principles, but Señor Sagasta and the other ministers did not deem the matter urgent. The religious orders were allowed till June 10 to register. The total number of associations in Spain was 3,115, with 50,933 members, of which 2,586, with 40,188 members, were for women and 529, with 10,745 members, for men. The total number that sought and obtained registration was 2,611, registration being provisional only in the case of 1,410. In the case of 150 it was withheld temporarily pending further examination, and of the remaining 354 most were orders of the concordat requiring no registration. Only 3 communities neglected to apply for registration. An issue of 338,000,000 pesetas of 5-per-cent. redeemable bonds was taken readily in June in Spanish cities at 91½ per cent. A decree was promulgated requiring private schools of all kinds to seek official authorization and to submit to periodical inspection and the laws regarding sanitary arrangements and modes of punishment, and, above all, the proper qualifications in teachers. The schools chiefly affected were those of the religious orders, which would have much to do to conform to the legal regulations if these were enforced. Agricultural laborers struck in some of the provinces, and in many places obtained the higher wages demanded. A fresh Cabinet crisis arose after the meeting of the Cortes in the fall. On Nov. 11 Señor Sagasta presented the resignations of the ministers to the King, who requested him to reconstruct the Cabinet. He endeavored this time to form a concentration Cabinet, containing Democratic elements, but the leaders of groups would give him no assistance. On Nov. 14 a homogeneous Liberal Cabinet was constituted as follows: President of the Council, Señor Sagasta; Minister of Foreign Affairs, the Duke of Almodovar; Minister of Justice, Señor Puigcerver; Minister of Finance, Señor Equilior; Minister of the Interior, Señor Moret; Minister of War, Gen. Weyler; Minister of Marine, the Duke of Veragua; Minister of Public Instruction, Señor Romanones; Minister of Public Works, Amos Salvador. The Premier was violently assailed on account of the change in the ministry. He was accused of bringing it about to please the King. On a vote of censure the min-

isters were sustained on Nov. 21 by 161 votes to 118. The attacks were continued. The ministry was forced to resign, and on Dec. 6 the Conservative leader formed a Cabinet as follows: President of the Council, Señor Silvela; Minister of Foreign Affairs, Señor Abarzuza; Minister of Justice, Señor Data; Minister of Finance, Señor Villaverde; Minister of the Interior, Señor Maura; Minister of War, Gen. Linares; Minister of Marine, Sanchez Toca; Minister of Public Instruction, Alende Salazar; Minister of Public Works, Marquis Vadillo. The sittings of the Cortes were suspended and afterward the Cortes was dissolved.

STRIKE OF THE COAL-MINERS. With the organization of the anthracite miners in Pennsylvania by the United Mine-Workers of America, in 1899, began a situation that led to the strike of 1900. Through the intervention of Senator Marcus A. Hanna and others, the operators made concessions, and trouble for a while subsided. A wage increase of 10 per cent. was continued until April, 1902. A request by the United Mine-Workers for a joint conference for settling a wage scale for the year ending March 31, 1903, was declined by the operators. At Shamokin, March 24, the miners in convention demanded a shorter work-day, a minimum day wage-scale, uniform increase of wages, and the weighing of coal for payments by the amounts mined. They resolved to appeal to the National Civic Federation, and that, in case of adjustment not being made before April 1, only three days' work a week should be allowed, except for keeping the mines in repair. They also made a provisional strike declaration.

Senator Hanna, acting for the federation, vainly endeavored to settle the difficulty, and on May 8 proposals of arbitration were made by John Mitchell, president of the United Mine-Workers, to the presidents of the coal companies, who promptly rejected them and declined to negotiate with Mr. Mitchell or to recognize the union. The position of the operators on the general question had already been indicated by one of their number in the following statement: "There is no reason why the miners should not be satisfied with present conditions. There is no reason why we should make concessions to them. The rank and file of the miners are perfectly satisfied with matters as they are."

On May 15 the strike was officially declared, and about 145,000 men quitted the mines, of whom nearly 120,000 were members of the union, the remainder being ineligible to membership. The most serious labor struggle in the history of the country had now fairly begun. The strikers demanded an increase of 20 per cent. in the pay of miners working by the ton, an eight-hour day for per diem employees without change of wages, payment by weight to be based on a ton of 2,240 pounds, and recognition of their union. The advantage of the strikers lay chiefly in the Pennsylvania law that every miner in the anthracite field must hold a certificate of competence based on not less than two years' experience. Of these, nearly the whole number belonged to the union, and without them the mines could not be worked. The miners had also been saving their money since the previous strike, in anticipation of the present contingency. A proposition to order a sympathetic strike of the bituminous miners was rejected by the convention of United Mine-Workers at Indianapolis, June 18.

Both parties to the controversy maintained a stubborn attitude; and the public, divided in opinion and sympathy, watched them with ordi-

nary interest at first, little knowing how great its own concern would become before the struggle ended. For many weeks the country was filled with rumors of compromise and attempted settlement, of overtures and conferences, which, if ever made or held, led to no visible result. From the first the operators had much to do to keep engineers, firemen, and pumpmen at work. A large number of these, obeying a union order, quitted the mines on June 2 and the following days. In most instances the companies were prepared for such an emergency, and throughout the strike they guarded against the dangers involved; but early in August it was announced that several flooded mines had been abandoned. Attempted resumption of work was usually frustrated by strikers, although some coal was constantly mined. On June 8 the employees of the Delaware, Susquehanna and Schuylkill Railroad refused to handle trains carrying special officers, deputies, or non-union mine-workers, and during the entire strike the moving of coal was impeded by obstruction of the railways.

In June, by direction of President Roosevelt, the Commissioner of Labor, Carroll D. Wright, made a personal investigation, and three months later published a report on the causes of the strike, with suggestions of remedies for conditions in the coal-field. On June 22 Mr. Mitchell renewed his appeal for arbitration.

Many arrests were made for rioting, and prisoners were held for trial. Almost from the beginning there were numerous reports of violence in different localities, destruction of property, dynamiting of colliery buildings and dwelling-houses, beating of non-union miners and others; and in the various conflicts many persons were shot and some were killed. There was loud demand for State protection, and in many quarters Gov. Stone was severely censured for vacillation and delay in calling out the militia. Finally, on July 30, he ordered two regiments to Shenandoah, where rioting and bloodshed had occurred on the 29th. Then, as on other occasions, officials of the United Mine-Workers publicly announced that lawless acts were done in utter disregard of the teachings and principles of their organization and the explicit instruction of its leaders, and called upon its members to do all in their power to suppress lawlessness and to aid the officers to maintain peace and order. The employment of military force greatly irritated the strikers and their sympathizers, many of whom were influential citizens, and their protests and open or secret hostility to the troops made the maintenance of order almost as difficult for the National Guard as it had been for the civil authorities. Yet on the night of July 31 Gen. Gobin, commander of the National Guard, reported that the situation was very quiet. In a few days, however, violence again began to spread, the soldiers themselves in some cases being attacked with stones, and orders were given to them to defend themselves against assault. Similar instructions were afterward issued, and what was called Gen. Gobin's "shoot-to-kill order," which he declared was misconceived in some quarters, aroused discussion all over the country. Sept. 23 a third regiment was ordered by the Governor to join Gen. Gobin. At this time it was declared on the authority of a military officer that two-thirds of the strikers were "ready and anxious to go back to work," and were "only deterred by the odium which would be heaped upon them by their fellows." On the other hand, it was stoutly asserted by Mr. Mitchell and other leaders, who still publicly

deprecated all violence, that the strikers remained firm and united. One of the worst outrages of the strike was the killing of a miner by a gang armed with clubs, because he, a former secretary of his union, had gone back to work. This was on Sept. 25. There were now 4 regiments in the field; on the 29th a fifth was ordered out, and a week later the entire National Guard of the State, with a maximum strength of 10,000 men. The last time the whole division had been on such duty was during the Homestead troubles in 1892. In the order, Oct. 6, calling out the full National Guard the Governor said: "In certain portions of the counties of Luzerne, Schuylkill, Carbon, Lackawanna, Susquehanna, Northumberland, and Columbia tumults and riots frequently occur and mob law reigns. Men who desire to work have been beaten and driven away and their families threatened. Railroad-trains have been delayed, stoned, and the tracks torn up. The civil authorities are unable to maintain order and have called upon the Governor and commander-in-chief of the National Guard for troops. The situation grows more serious each day. The territory involved is so extensive that the troops now on duty are insufficient to prevent all disorder. The presence of the entire division of the National Guard of Pennsylvania is necessary in these counties to maintain the public peace."

Meanwhile, repeated conferences were held and appeals were made to individuals, presidents of the coal and railway companies, strike leaders, and public representatives and officials, by citizens and organizations, with a view to settlement. The operators, including "independents," refused to yield. "So far," said one of the latter on Sept. 16, "as recent attempts at settlement are concerned, every effort, from Senator Hanna's down, has been futile." "The strike will end," declared one of the railroad presidents, "when the men come back of their own accord, and on the terms on which they worked before the strike. In no other manner can this strike be ended." The strike leaders were not less unyielding. A conference on Sept. 13 between Gov. Stone and John Mitchell was apparently fruitless, as were also communications to the Governor from the People's Alliance, which submitted peace plans, and from the People's party of Pennsylvania and the Central Labor Union of Philadelphia, both asking that the State should take and operate the anthracite mines.

Direct appeals had likewise been made to President Roosevelt for his intervention, notably by men representing the business interests of the anthracite region, who addressed him through the Public Alliance of Wilkesbarre. At the conclusion of a conference with the Cabinet, Oct. 1, the President caused to be published copies of the following telegram, which he had addressed severally to George F. Baer, president of the Reading Railway system; W. H. Truesdale, president of the Delaware, Lackawanna and Western Railroad Company; E. B. Thomas, chairman of the board, Erie Railroad Company; Thomas P. Fowler, president of the New York, Ontario and Western Railway Company; R. M. Olyphant, president of the Delaware and Hudson Company, and John Markle:

"I should greatly like to see you on Friday next, Oct. 3, at 11 o'clock A. M., here in Washington, in regard to the failure of the coal-supply, which has become a matter of vital concern to the whole nation. I have sent a similar despatch to Mr. John Mitchell, president of the United Mine-Workers of America."

The conference was held, but nothing was directly effected by it. Mr. Mitchell, in behalf of the miners, offered to submit the questions in dispute to arbitrators chosen by the President. This proposition the operators rejected, refusing to treat with the miners' organization. They called upon the President to use the power of the Government to restore order, and declared that with the protection of Federal troops they could operate the mines. They also offered, if the men returned to work, to submit grievances of individual collieries to judges of district courts of common pleas. On Oct. 6 the Commissioner of Labor, Mr. Wright, gave to John Mitchell the following message:

"If Mr. Mitchell will secure the immediate return to work of the miners in the anthracite regions, the President will at once appoint a commission to investigate thoroughly into all matters at issue between the operators and miners, and will do all within his power to obtain a settlement of those questions in accordance with the report of the commission."

To this proposal the miners did not accede, and the situation became still more critical. A few days later J. Pierpont Morgan, after conferring with the Secretary of War, the mine-operators, and President Roosevelt, offered, Oct. 13, in behalf of the coal companies, to submit to arbitration by a commission to be appointed by the President and to be composed of (1) an engineer officer of the army or navy; (2) an expert mining-engineer, not in any way connected with coal-mining properties; (3) one of the judges of the United States Court of the Eastern District of Pennsylvania; (4) a man of prominence, eminent as a sociologist; (5) a man by active participation in mining and selling coal familiar with the physical and commercial features of the business. Mining was to be resumed immediately upon the appointment of the commission, whose findings should govern the relations between the coal companies and their employees for at least three years. At Wilkesbarre, Oct. 21, the miners in convention unanimously voted in favor of this plan, and declared the strike off. On Oct. 23 mining was resumed at many places, and soon nearly the whole body of strikers were at work. The troops were shortly recalled. Oct. 29 was observed by the miners as "Mitchell day."

During the strike, which lasted more than five months, the miners were enabled to hold out with little suffering by the aid of union assessments and contributions of money from organizations and individuals. But in many parts of the country the effects of the strike were severely felt through scarcity and cost of coal. Even before cold weather the price of anthracite sometimes rose to \$20 a ton, and it was often difficult to get at any price. Dealers in many instances could only supply their customers from day to day. Cities had to suspend ordinances prohibiting the use of soft coal. Thousands of poor persons were glad to buy coal by the pailful, and in spite of the efforts of benevolent societies and individuals to supply them in this manner, when regular dealers could not do so, many suffered at times complete privation of fuel. In some places coal was taken forcibly from railway-cars by crowds of citizens, without interference of the public authorities. Some quantities of coal were imported from Great Britain. The famine continued through the greater part of the winter.

The arbitration commission, promptly named by the President, met in Washington, Oct. 24, with the following membership: Judge George Gray, United States Circuit Court, Carroll D.

Wright, Thomas H. Watkins, Gen. John M. Wilson, Edward W. Parker, E. E. Clark, and Bishop John L. Spalding. Judge Gray was elected chairman. The first conference of the commission with the parties to the controversy was held Oct. 27, and on the 30th the commissioners, at Scranton, Pa., began a personal inspection of the coal-mines and an inquiry into conditions in the anthracite region. The formal hearing opened at Scranton Nov. 14, with John Mitchell as the first witness. He had previously filed with the commission a statement of the miners' case, to which several of the presidents of the coal companies had presented their replies, in which they refused to recognize or enter into any agreement with the miners' union, denied that wages paid were unfairly low, that the hours were unreasonably long, and that miners' children were forced into the breakers, and charged the union with attempting to wreck the mines. On the stand Mr. Mitchell upheld the demands of the strikers in full. He said he would not deprive non-union men of the opportunity to buy necessities of life; that he regarded the boycott as a strike; that he opposed injunctions, and held a contract to be superior to a union constitution. There was no way of punishing a member of his union, he said, except by expulsion. He admitted that miners should work at least eight hours a day, and said they should each earn \$600 a year. He also admitted that many boys worked in mines to support their parents, and wished that the age limit might be raised from twelve to fourteen. Part of the cost of increased wages, he agreed, must be borne by the consumer. He presented figures to show the low wage rates among anthracite miners—40 to 50 per cent. less than those of bituminous miners. He virtually denied the truth of a vast majority of the reports of outrages during the strike. Some of the killing, he declared, was done by Coal and Iron police, and some by non-union men, while some alleged murders were, he believed, accidental deaths. He admitted, however, that of the 14 men killed during the strike only 3 were members of the miners' union. Dynamiting, he intimated, was done by company men to create feeling against the strikers. He denied knowledge of many things for which he had been held responsible, and of many that were matters of current report. To the proposal of a separate union for the anthracite miners he firmly objected. Mr. Mitchell showed himself so skilful under cross-examination that Mr. MacVeagh, attorney for the mining companies, said to him: "You are the best witness for yourself that has ever confronted me."

On Nov. 17 the non-union miners of the anthracite region filed with the commission their demand for increase of wages, and that no limit be put on hours of labor and earning capacity. They vigorously protested against recognition of the United Mine-Workers, recited their own wrongs, and demanded freedom from persecution and the right to sell their labor as they pleased. Subsequently Judge Gray, for the commission, announced that pending the hearing non-union miners were not to be displaced nor interfered with.

Witnesses told of boycotting and violence as the chief weapons of the strikers, of ill-treatment of non-union men, of lack of discipline in the union for prevention of such acts, of a reign of terror in the strike region, the answer on the union side commonly being a denial more or less general. In the latter part of November an attempt was made to reach an understanding

without further action of the commission, but this proved unsuccessful. At this time the "independents" were urging the coal companies to maintain their stand against recognition of the union. This they did, and were charged by the miners' counsel with bad faith in connection with the peace negotiations. Upon the operators' non-recognition of the union, proceedings before the commission were resumed. Several priests of the coal-district testified for the miners. Serious charges were made regarding the treatment of miners by some of the "independents," who endeavored to refute them. There were pathetic accounts of evictions and other hardships.

The Delaware and Hudson Coal Company showed that the average yearly wages of their miners was \$622.68. Other companies made similar exhibits. Evidence was introduced to show that miners as a rule are well paid, better than many skilled laborers, that in the public schools their children suffer no disadvantages as compared with others, and that operators are in favor of keeping children under age out of the breakers, while some miners desire child-labor. Some of the statements as to high wages were afterward discredited.

Recalled for cross-examination, Mr. Mitchell said that he had tried to avert the strike, but acknowledged that he could have prevented it by a veto, and that union men could be punished for offenses by withdrawal of charters or by suspension. Samuel Gompers told of the benefits of union labor, but limited his approval of the boycott. The side of non-union men was presented by witnesses who sustained the charges made in the statement previously submitted, and told of many injuries and outrages. Documentary evidence showed 20 cases of union men found guilty of crimes in connection with the strike. Gen. Gobin testified to violence, terrorism, and outrage on men and women; to efforts of the union to minimize the Shenandoah riot; to attacks upon the troops; and to the utter inadequacy of the soldiers to guard homes and other property and protect workmen. The operators endeavored to show that discontent and trouble were caused by the union, and that before it came into the field the relations of the men and their employers had been satisfactory. The mines, it was said, would have been ruined if pumpmen had generally obeyed the strike order. They denied Mr. Mitchell's charge that they were hindering coal-production, and declared that the union limits the number of laborers and of cars.

An outcome of the strike was the passage in Congress, Jan. 14, 1903, of a bill granting a rebate equal to the amount of duty on all imported coal for a period of one year.

The commission had heard an immense amount of testimony, but had not ended its session at the close of the year.

SUBMARINE BOATS. Only in comparatively recent years have the great nations of the world given serious attention to the submarine boat as a factor in naval warfare. But for many centuries its possibilities have appealed to inventors, and with persevering energy, against almost certain failure, they have accumulated the experience that, with added means and a revival of interest, have enabled us to add another mechanical triumph to the dawn of the twentieth century. The first boat of which anything definite is known was designed by William Bourne in 1604, but never built. Cornelius van Drebbel built "a boat of wood," which was tried in 1624 in the presence of King James I and numerous spectators. It had a capacity for 15 persons, and was moved by

means of 12 oars, which passed through the sides by means of leather stuffing-boxes. The boat, according to the reports, was completely submerged with its whole crew and the air in the boat was "kept pure by means of liquids," a secret that died with the inventor. An Englishman named Day in 1680 remained under the water in his submarine boat at Yarmouth for twelve hours, and came safely to the surface. In his second attempt the boat sank slowly and never was found. The inventor as well as the rest of the crew were drowned, and none of the details of the construction of this craft remain; it is only known that it was similar to the Drebbel boat in the fact that it possessed a double bottom which could be filled with water and had to be pumped out to bring the boat to the surface. Papin and Borelli are mentioned as having invented boats in 1672, and Stapleton in 1693, but nothing is known of these attempts.

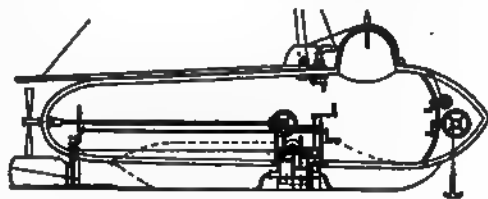
At the outbreak of the American War of Independence, in 1775, David Bushnell, of Saybrook, Conn., built a submarine boat that up to that time

means of the screw. The torpedo and screw were then detached from the operator's boat, a clockwork mechanism inside the torpedo being set going at the same time. This clockwork could be set for six, eight, or twelve hours' run, thus allowing the operator ample time to make his escape. The boat was fitted with a rudder (*G*), with water-ballast tank (*O*)—with a valve (*N*) to admit and a pump (*P*) to draw out the water—and was kept stable by fixed ballast (*A*) and a removable lead weight (*B*), which when detached by the operator enabled him to come quickly to the surface at any time. In 1776 it is reported that a Continental officer, Sergeant Ezra Lee, attempted to attach the torpedo to the British ship *Eagle*, then blockading New York harbor. But the attaching screw came in contact with some iron part of the ship's body, and in attempting to get another position under the ship he lost his way under the water and had to discontinue his efforts at daybreak. On his return he feared that he had been discovered by the enemy and therefore disconnected the torpedo from the boat in order to lighten her and increase his speed. An hour after his return the mine exploded. The clockwork in the mine was supposed to start at the moment of detaching and had been set for twelve hours. The assertions made by Lee could never be verified, and it is therefore very probable that in the beginning he had become frightened and had set the torpedo adrift, and then waited at the surface of the water for daybreak.

Robert Fulton, the builder of the first steam-boat, began to experiment with submarine navigation in 1797, and, after interesting Napoleon Bonaparte, then Consul, in the project, he completed, in 1801, his boat, the *Nautilus*. This was crudely cigar-shaped, 21 feet 4 inches long, with a mean height of 6 feet, and was built of wood, sheathed with copper and hooped with iron. On the top was a dome with ports for observation. The keel was a heavy bar of metal, which served to keep the boat in equilibrium. When at the surface it was propelled by a sail; when diving the mast was folded downward, and, with the sail, was stowed in a groove in the top of the ship's body. Under water it was propelled by a screw, which the crew turned by means of a crank, with a multiplying motion. The diving and rising to the surface was effected by the filling or pumping out of water in the ballast-tank, which was built

BUSHNELL'S SUBMARINE BOAT;
VERTICAL LONGITUDINAL SECTION.

was the most perfect that had been invented. It was of wood, shaped like 2 turtle-shells, back to back, floating in the water tail downward, and was about 7½ feet in diameter. It contained air enough to support life for half an hour, and air could be renewed at the end of that time through small ventilators (*L* and *M*) by rising to the surface. The operator was seated in the middle, the seat forming a brace between the two sides, and in this position he had his eyes opposite one of the numerous glass plates in the cover or top of the boat. In front of him was the handle of a screw (*E*), by which the boat was propelled; another (*F*), by which it was raised or lowered; a compass (*D*), marked with phosphorus; a water-gage (*O*), to show the depth, marked with oil and phosphorus; and near him the handles or treadles of various small pumps and levers, by which water and foul air were expelled, the rudder moved, ballast let go, etc. The torpedo—or submarine magazine (*S*), as Bushnell called it—consisted of a block of oak containing a charge of about 150 pounds of powder. This block was on the upper after part of the boat and connected by means of a rope to a screw (*R*), the handle of which was directly in front of the operator. The mode of operation was to move slowly along the surface, with the top just awash, till within a short distance of a vessel at anchor, then to sink, and, coming up underneath the bottom, fasten the torpedo by



FULTON'S NAUTILUS.

in the craft. A rudder was placed at the after and an anchoring device at the forward part of the boat. In June, 1801, the *Nautilus* received a trial in the Seine, at Paris, and then was taken to Brest, where the inventor, with three men, remained an hour under water at a depth of 24 feet. On Aug. 7, 1801, they remained under the water for four hours and twenty minutes by taking a vessel of compressed air with them. He attached a mine to a pontoon and exploded it. Nevertheless the French Government, as well as the English Government, to whom he applied afterward, decided not to follow up his idea.

In the twenty years following 1844 Lodner

Phillips, a shoemaker of Michigan City, Ind., made several successful experiments with boats of his own invention. His fourth and largest boat, built in 1864, was of boiler iron, with iron frames, cigar-shaped, and about 90 feet long. It was provided with water-ballast tanks, which were emptied by compressed air, stored in pipes along the upper side of the vessel. It was propelled by man-power, and, according to report, in it he made many descents, sometimes taking with him his entire family. He endeavored to sell this boat to the United States navy and subsequently to the German navy, but it was refused by both.

The only use of the submarine boat in actual warfare was on the night of Feb. 17, 1864, when the National sloop *Housatonic* was blown up and sunk in the harbor of Charleston, S. C., by the Confederate submarine *David*. This boat was built by McClintock & Howgate in 1863.

"It was about 42 feet long, and was built of boiler-plate. The crew consisted of 8 men, of which 1 man was at the helm, and the other men turned the 2-bladed propeller by means of cranks. The boat was supposed to have attained a speed of 4 knots, and to dive to any depth, and remain there a half-hour with the whole crew in quiet water, although authentic reports of her trials do not seem to agree with this assertion. The idea of the boat was to tow a mine close under the keel of an anchored vessel, and to explode the mine through contact with the bottom of the ship. Lieut. Paine, of the Confederate navy, with 8 volunteers, undertook to attack the Union vessels. While the boat was being prepared the swell of a passing steamboat splashed into the manhole, sinking her. The 8 volunteers were lost, and Lieut. Paine succeeded in getting out, as he was standing at the manhole at the time. After the boat had been raised, Lieut. Paine made another attempt with 8 other volunteers, but the boat ran ashore at Fort Sumter and capsized. On this occasion there were 6 men lost of the crew, and only the commander and 2 men were saved. After the boat was raised for the second time and put into shape, an engineer named Aunley, who had been busy with the reconstruction, attempted a trial trip in Cooper river. While totally submerged his apparatus for getting to the surface must have become deranged, as the boat did not rise again, and it was only recovered three days later. The entire crew were, of course, dead. The next trial was undertaken by Lieut. Dixon, of the Twenty-first Volunteer Regiment. He left the harbor with 8 volunteers on Feb. 17, 1864, and succeeded in destroying the Union sloop *Housatonic*, which lay at anchor in the outward harbor of Charleston. He had somewhat changed his plans, as the attack was not made by means of mines, but was made with a pole torpedo; also the boat was not entirely submerged. During this time the manhole was left open so that the men could breathe more easily. Aboard of the *Housatonic* the boat first gave the appearance of a floating block of wood, and the crew of that vessel only became aware of their danger when it arrived within about 300 feet. They immediately slipped their anchor and started their engine, and called the crew to the guns, but before a shot could be fired—it was about two minutes after the boat had been sighted—the explosion occurred, and the *Housatonic* sank immediately. Of her crew only 5 men were killed; the remainder saved themselves by climbing into the rigging, which projected above the water. The submarine boat, however, did not succeed as well, as the wave caused by the explosion washed into the open manhole,

causing it to sink, and for the last time its entire crew were buried under the waves. The Confederates had lost already 32 men by this trial, while the Federals only lost 5 men, which would not speak very well in favor of the submarine boat."

With the experiments of Wilhelm Bauer, a Bavarian officer of artillery, the first period of submarine-boat building—that of small boats impelled entirely by man-power—came to an end. Bauer finished his first boat late in 1850. It was cigar-shaped, 25 feet long, beam 6 feet, and height 9 feet, built of $\frac{1}{2}$ -inch iron with iron frames and impelled by a large wheel, balanced with weights and geared to the propeller. At its first trial, in the harbor of Kiel, February, 1851, it leaked and sank, and Bauer and his crew of 2 men escaped drowning almost by a miracle. The highly compressed air in the hull forced open the manhole in the top of the vessel and the 3 men were shot to the surface in the air-bubble. In 1855, at the instance of the Russian Government, he built a second and larger boat, 50 feet long and 12 feet at its greatest diameter. The plan was practically the same as that of the first boat excepting that for the 22 tons of iron ballast he substituted water ballast. It took 12 men to drive the boat, and fresh air was supplied by carrying compressed oxygen in flasks, and by a spray of sea water forced into the boat. Experiments with this boat were carried on until 1858, and at one time Bauer is said to have stayed under water with his 12 men for nearly twenty hours, but it was finally rejected by the Russian navy. He afterward attempted to interest the Prussian navy in a scheme for a large submarine boat, but failed to convince the Government of its availability.

In 1863 an American inventor named Alstitt drew plans for a submarine boat that, although it never was constructed, began a new era in the building of such craft. Alstitt proposed to use, when at the surface, an ordinary steam-engine, and when diving, after the smoke-stacks had been sealed, to depend upon electricity for his power. The boat was to carry water ballast and cylinders of compressed air for ventilation during submergence, and thus involved nearly all the essential features of modern submarine construction. About the same time Admiral Bourgois and Constructor Brun, of the French navy, were working out their *Plongeur*, which was launched at Rochefort in May, 1863. It was 140 feet long, 11 feet deep, and 20 feet wide, and had an engine driven by compressed air, which was stored in tanks distributed throughout the vessel, the exhaust of which served the crew for ventilation. Two novel features of the *Plongeur* were the return to the use of the vertical screw in an attempt to control the depth of the dive when water was let into the ballast spaces, and a peculiarly constructed manhole, which was a life-boat set into a depression in the top of the vessel, and connecting with the interior by water-tight doors, and which could be readily detached from the body of the larger boat. It also had a pair of horizontal rudders at the stern. In its trials, owing to its great length, it proved itself very unstable when sailing submerged, and was soon put out of commission.

In 1868 Herr Vogel, of Dresden, had built a boat with an iron shell 16 feet long and 4 feet in depth, driven by a 3-cylinder steam-engine. The boiler was heated by oil fed by gravity to a burner of perforated copper pipe. The diving was to be accomplished entirely by admitting water into the double bottom, and to rise to the surface it was necessary to force this out with a hand-pump. He claimed for his boat that it was able to remain

submerged for three hours, but up to 1872 it appears never to have received an under-water trial.

Drzewiecki, a Russian engineer, built two boats: one in 1877, 13 feet long, driven by treadles, geared to a propeller, and carrying a single man, who by means of water-proof leather gloves communicating with a dome on the top of the boat was supposed to attach mines to the vessel attacked; and another in 1879, 20 feet long, carrying 4 men in addition to the commander. They had the usual water-ballast tanks, and a device of weights operated by chains and sliding the full length of the boat to trim it to the angle desired in diving or rising to the surface. In 1884 he built a larger boat on the same principle, driven by a motor and storage-batteries, which was favorably reported on by the Russian Government.

In 1884 Prof. Joseph Henry Tuck made experiments with a submarine boat, 30 feet long, that contained no essentially new constructional features. It was driven by a dynamo and storage-batteries, and is said to have attained a surface speed of 6 knots. It carried 2 Fish torpedoes, attached one on each side by magnetic claws, that could be operated from the interior of the boat to release the torpedoes at the proper moment. In 1886 Tuck built another boat, which he called the *Peacemaker*, 30 feet long, 8½ feet beam, and 5½ feet deep. She was propelled by a 14-horse-power steam-engine, and attained a surface speed of 8 knots. On either side of the dome and at both ends were water-proof gloves, as in Drzewiecki's boat. She also carried torpedoes in magnetic claws in the same manner as Tuck's first boat. While she made several more or less successful trials, so many faults were found in the principles of her construction that she finally failed to interest the United States navy in carrying on experiments with her.

Waddington, at Liverpool, in 1886, exhibited a boat using electricity as the motive power. It was fitted with 4 vertical propellers, 2 on a shaft, placed in wells, 1 forward and 1 aft of the main compartment of the boat. It also had 2 large horizontal rudders, 1 on each side, amidships, and horizontal and vertical rudders and a screw-propeller aft. The 45-cell storage-battery was of 8-horse power and would develop at the surface a speed of 8 knots for ten hours. There were separate motors for each of the vertical propellers. The end compartments of the boat were receptacles for compressed air for renewing the air of the boat if it became necessary. The surface trials of Waddington's boat were reported satisfactory, but it is not known whether any sub-surface tests were made. In November of the same year a boat designed by Andrew Campbell was tried in the West India Docks, London. It was 57 feet long, had a maximum diameter of 7½ feet and a displacement of 52 tons when fully submerged. It had twin screws driven by 45-horse-power electric motors, and was fitted with an ingenious system for increasing and diminishing the displacement in order to dive or rise to the surface. Four horizontal cylinders, 20 inches in diameter and capable of being pushed out about 20 inches, were placed along each side of the vessel, which, when so pushed out, increased the displacement by about ½ a ton. These projecting cylinders would, of course, be a great detriment to speed at the surface, and there are no reports further than that the scheme was successful in sinking and raising the vessel.

Nordenfelt completed his first boat in 1885. It was 64 feet long, 9 feet beam; and 12 feet deep, with a displacement of 60 tons when totally submerged. At the after-end was a vertical rudder

and the 4-bladed screw propeller, and at the forward end a pair of horizontal rudders balanced by weights. By this device Nordenfelt largely overcame the fore-and-aft unstableness that had bothered his predecessors, and which to-day is not entirely unavoidable. The boat was also fitted with vertical driving propellers, 1 on each side amidships, operated by separate engines. The speed of these propellers was regulated by a complicated mechanism, controlled by a piston acted upon by the pressure of the water outside the boat. The boat was propelled by a 100-horse-power compound surface-condenser steam-engine. When at the surface steam was generated in an ordinary Scotch boiler, using coal as fuel; when diving, superheated steam was drawn from 2 tanks, in the ends of the vessel. There were 3 other compartments: the central one occupied by the crew, and the other 2 for the engines and the boiler. At the surface air was forced into the boat by a small ventilator fan in order to reduce the temperature, when submerged the currents of cold water outside the shell were depended upon for the same purpose. The trials of this boat were more than ordinarily successful, and several of the European countries immediately took an interest in it. Nordenfelt was soon commissioned to build boats for Greece, Turkey, and Russia, and later Great Britain undertook and carried out elaborate experiments with this type. The 2 Greek boats had their official trials in the Bay of Salamis in April, 1886, and while they were accepted, the newspaper accounts of the time would lead one to believe that they fell far short of requirements. The Abd-ul-Hamid and Abd-ul-Medschid were delivered to Turkey in January, 1887. They were 100 feet long and had a displacement of 160 tons, and were impelled by 250-horse-power compound engines. They were fitted with vertical propellers fore and aft, and the horizontal rudders, in addition to being balanced by heavy pendulums, were capable of being controlled from the conning-tower. They each carried 2 torpedoes, forward on the top of the boat. At the trials at Constantinople they succeeded in making 8 knots at the surface and from 4 to 5 knots below. It is a significant and not altogether encouraging fact that in the war of 1897 neither Turkey nor Greece evinced sufficient faith in these apparently powerful vessels to put them into active service. Nordenfelt's last boat was built for Russia, at Barrow, in 1887. It was 125 feet long, 12 feet beam, and had a displacement of 160 tons at the surface, and of 250 tons when submerged. It was fitted with 2 conning-towers, and the upper part was protected by 1-inch plate from machine-gun fire. Its coal capacity was 8 tons, which could be increased to 28 by removal of the water ballast, sufficient for a 1,000-mile run at a speed of from 8 to 9 knots. She was lost in a storm on the Baltic Sea in January, 1888, while on her way to Russia after her trial off the English coast.

The essential feature of the Baker boat, invented by George C. Baker, of Detroit, and for a time under consideration by the United States navy, was its 2 propellers, 1 on each side, amidships, on a transverse shaft running through the center of gravity of the boat. The gear-casings were so fitted, by means of a worm-gear and a sprocket-chain, that the casings could be swung through an angle of 90°, and the thrust developed by their rotation directed at will in a plane at right angles to the shaft. Submergence was effected and maintained by giving the screws a sufficient angle to overcome the buoyancy by the vertical thrust, and at the same time propel her by the horizontal thrust. The boat, which was tried Nov. 26, 1892,

was of wood, covered with canvas and sheet-iron, 46 feet long and 9 feet deep. At the surface it was propelled by a 60-horse-power steam-engine, and when submerged by a 50-horse-power electric motor, fed by 232 storage-cells divided into 4 main batteries, which could be connected singly or together in order to vary the speed of the boat. At the surface the batteries could be charged by converting the motor into a dynamo. Baker made some improvements and experimented through the summer of 1893, but the propellers were so wasteful of power and the boat itself so unstable that it never attained success.

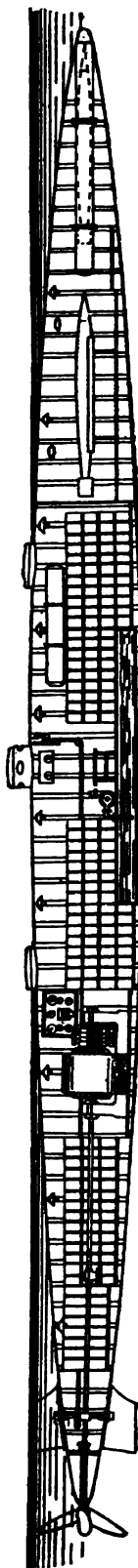
In 1897 Simon Lake, of Baltimore, began the construction of a boat, with which he made very successful trips under water. His boat, christened the Argonaut, was originally intended to assist the work of divers on sunken vessels, and when submerged, to roll on wheels upon the bottom. It was 36 feet long and about 8 feet in diameter. The 30-horse-power naphtha motor drove the propeller when the boat was sailing at the surface and the wheels when on the bottom. Nov. 1, 1902, Lake launched his third boat, the Protector, and the first torpedo-boat of this type, at Bridgeport, Conn. She is 65 feet long, 11 feet wide, and 14 feet deep, and can descend to the depth of 150 feet. She can travel on the surface, or with conning-tower awash, or at any desired depth within the limit of 150 feet, or on the bottom, where a wheel attached to the rudder steers the boat. There is a compressed-air lock which permits of divers leaving the boat while she is submerged. She has a sufficient fuel-carrying capacity to make a continuous run of 1,500 knots on the surface, with a speed of about 10 knots. She is equipped with a storage-battery capacity sufficient for a submerged run of 50 miles on one charge of the batteries, and has means for recharging the batteries without going to the surface. She carries 3 torpedo-explosion tubes, 2 at the bow and 1 in the stern. One of the dangers and difficulties in running submarine boats mid-distance between the surface and the bottom has been to keep them on an even keel. Most of the boats have shown a tendency to dive or tip back, especially when any of the crew shifted weight from one point to another. In the Lake boat this trouble is obviated by the use of hydroplanes, which serve the same purpose in the water as aeroplanes do in the air to keep a flying-machine horizontal. It was the purpose of the inventor after trial trips on Long Island Sound to take the Protector to Washington for the inspection of the Navy Department.

In 1887, and again in 1888, Hovgaard, a Danish naval officer, submitted plans for large submarine boats which have never been followed out. These were to use steam and electricity for power, and to carry a life-boat attachment similar to that of the Plongeur. A boat built after plans by Isaac Peral at the Cadiz Navy-Yard in 1888, was 72 feet long and of about 90 tons displacement, and had 2 screw propellers driven by 30-horse-power motors fed by a battery of 480 storage-cells. It had vertical propellers similar to Nordenfelt's, each driven by a 5-horse-power motor, supplied from an auxiliary battery of 120 cells. It carried a torpedo-tube and had an armored prow.

In the past fifteen years France has expended more in time and money in the investigation of submarine navigation than any other country in the world. Among the first of these more recent experiments were those with the first Goubet boat, launched at Cherbourg in 1889, which made its official trial trips in May and June, 1891. The entire boat (16 feet 4 inches long, 3

feet 3 inches beam, and 5 feet 10 inches depth) was cast in bronze in a single piece. It carried a crew of 2 men, who sat back to back with their heads in the conning-tower and directed the movements of the boat. Under the seat was a receiver of compressed air to renew the air-supply. The propeller was driven by an electric motor, and in case of necessity could be turned by hand. The water-ballast space was divided into small compartments connected by small holes, so that the ballast would not shift suddenly. On either side of the craft were fin keels to increase her stability, and a vertical rod at the bow served as a sight to steer by. This boat was small and the trials did not satisfy the inventor, and he built a second boat 26 feet long, using the same machinery. Boat No. 2 was cast of bronze in 3 pieces, which were joined together by flanges inside. This boat attained a speed of 5 or 6 knots. It carried 7 tons of lead as permanent ballast and had 2 torpedo-tubes.

Of the 2 boats designed for the French Government by Gustave Zédé the Gymnote was built at Toulon under the direction of Constructor Romazotté, and launched in the autumn of 1888. It is 56½ feet long, 6 feet in maximum diameter, and has a displacement when submerged of about 60 tons. The power is supplied by a 52-horse-power electric motor, with a 540-cell storage-battery, which together weigh about 12 tons. The forward and after ends of the boat contain the ballast tanks, which are emptied and filled by an electrically driven pump. She is fitted with vertical and horizontal rudders aft, and carries a torpedo-tube with compressed air-tanks for launching torpedoes. No provision is made for renewal of the air, as with her crew of 5 men she could stay under water for several hours without inconvenience. This boat is said to make an average surface speed of about 8 knots, and with one charging of the batteries to have a radius of action of from 40 to 100 miles. Zédé's second boat, named first La Sirène and after the death of its designer called after him, the Gustave Zédé, is 147½ feet long, 10 feet 10 inches in maximum diam-



THE FRENCH SUBMARINE GYMNOTE. (From Marine Engineering.)

eter, and has a displacement of 260 tons. It is fitted with storage-batteries and a 760-horse-power motor, which according to contract would drive the boat at a maximum speed of 8 knots in the partially submerged condition. The water ballast and the rudders are arranged as in the *Gymnote*, and in addition to the tanks for the torpedo-tubes compressed air is supplied for artificial renewal of the air in the boat. Both these boats have received extensive and thorough trials; the utmost secrecy is preserved in regard to their movements, but it is generally understood that they do not come up to the expectations of their inventor in regard to speed, and that on account of their great proportionate length they are very unstable when sailing submerged. This would seem to have influenced a return to a smaller type of boat, for the *Morse*, built after plans by Romazotté, and launched at Cherbourg, July 8, 1899, is only 118 feet long, 9 feet in greatest diameter, and displaces 146 tons, while the first *Laubeuf* boat was even smaller. The *Morse* derives her power from a 350-horse-power electric motor, and is said to average about 10 knots in the light condition. It can not really be called a submarine boat, as it is only intended to float on the surface almost entirely submerged. *Laubeuf* in his boat designed in 1899 adopted an engine using oil-fuel when at the surface and storage-batteries for submarine work, and thus gained a great advantage over the electrically driven boats, whose radius of action is limited by their necessity of remaining near a central station for recharging the batteries. Most of the later types of boats now under consideration and trial in various countries are based upon this 2-power system.

What Goubet and Zédé did for the development of the submarine boat in France Mr. J. P. Holland, of New York, has perhaps exceeded in the United States, and the acceptance of the first of 6 boats made upon his plans for the United States navy is but the successful culmination of a long series of disappointments. Holland made his first attempt in 1871 with a boat 3 feet by 2½ feet in cross-section and 14½ feet in length. It had a double bottom, a 4-horse-power oil-engine, and carried 1 man. This was followed by a larger craft, 31 feet long and 6 feet in diameter, driven by a 15-horse-power engine, and carrying 2 men. It was fitted with a 9-inch *Zalinski* dynamite-gun. His third boat, 16½ feet long and 2½ feet in diameter, sank, and was irreparably damaged at its first test. The fourth boat, 40 feet in length and about 8 feet in diameter, brought Mr. Holland's invention more prominently into notice than any of his previous craft. On March 3, 1893, Congress authorized the construction of a submarine of the Holland type, and the contract for the hull and machinery was let for \$150,000. This boat, named the *Plunger*, was to have been 84 feet long, with a maximum diameter of 11½ feet and a displacement at the surface of 149 tons and in a submerged condition of 165 tons, and when submerged to have a buoyancy of one-third of a ton, counteracted by 2 vertical propellers. The hull was to be built so strong that it could stand to be immersed to a depth of 75 feet. For sailing on the surface at light draft a water-tube boiler of 9,850 square feet of heating surface, using oil as fuel, supplied steam to 2 triple-expansion engines, each of 600 horse-power, driving the 2 wing propellers, while a third engine of similar construction and developing 300 horse-power drove the middle propellers. When submerged, the engines were to be replaced by a single 70-horse-power electric motor, which

could be connected to either one of the 3 propellers at will. The 2 vertical propellers were likewise to be driven by electric motors. The motors were to receive their current from storage-batteries, which could be charged by a dynamo connected to either engine when the boat sailed at her light draft. Compressed air was also to be carried on board, and used not only for replacing the foul air, but also to force out the water ballast. This boat, however, never was completed, and when she was found to be unsatisfactory the contractors refunded the money advanced upon her, and work was begun upon a second *Plunger*, after improved designs by Mr. Holland, to replace her. The sixth Holland submarine, the *Holland*, was built as a private venture at the Crescent Shipyard, Elizabethport, N. J., and is 53 feet 11 inches in length, 10 feet in diameter, and has a displacement of 74 tons when submerged. When on the surface she is driven by a single-screw, Otto gasoline-engine of 50 horse-power, at a speed of 8 knots an hour. When submerged, she is driven by an electric motor of 50 horse-power. Her armament consists of a torpedo-tube which lies approximately on the longitudinal axis of the vessel and a dynamite-gun which is upwardly inclined and is intended for the discharge of high-explosive shells when the vessel is at the surface. The *Holland* was purchased after trial by the United States Government in 1900 to be used for training seamen, and in experimental tests. Much useful data has been gathered from her which will be incorporated in future vessels. On June 7, 1900, Congress authorized the construction of 6 more submarines of the Holland type. Of these, 2, to be known as the *Grampus* and the *Pike*, have been constructed by the Union Iron Works, San Francisco, Cal., and the other 4, known as the *Adder*, *Moccasin*, *Porpoise*, and *Shark*, at the Crescent Shipyard. The contract price for each of these boats is \$170,000.

The diagram on the next page will show very clearly the construction of these boats and the arrangement of the various parts of their machinery and fighting equipment. They are 63 feet 4 inches over all, 11 feet 9 inches maximum diameter, and displace submerged 120 tons. The motive power consists of a 160-horse-power single-screw, 4-cylinder, Otto gasoline-engine, which is capable of giving the craft a speed of 8 knots on the surface, and a 70-horse-power electric motor, which gives the vessel a speed of 7 knots when awash or submerged. The hull is circular in cross-section and is divided by 2 water-tight bulkheads into 3 separate compartments. There is also a thorough subdivision of the bottom, and every precaution is taken to localize any injury to the hull which might threaten the buoyancy. In the forward compartment is a torpedo-tube for the discharge of 45-centimeter Whitehead torpedoes. The tube is placed with its muzzle in the nose of the craft and its axis inclined somewhat to the longitudinal axis of the vessel. The muzzle of the torpedo-tube is closed by a water-tight door, which can be lifted from within for the discharge of torpedoes. In the same forward compartment are a series of air-flasks, a gasoline-tank of 850 gallons capacity, a compensation tank which will be filled with a sufficient amount of water to compensate for the loss of weight due to the discharge of the torpedo, and one of the trimming tanks. The central compartment contains in its double bottom the main ballast tank and a circular compensating tank between the two sets of batteries. Above the double bottom and below the axis of the vessel are located the storage-batteries. These are charged

GENERAL SECTIONAL PLAN OF THE NEW SUBMARINE, ADDER, MOCCASIN, GRAMPUS, PEKE, PORPOISE, AND SHARK, FOR THE UNITED STATES NAVY.
(From Marine Engineering.)

by the gasoline-engine running the electric motor as a dynamo when the vessel is at the surface. Above the storage-batteries are carried the torpedoes, which are 45 centimeters in diameter by 11 feet 8 inches in length; and in the same compartment are a series of air-flasks, in which air at 2,000 pounds to the square inch pressure is stored. In the rear compartment is the 4-cylinder gasoline-engine, which is rated at from 160 to 190 actual horse-power, at from 320 to 390 revolutions per minute. Its net weight is 1,300 pounds. Its length over all is 9 feet 7 inches, and its total height above the crank-shaft center is 5 feet 6 inches. In these engines, which have given great satisfaction in the Holland, the distribution of the cranks and the timing of the valves and igniters are so arranged that the operations in the 4 cylinders alternate; so that while 1 is on the expansion stroke the other 3 are on the suction, compression, and exhaust strokes respectively. By this arrangement the engine is perfectly balanced and vibration is reduced to a minimum. In the construction of the vessels care has been taken that all portions of the exterior of the hull shall be free from projection of any kind that might be entangled by ropes or other obstacles when submerged. The lines of the vessels have been designed so that there shall be a minimum of resistance when they are running at the surface. The radius of action at the surface is about 400 knots, and the storage-batteries have sufficient capacity for a speed of 7 knots on a four hours' submerged run. Gearing is provided for driving the propeller direct from the gasoline-engine or connecting the engine to the main motor, accommodations being effected by means of suitable clutches. The submersion of the vessel is achieved by means of ballast tanks and a pair of horizontal driving rudders at the stern. For keeping her submerged at desired depths, use is made of the trimming and ballast tanks above described, and it is claimed that the control in this respect is very satisfactory. The air-supply and ventilation are secured by means of compressed air stored in the tanks referred to, while the gasoline vapors from the engines and, indeed, all noxious gases are carefully excluded by suitable devices, while safety-valves are provided to prevent the pressure in the vessel from exceeding that of the atmosphere. Provision is also made for automatic control of the rudders, for the purpose of preventing the vessel from taking excessive angles when diving, or coming to the surface, and also for keeping the boat submerged at the desired depth.

The vessels are controlled from the conning-tower above the working platform, which is protected from the rapid-fire guns of the enemy by 4 inches of Krupp steel.

After the acceptance of the Holland by the United States Government and the order for the building of other and larger craft the Electric Boat Company, which builds and operates the Holland boats, built a smaller craft on the same lines as the Adder, Moccasin, etc., to be used for experimenting. She was about 70 feet long and 20 feet at her greatest diameter, and was named Fulton. After several successful trials, upon one of which her crew spent a night in her in the bottom of Peconic Bay, she left New York on the morning of April 23, 1902, for Norfolk and Washington by the sea route, convoyed by the yacht Mindora and the tug Storm King. At ten o'clock on the following morning, while rounding the Delaware Breakwater, a violent explosion occurred on board, wrecking the interior

and injuring 5 of her crew. The boat had behaved splendidly throughout the trip, making several dives and proving herself entirely seaworthy. The explosion was caused, as determined by the examining board, by hydrogen gas from the storage-batteries that collected in the battery compartments and there ignited. The boat was brought back to New York, and it is the intention of the company to refit her as soon as the regular Government work is completed.

The Adder was the first of the new boats to be completed. In the early part of May, 1902, she was towed, by the way of the Delaware capes and Norfolk, to Washington, and received her first trials in the Potomac below that city. The Moccasin was completed soon afterward, the Grampus made her first trip at San Francisco, Nov. 3, 1902, and the other boats are all nearing completion. The Adder and the Moccasin received their official trials in Peconic Bay, Long Island, from Nov. 11 to Nov. 19, 1902, by a specially appointed Inspection Board, consisting of Capt. Charles J. Train (senior member), Capt. Charles R. Roelker, Commander W. C. Cowles (recorder), Naval-Constructor Joseph J. Woodward, Naval-Constructor S. F. Smith, and Lieuts. W. C. Herbert, W. R. White, and H. H. Caldwell. Capt. Frank T. Cable, with a picked crew, was in command of the boats. For the army Major Arthur Murray, commandant of the school of submarine defense, Capt. C. J. Bailey, of the submarine depot, and Capt. G. F. Landers, instructor in the depot of electricity, mechanism, and mines, all of Fort Totten, watched the tests, which were the severest ever given any battleship intended for the United States navy, with interest in view of the possibilities of the use of the submarine boat as a means of harbor defense. The boats were required to make 12 runs on the surface, under the gas-engine only, over a 1-mile course, half the runs with the tide and half against it. The average speed of 8 knots an hour must be attained on these runs. Awash the boats make 6 runs of a mile with the tide, and an equal number against it, the average speed to equal 7 knots, the gas-engine only being used. In a completely submerged condition the boat carries the crew and 2 observers from the trial board, and no portion of the boat is exposed, but a light mast is carried to show above the surface, so the trial board can observe the times of passing the ranges. On these trials the boats make 4 runs for each of the 3 different speeds over a course of half a nautical mile, 2 with and 2 against the tide, the averaging speed to equal 7 knots. Over a course of 10 knots the vessels were required to make 8 knots an hour on the surface and 7 knots an hour awash. In the torpedo trials the vessels were required to run 2 miles under water and at the finish discharge a torpedo which shall strike a target 150 feet long by 15 feet deep, placed across the course, representing the vitals of a battleship. The vessel was not to rise for observations more than 3 times from the time of starting until the discharge of the torpedo for the duration of each period of observation not to exceed one minute. The endurance trials consisted of a surface run of twelve hours' duration at full speed of 8 knots under the gasoline-engine, and 1 of three hours hermetically sealed under the electric motor at 7 knots an hour.

The Adder made an average speed on the surface of 8.5 knots an hour when running in the light condition, in the awash condition she made an average speed of 8 knots an hour, and when totally submerged her speed was 7.23 knots,

and thereby she exceeded her contract speeds by half a knot on the surface, by 1 knot when awash, and by 0.23 knot when completely submerged. In her trial on Nov. 14 the Adder, after taking position on the course and getting under way, ran for a mile submerged, then turned and returned to the starting-point and fired her torpedo at a mark 150 feet long and 15 feet deep representing the vital part of a battle-ship. The turn was made when she was completely submerged, and in the home run only two observations, lasting thirty seconds each, were taken, one of them soon after the turn, and the other between the half and the quarter-mile flags. After the second observation she remained invisible, with no indication of her whereabouts, except when she fired her torpedo, the course of the torpedo being indicated, as it always is, by the trail of bubbles of compressed air from her engine rising to the surface. The torpedo went a few feet wide of the mark, but it was asserted that the divergence was due to the swerving of the torpedo, and not to faulty aiming from the Adder. In any case, had it been in actual warfare the torpedo would have struck a ship in the same position well within the bow or the stern and would have proved effective. On Nov. 17 the Adder made a submerged run of three hours, and the distance traveled nearly 21 knots. Naval-Constructor Woodward, one of the officers of the Inspection Board, stated that the air, excepting during the last twenty minutes of the run, was perfectly fresh, and even in the latter period it was as fresh as the air on the berth-deck of a battle-ship. Subsequently the engines passed satisfactorily the test of a continuous run of twelve hours' duration. The run was made entirely under the electric motor. The batteries were charged to their capacity of 1,900 ampere-hours, and about 500 amperes an hour were used. At the end of the run the batteries showed a further capacity of about 400 ampere-hours, and the voltage had been reduced from 120 to about 100. Although she was required to run but three hours submerged, it is estimated she could have run almost another hour before exhausting the capacity of her batteries. Reducing the consumption of power, it is estimated that the Adder could have made 125 knots under her electric motor at 3 knots an hour.

At the request of the board a periscope was attached to the boat in some of these tests to try its efficiency. This device, used with much success in the boats of the French navy for ascertaining the position of objects on the surface when the boat carrying it is submerged, consists of a mirror at the top of an iron tube about 15 feet above the deck amidships, its lower end being in the hold of the boat, where the observer stands. The reflection of objects on the surface is conveyed to him by a system of lenses. This iron tube interfered with the trial, for its local attraction threw the compass out of adjustment, and it also retarded the speed of the boat sufficiently to upset slightly the calculations of Capt. Cable while steering under water. In the final report the board recommended invention toward the improvement of this device.

The tests of the Moccasin were equally successful. She exceeded the required speed in both the surface and awash tests, and in her speed trial when submerged she made the remarkable record of 7.28 knots, making her the fastest submarine boat in the world. At her torpedo trial a heavy sea was running, driven by a stiff easterly gale, and the conning-tower looked like a rock awash. Going at full speed, the Moccasin

approached the 2 flags marking the beginning of the mile. A few seconds before she reached them, at 1.25 P. M., she made her dive, and then for more than ten minutes nothing was seen but about 4 feet of the 12-foot mast she carries, with a tiny red flag on top, as it pushed its way through the water; turning at the mile in twenty seconds, she began her return trip over the mile course at the same depth and going as straight as if the helmsman's head had been above the surface of the water. Rising for thirty-five seconds just after the mile-and-a-half mark was passed, Capt. Cable took a peep at the flags marking the place where the imaginary war-ship that he was to destroy was placed. The porpoise-shaped nose of the lit-

The amount of the penalty will be refunded if the other submarine boats exceed the speed requirements.

Of the nations leading in the construction of submarine boats at the close of 1902 France had built or building 44, Great Britain 10, and the United States 7. Norway has adopted the Holland model, and the De Schelde Ship-Building Company, of Flushing, has obtained from the American owners the right to build Holland submarine boats for the Netherlands and Dutch Indies for twenty-five years, including the use of all existing and future patents issued to the American company.

Portugal is negotiating for the Holland boat,

ONE OF THE NEW BRITISH SUBMARINES PASSING NELSON'S FLAGSHIP, VICTORY, IN PORTSMOUTH HARBOR.

the boat came to the surface a few minutes later for a second peep of thirty seconds, and the next time her bow came up it was to fire the torpedo. She pointed fairly between the 2 flags at the end of the mile and about 100 feet away when the torpedo shot out of its tube about 3 feet below the water-line. For some reason the mechanism of the torpedo made it describe a course to the left of the intended mark. That was no fault of Capt. Cable or his crew, for they fired the missile absolutely straight. Those who watched it say that it would have struck a ship even though its flight had been somewhat erratic.

The board, in reporting, Dec. 1, 1902, on the Adder, found that the vessel successfully met the contract requirements and recommended its acceptance by the Government, though it recommended further tests and some minor structural changes. Jan. 10, 1903, it was announced that the submarine torpedo-boat Adder had been accepted by the Government, subject to a penalty of \$960 for failure to comply with certain requirements.

and several other governments have made appropriations for purchase and experiment. Of the British boats, 5 are of the Adder-Moccasin type. The first of these was launched in September, and participated in the naval maneuvers at Portsmouth, and while the officers in charge maintain the utmost reticence as to details, it is generally understood that the tests were satisfactory. Nov. 25, 1902, a new type of boat, the joint invention of Messrs. Vickers Sons & Maxim, who are also building the Holland boats, received its unofficial tests in the Irish Sea. In its speed records it is reported to have exceeded the first of the Holland boats, though no figures have been given out. It is also announced that a company has been formed under the title of the British Submarine-Boat Company which has acquired the patents of the well-known French inventor M. Claude Goubet, 2 submarines already built by him, and all his inventions relating to submarine navigation. In addition, the company has secured the services of M. Goubet, his son, and another

trained assistant, who will henceforth live in England and carry on the work of building Goubet submarines.

When Admiral von Tirpitz was in the United States, serving upon the staff of Prince Henry during his visit, he said that Germany was not ready to set her inventors at work upon submarine boats, preferring to use all her constructive ability in improving her battle-ships and cruisers. Nevertheless, she is giving some thought to the subject, and her first boat was delivered in September, 1902. The details of its construction have been kept secret, but it is understood that it is built after a combination of the plans of the Holland and Goubet types. It is a small boat, about 35 feet in length, and was built in the United States.

France is experimenting, with as nearly absolute secrecy as is possible, with her own inventions, and during the year the Ministry of Marine has given orders for several new types of boat. They also announce the invention of a telescopic periscope that enables them to survey the surface from a depth of 15 meters. The maximum depth permitted by the former instrument was 9 meters.

During the naval maneuvers off Hyères, in August, 1902, on the French Mediterranean coast, the submarine boats Gustave Zédé and Gymnote were sent out from the harbor to attack the fleet representing the enemy. Traveling at a depth of 10 feet below the surface, they reached the fleet and "torpedoed" 3 battle-ships, the crews of which were unaware of the presence of the submarines until the "torpedoing" was done.

SUNDAY-SCHOOL CONVENTION, INTERNATIONAL. The tenth International Sunday-School Convention met at Denver, Col., June 26 to 30. The Rev. B. B. Tyler, D. D., of Denver, was chosen presiding officer for the sessions. The general secretary's report presented a survey of the past three years of Sunday-school work in affiliation with the convention. There were now 85 paid workers in 45 associations. In educational work, 1,300 normal classes had been reported, with 14,000 members, and the organized work was in excellent condition. The organization of the last State, Nevada, had just been completed. More than 8,000 home departments were reported. More than 125,000 members had come into the churches from Sunday-schools during the past year. Statistics were presented showing that there were in the United States 139,520 Sunday-schools, with 1,414,589 teachers and 11,462,414 pupils; in Canada, 10,220 schools, 82,156 teachers, and 685,870 pupils; in all North America, including, besides these, Newfoundland and Labrador, Mexico, the West Indies, and Central America, 152,959 schools, 1,511,188 teachers, and 12,297,405 pupils; and in the whole world, 254,401 schools, with a total membership of 25,856,582 teachers and pupils. A report of the work done in the South under the direction of the late Rev. L. B. Maxwell, field secretary, related to the organization of the international work among nearly 2,000,000 colored people. The Lesson Committee reported that the total expense involved in its last three years' operations had been met by 27 publishing houses, and that for the next triennium \$14,000 had been pledged by individuals and delegations for the international field. An important question was raised as to the system to be followed in the selection of the lessons for the ensuing term of three years. Hitherto one uniform lesson for the whole school had been used and studied in all the schools affiliated with the convention throughout the world; but a conviction had grown up among

many persons interested in Sunday-school work that this was not the wisest plan, and that a graded system of lessons adapted to the age and degree of advancement of different classes of pupils would be preferable, with an elementary series for the younger pupils, advanced courses for the older ones, and lessons like those at present in use for the intermediate classes. A beginner's course had already been tentatively used, satisfactorily, for one year. The report of the Lesson Committee favored the adoption of the graduated system, with the beginner's course, and a course for advanced classes, dealing with the prophetic, epistolary, and apocalyptic parts of the Bible, and was accompanied with the outline of an experimental course for two years. The plan of the committee was not adopted by the convention, except that it authorized the preparation of a series of special primary lessons. It directed that "one uniform lesson for all grades of the Sunday-school shall be selected by the Lesson Committee as in accordance with the usage of the past five lesson committees; provided that the Lesson Committee be authorized to issue an optional beginner's course for special demands and uses, such optional course not to bear the official title of International Lesson. *Resolved*, That at this time we are not prepared to adopt a series of advanced lessons to take the place of the uniform lessons in the adult grade of the Sunday-schools. The Lesson Committee is urged to consider how far a better continuity of Bible study may be secured by alternating at longer intervals—of one or more years—the selections from the Old and New Testaments respectively. *Resolved*, That this convention reaffirm the instructions on the subject of temperance lessons adopted at Pittsburgh and reaffirmed at St. Louis and Boston." A committee was provided for to consider what means should be taken in the various States and provinces to secure the reading of the Bible without comment in the public schools.

Notwithstanding this action, the friends of a graduated series of lessons continued to urge their views, and even to give formal expression to them. The Executive Committee of the Western section of the Presbyterian Alliance meeting at Philadelphia in the later days of October instructed its Committee on Sabbath-Schools and Young People's Societies to select a course of Bible Lessons for advanced classes and present it to the next meeting of the section for consideration; and this committee, at its meeting, Nov. 13, appointed a subcommittee to prepare the course.

The Council of Seventy of the Institute of Sacred Literature in November published a call for a national convention to consider methods for improving the efficiency of Bible teaching in the Sunday-school, the home, the college, and elsewhere. In its resolutions it declared "that the religious and moral instruction of the young is at present inadequate and imperfectly correlated with other instruction in history, literature, and the sciences; that the Sunday-school, as the primary institution for the religious and moral education of the young, should be conformed to a higher ideal, and made efficient for its work by the gradation of pupils, and by the adaptation of its material and method of instruction to the several stages of the mental, moral, and spiritual growth of the individual; and that the home, the day-school, and all other agencies should be developed to assist in the right education of the young in religion and morals."

Assuming that this improvement in religious

and moral instruction could best be promoted by a national organization devoted exclusively to the purpose, the convention was called to assemble in Chicago, under the auspices of the Council of Seventy, in February or March, 1903, for the creation of such a national organization; the convention to consist of members and associate members of the Council of Seventy; invited teachers, ministers, and editors; and invited pastors of churches and superintendents of Sunday-schools.

According to the ninety-eighth annual report of the British Sunday-School Union, 7,043 schools, with 158,104 teachers and 1,500,242 pupils, were affiliated with the union at home; 1,139 schools, with 20,280 teachers and 210,010 pupils, in the Scottish National Sunday-School Union; 802 schools, with 9,600 teachers and 96,951 pupils, in 7 colonial unions; and 6,846 schools, with 10,573 teachers and 273,794 pupils, in the India Sunday-School Union; making, together with the numbers returned by the Buenos Ayres Sunday-School Association, a total of 15,842 schools, 198,648 teachers, and 2,082,008 pupils. The General Benevolent fund had received £4,003, including £1,602 from trade profits; £1,964 had been received for continental and Indian work, and £1,964 for three children's homes and the Teachers' Home of Rest. The enterprises of the union had been greatly expanded, and it was seeking to extend Sunday work abroad as well as at home.

SWEDEN AND NORWAY, two kingdoms in northern Europe, united under the same sovereign since Nov. 4, 1814, but independent of each other in Constitution, government, and laws. Affairs common to both kingdoms are decided by a Council of State composed of Swedes and Norwegians. The throne in each monarchy passes in the order of primogeniture and in the male line to the descendants of Marshal Bernadotte, Prince of Ponte Corvo, who was elected by the Swedish Diet in 1810 to be the heir and successor of Carl XIII, the last sovereign of the house of Holstein-Gottorp. The reigning King is Oscar II, born Jan. 21, 1829, grandson of Carl XIV, the founder of the dynasty, who succeeded his brother Carl XV on Sept. 18, 1872. The heir apparent is Prince Gustaf, Duke of Vermland, eldest son of the King, born June 16, 1858.

Sweden.—The Diet of Sweden, called the Riksdag, consists of a First Chamber, of 150 members, elected for nine years by provincial and municipal assemblies, and a Second Chamber, of 230 members, elected for three years, 80 of them in towns by direct suffrage and 150 in rural districts either directly or indirectly as the majority decide, by natives of Sweden who own land assessed at a value of 1,000 kronor or have for five years farmed land assessed at 6,000 kronor or upward or pay income tax on 800 kronor. The qualified electors in 1899 were 6.7 per cent. of the population, and only 40.3 per cent. of them voted. The Swedish Council of State in the beginning of 1902 was composed of the following members: Minister of State, Baron Fredrik Wilhelm von Otter, appointed Sept. 12, 1900; Minister of Foreign Affairs, Carl Herman Theodor Alfred Lagerheim, appointed Oct. 13, 1899; Minister of Justice, Per Samuel Ludvig Annerstedt, appointed Feb. 5, 1896; Minister of War, Jesper Ingewald Crusebjörn, appointed Oct. 27, 1899; Minister of Marine, Adolf Arnold Louis Palander, appointed May 31, 1901; Minister of the Interior, Julius Edvard von Krusenstjerna, appointed Oct. 6, 1896; Minister of Finance, Count Hans Hansson Wachtmeister, appointed July 16, 1897; Minister of Education and Ecclesiastical Affairs, Nils Ludvig Alfred Claëson,

appointed June 22, 1898; Minister of Agriculture, Albrecht Theodor Odelberg, appointed March 31, 1900; Councilors of State, Dr. K. S. Husberg, appointed July 12, 1900, and Dr. Knut Hjalmar Hammarskjöld, appointed Sept. 25, 1901.

Area and Population.—The census taken on Dec. 31, 1900, shows a total population of 5,136,441, composed of 2,506,436 males and 2,630,005 females. The area and population of the lands, or provinces, into which the kingdom is divided are given in the following table:

LANDS.	Square miles.	Population.
Stockholm, city.....	13	300,624
Stockholm, land.....	3,015	172,852
Upsala.....	2,061	128,863
Södermanland.....	2,631	167,423
Östergötland.....	4,267	279,449
Jönköping.....	4,447	206,086
Kronoberg.....	3,825	159,124
Kalmar.....	4,443	227,825
Gotland.....	1,219	52,781
Blekinge.....	1,164	146,202
Kristianstad.....	2,486	219,106
Malmöhus.....	1,866	408,304
Halland.....	1,900	141,686
Göteborg and Bohus.....	1,948	337,175
Elfsborg.....	4,998	279,514
Skaraborg.....	3,280	241,069
Vermland.....	7,435	254,284
Örebro.....	3,498	194,984
Västmanland.....	2,625	146,271
Kopparberg.....	11,522	217,708
Gefleborg.....	7,614	238,048
Västernorrland.....	9,837	233,211
Jämtland.....	19,712	111,391
Vesterbotten.....	22,754	143,735
Norrbottn.....	40,870	134,769
Lakes.....	3,516	.....
Total.....	172,876	5,136,441

The population of the towns having municipal government and not represented in the Landsting was in 1900 as follows: Stockholm, 300,624; Göteborg, 130,619; Malmö, 60,857; Norrköping, 41,008; Gefle, 29,522.

The Army.—The reorganization of the army approved by the Diet in 1901 will be completed in 1913. The *indelta*, or cantoned troops, will disappear. Every Swede, according to the new law, owes military service from the age of twenty-one for eight years in the first and four years in the second ban of the *Beväring*, and afterward for eight years in the *Landsturm*. The period of service with the colors will be increased from ninety days to one hundred and seventy-two days from 1902 till 1908, and thereafter to two hundred and forty days for infantry, siege- and fortress-artillery, and train, divided into a first period of one hundred and fifty days and 3 recalls for thirty days, and for the other arms a first period of two hundred and eighty-one days and 2 recalls for forty-two days, a total of three hundred and sixty-five days. The marine troops, including the coast-artillery, serve three hundred days in all.

The effective of the Swedish army in 1901 comprised 48 general and staff officers and 233 employees, 27,633 officers and men forming 56 battalions of infantry, 5,269 forming 50 squadrons of cavalry, 3,509 in the field-artillery, 638 in the fortress-artillery, 172 in the Gotland artillery force, 991 forming 9 companies of engineers, and 772 forming 8 companies of train; total, 39,265, comprising 1,954 officers, 691 employees, 1,794 non-commissioned officers, 1,657 musicians, and 33,169 men, with 6,801 horses. There were 683 officers, 80 employees, 450 non-commissioned officers, and 75 musicians, making a total of 1,288, on leave. The strength of the *Beväring* was about 250,000, giving a war effective of 290,553 of all ranks, besides 200,000 men in the 8 classes of the *Landsturm*. The infantry are armed with Mausers

of 6.5 millimeters caliber, the reserve troops with Remingtons of 8 and 12 millimeters, the field-artillery with 8-centimeter Krupps, the horse-batteries with 7-centimeter rapid-fire guns.

The Navy.—The navy of Sweden is intended merely for coast-defense. There are 10 first-class, 4 second-class, and 9 third-class turret-ships, 3 corvettes, 5 torpedo-cruisers, 13 gunboats and despatch vessels, and 15 first-class and 11 second-class torpedo-boats.

Commerce and Production.—The cereal crops in 1900 were 1,849,600 hectoliters of wheat from 75,400 hectares, 5,210,700 hectoliters of rye from 409,700 hectares, 5,210,700 hectoliters of barley from 220,700 hectares, 24,411,400 hectoliters of oats from 820,500 hectares, and 3,993,800 hectoliters of mixed grain from 126,000 hectares. Of beans and peas 858,300 hectoliters were raised on 48,200 hectares; of potatoes, 24,643,900 hectoliters on 157,500 hectares. The live stock on Jan. 1, 1900, consisted of 525,256 horses, 2,583,065 cattle, 1,283,786 sheep, and 810,839 hogs. The quantity of iron ore mined in 1900 was 2,607,925 tons. The production of pig-iron was 518,787 tons; of bar iron, 329,965 tons; the exports of iron ore in 1899 were 1,628,011 tons; of pig-iron, 93,895 tons; of bar iron, 167,847 tons. The quantity of silver-lead ore mined in 1900 was 5,300 tons; of copper ore, 22,725 tons; of zinc ore, 61,044 tons; of manganese ore, 2,651 tons. The production of gold was 88 kilograms; of silver, 1,927 kilograms; of lead, 1,423 tons; of copper, 136 tons. The quantity of coal mined was 252,320 tons.

The total value of imports in 1899 was 504,788,683 kronor, and of exports 358,184,767 kronor. The imports of textile manufactures were 46,738,248 kronor, and exports 1,579,218 kronor; imports of grain and flour were 49,327,777 kronor, and exports 4,850,080 kronor; imports of colonial goods were 38,634,760 kronor, and exports 135,289 kronor; imports of textile materials and yarn were 47,818,471 kronor, and exports 1,252,671 kronor; imports of coal and other minerals were 82,388,362 kronor, and mineral exports 21,421,309 kronor; imports of metal manufactures and machinery were 74,605,197 kronor, and exports 22,585,054 kronor; imports of live animals and animal food products were 23,542,296 kronor, and exports 48,128,649 kronor; imports of hides, hair, and other animal products were 24,459,229 kronor, and exports 4,300,564 kronor; imports of raw and partly manufactured metals were 13,159,371 kronor, and exports 43,513,013 kronor; imports of timber and wood manufactures were 3,751,465 kronor, and exports 178,553,581 kronor; imports of paper and paper manufactures were 4,745,770 kronor, and exports 11,706,764 kronor; imports of other articles were 94,617,737 kronor, and exports 20,158,575 kronor.

Politics and Legislation.—In the session of the Riksdag that opened on Jan. 15 the question of electoral reform created more serious division than that of universal military service in the preceding session. Some years before the Government after much urging had presented a project that went too far for the Right without half satisfying the Left. The Government proposed in the new bill to give one vote to all males of twenty-five years or over who are entitled to vote in their communes and have paid their taxes for two years and two votes to qualified electors who are married or have reached the age of forty years. The committee added provisions requiring the possession of land or an income of 500 kronor. The Socialist-Labor party made demonstrations in favor of universal suffrage and threatened a general strike; which was carried

out on May 15, but lasted only two days. A commission was appointed to consider the subject of a joint Swedish and Norwegian consular service. For the purpose of providing the means to support the new army both chambers passed a progressive income-tax bill requiring each taxpayer to declare his income subject to penalties for a false declaration. All incomes above 1,000 kronor must pay taxes. All the members of the Cabinet resigned on June 28, and on July 5 the former Prime Minister Boström formed a Cabinet as follows: Premier, Herr Boström; Minister of Justice, Herr Berger; Minister of War, Lieut.-Gen. Crusebjörn; Minister of Marine, Rear-Admiral Palander; Minister of the Interior, Herr Westring; Minister of Finance, Herr Meyer; Minister of Public Worship, Carl von Friesen; Minister of Agriculture, Herr Odelberg; without portfolio, Herr Ramstedt. Elections which took place in September for the Second Chamber showed gains for the Left. A commission was appointed in October to draw up a scheme of proportional representation in the Second Chamber.

Norway.—The Norwegian Diet, called the Storting, consists of 114 members, elected for three years, 38 by the towns and 76 by the rural districts. Every Norwegian citizen twenty-five years of age who has lived five years in the country is entitled to vote for electors, 1 to 50 voters in towns and 1 to 100 in rural districts, who elect the representatives to the Storting from among the qualified voters of the district, including themselves, who have reached the age of thirty and have lived ten years in Norway. In 1900 the qualified voters were 19.7 per cent. of the population and 54.2 per cent. of them voted. When the Storting comes together it elects a fourth of its members to form the Lagthing. The other three-fourths form the Odelsting, before which all legislative bills are first laid, and which has the sole right to revise the financial estimates and to impeach ministers, judges, or members of the Storting, who are then tried by the Lagthing reenforced by the members of the highest court, forming the Rigsret. The Lagthing can reject bills passed by the Odelsting, in which case both houses meet in joint session and the matter is decided by a two-thirds vote. Amendments to the Constitution can be enacted in like manner. The Council of State at the beginning of 1902, constituted on Feb. 17, 1898, was presided over by Johannes Vilhelm Christian Steen as Minister of State, who was head of the Department of the Interior and was composed further of the following Councilors of State and heads of departments: Ecclesiastical Affairs and Public Instruction, Vilhelm Andreas Wexelsen; Justice, Ole Anton Qvam; Agriculture, Wollert Konow; Public Works, Jörgen Gundersen Lövland; Finance and Customs, Elias Sunde; Defense, Lieut.-Col. Hans Georg Jacob Stang. The delegation of the Council at Stockholm had the following members: Minister of State, Otto Albert Blehr; Councilors of State, Commodore Christian Sparre and Sören Tobias Arstad.

Area and Population.—Norway has an area of 124,445 square miles, and on Dec. 3, 1900, contained a population of 2,239,880, comprising 1,087,479 males and 1,152,401 females. The area and population of the districts into which the kingdom is divided are given on the next page.

The number of marriages in 1899 was 15,530; of births, 67,013; of deaths, 36,563; excess of births, 30,450. The number of emigrants in 1900 was 10,931, of whom 10,665 emigrated to the United States, 112 to British America, and 164 to other countries.

DISTRICTS.	Square miles.	Population.
Christiania, city.....	6	227,626
Akershus.....	2,055	116,228
Smaalenene.....	1,600	136,886
Hedemarken.....	10,621	126,182
Christians.....	9,793	116,280
Buskerud.....	5,790	112,676
Jarlsberg and Larvik.....	896	104,554
Bratsberg.....	5,865	99,052
Nedenes.....	8,609	79,935
Lister and Mandal.....	2,805	81,567
Stavanger.....	3,532	127,592
Søndre Bergenhus.....	6,026	135,752
Bergen, city.....	5	72,251
Nordre Bergenhus.....	7,132	89,041
Romsdal.....	5,788	136,187
Søndre Trondhjem.....	7,184	135,382
Nordre Trondhjem.....	8,791	83,433
Nordland.....	14,517	152,144
Troms.....	10,134	74,362
Finmarken.....	18,296	32,800
Total.....	124,445	2,229,880

Finances.—The revenue for the nine months ending March 31, 1900, was 78,827,000 kroner, of which 5,253,000 kroner came from direct taxes, 36,526,000 kroner from indirect taxes, and 24,135,000 kroner from other sources. The expenditures during the same period amounted to 75,933,000 kroner, of which 20,712,000 kroner were for defense, 5,344,000 kroner for debt, 18,569,000 kroner for public works, and 31,278,000 kroner for general purposes of government. For the year ending March 31, 1901, the total revenue was estimated at 99,641,070 kroner, including a cash balance of 3,763,200 kroner and 14,357,113 kroner raised by loan for railroads, telegraphs, and telephones, and expenditure was estimated at the same sum. For the year ending March 31, 1902, the budget balanced at 97,300,000 kroner. Of the revenue the income tax yielded 5,300,000 kroner, customs duties 35,000,000 kroner, the excise tax on spirits, 4,800,000 kroner, the malt tax 4,100,000 kroner, the succession tax 800,000 kroner, stamp 1,170,000 kroner, judicial fees 1,100,000 kroner, mines 449,000 kroner, the post-office 5,300,000 kroner, telegraphs 3,500,000 kroner, state property 4,105,154 kroner, railroads 12,608,600 kroner, miscellaneous sources 7,622,453 kroner, and loans for railroads, telegraphs, and telephones 11,444,793 kroner. Of the expenditures the civil list took 592,032 kroner, the Storting 732,000 kroner, the ministries 1,621,776 kroner, the Church and education 10,089,485 kroner, justice 7,263,929 kroner, the interior 3,709,929 kroner, the post-office, telegraphs, etc., 10,330,330 kroner, state railroads 19,943,174 kroner, roads, canals, and posts, 4,664,176 kroner, finance and customs 4,282,572 kroner, mines 608,150 kroner, amortization of debt 2,591,559 kroner, interest 7,481,357 kroner, the army 13,809,600 kroner, the navy 4,120,000 kroner, foreign affairs 781,158 kroner, miscellaneous expenses 4,678,773 kroner.

The amount of the public debt on March 31, 1900, was 231,064,994 kroner. Rural communes raised 13,377,606 kroner of taxes in 1899 and towns 15,371,137 kroner. A loan of 35,000,000 kroner at 3½ per cent. redeemable in sixty years was obtained from Scandinavian banks in January, 1902.

The Army and Navy.—The land forces of the kingdom are divided into troops of the line, the Landvaern and the Landsturm. Without the consent of the Storting the troops of the line actually under arms must never, even in time of war, exceed 18,000 men. They number about 30,000 men, with 900 officers, and the Landvaern and Landsturm number about 50,000, with 800 officers.

Norway has a small navy for coast-defense consisting of 4 English-built turret-ships, 4 monitors, 31 gunboats, and 31 torpedo-boats.

Commerce and Production.—There were 185,605 hectares under cereal crops in 1900, yielding 102,010 hectoliters of wheat, 1,284,230 hectoliters of barley, 3,401,250 hectoliters of oats, 301,940 hectoliters of rye, and 442,940 hectoliters of mixed grain. The production of peas was 76,680 hectoliters. The potato-crop from 39,122 hectares was 8,640,390 hectoliters. Grain and flour for 51,182,000 kroner were imported in 1899, the value of rye being 20,530,900 kroner. The value of meat imports was 8,223,600 kroner. The value of mineral products in 1899 was 4,642,600 kroner; of furnace products, 1,757,000 kroner. The catch of cod in 1899 was valued at 11,122,000 kroner; herring, 6,636,000 kroner; mackerel, 374,000 kroner; salmon and sea trout, 946,000 kroner; other fish, 4,663,000 kroner; lobsters, 544,000 kroner; oysters, 5,845 kroner; total value of fisheries, 24,291,000 kroner, in addition to which the North Sea mackerel fisheries, the bank fisheries, and the whale, walrus, and shark fisheries brought in 3,400,000 kroner.

The total value of imports of foreign merchandise in 1900 was 310,658,100 kroner. The exports of Norwegian produce was valued at 162,745,100 kroner; foreign exports, 10,201,300 kroner.

Change of Ministry.—The Steen ministry resigned on account of internal differences, and on April 16 and on April 18 Minister of State Blehr formed a new ministry as follows: President of the Council and Minister of the Interior, Herr Blehr; Minister of State at Stockholm, Herr Qvam; Minister of Justice, Herr Arstad; member of the section at Stockholm, Dr. Sigurd Ibsen. The Swedish Government had consented in principle to the separation of the consular representation of the two kingdoms after a contest conducted by the retiring Minister-President for ten years. Sweden still desired a common control over consuls. The Storting in May unanimously resolved to urge the question of the permanent neutrality of Sweden and Norway. A commission was appointed for the reorganization of the Norwegian army.

SWITZERLAND, a federal republic in central Europe. The legislative power is vested in the Federal Assembly, which is composed of the National Council, of 147 members elected for three years by adult male suffrage, and the State Council, of 44 members elected in the cantons, some by the legislative bodies, others by the direct votes of the people. The executive power is vested in the Federal Council, the members of which are elected for three years by the Federal Assembly. The Federal Council elects one of its members to serve for the ensuing year as President of the Swiss Confederation and one to be Vice-President. According to custom the Vice-President is chosen to succeed to the presidency at the next annual election. The Federal Council in the beginning of 1902 was composed of the following members: President of the Confederation and Chief of the Political Department, Dr. E. Brenner, of Basel; Vice-President and Chief of the Department of Posts and Railroads, Dr. Joseph Zemp, of Lucerne; Chief of the Interior Department, M. E. Ruchet, of Vaud; Chief of the Department of Justice and Police, R. Comtesse, of Neuchâtel; Chief of the Military Department, E. Müller, of Bern; Chief of the Department of Finance and Customs, W. Hauser, of Zürich; Chief of the Department of Commerce, Industry, and Agriculture, Dr. A. Deucher, of Thurgau.

Area and Population.—The area of Switzerland is 15,976 square miles. The legal population at the census of Dec. 1, 1900, was 3,315,443. The population present was 3,325,023. In 18 cantons

German is spoken by the majority, in 5 the language is French, in Ticino it is Italian, and in Graubünden, or Grisons, Roumansch is spoken. The population of the Confederation was divided as to language in 1900 as follows: German, 2,319,105; French, 733,220; Italian, 222,247; Roumansch, 38,677. The number of foreigners residing in Switzerland in 1900 was 392,896. The number of marriages in 1900 was 25,538; of births, 98,419; of deaths, 60,572; excess of births, 32,847. The number of emigrants in 1900 was 3,816, of whom 931 came from Bern, 556 from Ticino, 468 from Zürich, 240 from Basel Stadt, 188 from St. Gall, and 1,433 from other cantons. The destination of 3,341 was the United States, while 341 went to South and Central America, 21 to Asia, 17 to Africa, and 16 to Australia.

Finances.—The revenue of the Federal Government for 1902 was estimated at 102,240,000 francs, of which 930,310 francs were derived from real property, 2,108,389 francs from invested capital, 57,100 francs from the general administration, 36,500 francs from the Political Department, 99,900 francs from the Interior Department, 530,400 francs from the Department of Justice and Police, 2,791,100 francs from the Military Department, 225,000 francs from the Department of Finance, 48,000,000 francs from customs, 507,820 francs from the Department of Commerce, Industry, and Agriculture, 134,400 francs from railroads, 39,255,900 francs from the post-office, 9,548,600 francs from telegraphs, and 14,581 francs from miscellaneous sources. The total expenditure was estimated at 108,120,000 francs, of which 4,249,480 francs were for interest and sinking-fund of the debt, 1,131,400 francs for general administration, 683,100 francs for the Political Department, 12,766,541 francs for the Department of the Interior, 551,950 francs for the Department of Justice and Police, 28,552,136 francs for the Military Department, 775,100 francs for the Department of Finance, 5,156,000 francs for collection of customs, 1,485,200 francs for the Department of Commerce, Industry, and Agriculture under the head of industry, 2,860,170 francs for agriculture, 659,900 francs for commerce, 25,900 francs for the Assay Office, 395,000 francs for railroads, 37,047,900 francs for the post-office, 11,744,199 francs for telegraphs, and 36,024 francs for miscellaneous expenses. The debt of the Confederation on Jan. 1, 1901, amounted to 92,424,387 francs, most of it paying 3½ per cent. interest. The Confederation owned real property worth 54,386,865 francs, 31,463,671 francs of securities, works producing profits worth 32,886,011 francs, 20,180,281 francs' worth of stores, 838,309 francs of collectable debts, 38,233,021 francs in special funds, and 8,744,652 francs in the alcohol *régie*, railroads, and cash on hand; total, 186,732,810 francs.

The Army.—Switzerland has a militia system in which schoolboys at the age of eight begin their military exercises, and shooting and other martial accomplishments are prominent among the sports of the people. The cantons maintain the infantry and the main part of the cavalry and artillery. The Federal Government provides for their military training and maintains the cavalry guides, the artillery park, the train, the engineer corps, and the technical, administrative, and sanitary troops. Recruits of education and pecuniary means are selected for the engineers, artillery, and cavalry. Men who do not serve in the army pay a military tax of 6 francs and a supplementary annual tax proportionate to their means up to a maximum tax of 3,000 francs a year. Half the tax goes to the Confederation and half to the cantons. From the age of twenty

to the age of thirty-two the men in the army belong to the Auszug or Élite, then till the age of forty-four to the Landwehr, and after that to the age of fifty to the Landsturm. The Landwehr is divided into 2 bans, the first comprising men between the ages of thirty-two and forty, the second those from forty to forty-four years of age. The annual contingent of recruits for 1900 was 16,234. The number of men enrolled in the Auszug and Landwehr was 252,598, and the number paying the military tax was 292,737. The effective of the Auszug on Jan. 1, 1901, was 114,843 infantry, 4,641 cavalry, 20,113 artillery, 5,507 engineers, 4,940 sanitary troops, 1,444 administrative troops, and 278 cyclists, making a total of 151,766 officers and men; effective of the first ban of Landwehr, 40,840 infantry, 3,433 cavalry, 11,174 artillery, 4,461 engineers, 2,912 sanitary troops, 825 administrative troops, and 89 cyclists, a total of 63,734; second ban of Landwehr, 21,059 infantry, 2,403 artillery, 718 sanitary troops, and 29 administrative troops, a total of 24,209; Landsturm, 44,506 infantry, 2,981 artillery, 108,674 pioneers, 113,762 auxiliaries, 7,441 sanitary troops, and 1,192 cyclists, a total of 278,556, of whom those classed as pioneers and auxiliaries are not provided with arms. Recruits receive instruction for two or three months in the first year, and in succeeding years the cavalry exercise annually for ten days and the other troops for three weeks every second year.

Commerce and Production.—Rye, oats, and potatoes are the chief farm crops, but vineyards and orchards occupy more land, and the mountain pastures are a greater source of wealth than all these. The exports of cheese in 1900 were 273,361 quintals; of condensed milk, 282,986 quintals. There were 124,896 horses, 4,866 mules and asses, 1,340,375 cattle, 219,438 sheep, 354,634 goats, and 555,261 pigs in 1901. The wine produced on 30,448 hectares of vineyards in 1900 was 2,103,255 hectoliters. The production of salt in 1900 was 492,841 quintals; of cement, 571,920 metric tons. The industries of the country are varied and highly developed, including watch-making, jewelry, textile manufacture of many kinds, leather and rubber, wood-making, chemical works, food preparations, metallurgy, paper-making. The quantity of beer brewed in 1900 was 2,166,372 hectoliters. The alcohol *régie* during the year ending Aug. 31, 1901, sold 51,802 quintals of spirits for drinking and 47,208 quintals of methylated spirits. The hotels of Switzerland are 1,896 in number, having a capital of 550,480,000 francs.

The total value of imports for consumption in the country was 1,206,809,617 francs in 1900, and the exports of domestic produce and manufacture were valued at 884,898,771 francs. The total value of effective imports, excluding goods in transit, was 1,217,373,005 francs, and of effective exports 894,991,205 francs. In the special trade of 1900 imports of merchandise amounted to 1,058,944,569 francs, and exports to 818,692,454 francs; imports of coin were 95,699,917 francs, and exports 48,819,071 francs; imports of uncoined precious metals were 52,155,131 francs, and exports 17,387,246 francs. In the merchandise movement the imports of cotton and cotton goods were 80,369,333 francs in value, and exports 167,614,696 francs in value; imports of silk and silk goods 145,154,730 francs, and exports 224,509,565 francs; imports of wool and woollen goods 55,856,338 francs, and exports 18,768,441 francs; imports of flax and linen goods 12,612,505 francs, and exports 1,616,763 francs; imports of metals 104,573,900 francs, and exports 12,453,241 francs; imports of mineral substances 93,027,861 francs, and exports 4,764,241

frances; imports of animals, 43,507,525 francs, and exports 12,162,176 francs; imports of animal products 9,589,795 francs, and exports 12,113,882 francs; imports of leather and boots and shoes 23,758,055 francs, and exports 10,134,823 francs; imports of articles of food and drink and tobacco 272,832,903 francs, and exports 104,029,231 francs; imports of chemicals and drugs 30,912,919 francs, and exports 13,044,356 francs; imports of timber 27,981,819 francs, and exports 5,758,781 francs; imports of clocks and watches 3,482,304 francs, and exports 122,823,277 francs; imports of machinery and vehicles 36,785,185 francs, and exports 49,510,963 francs; imports of oils 11,042,132 francs, and exports 507,198 francs; imports of agricultural products 6,667,079 francs, and exports 532,229 francs; imports of objects of science and art 18,694,459 francs, and exports 9,613,498 francs; imports of paper 8,860,916 francs, and exports 3,403,713 francs; imports of glass and pottery 10,716,977 francs, and exports 1,149,636 francs; imports of fertilizers, etc., 11,769,057 francs, and exports 3,494,327 francs; imports of clothing 29,021,139 francs, and exports 11,269,777 francs; imports of colors 7,473,037 francs, and exports 15,915,096 francs; imports of miscellaneous articles 14,264,621 francs, and exports 13,508,740 francs. Among food-products wheat was imported of the value of 69,701,809 francs and flour of the value of 5,424,473 francs. The exports of cheese were valued at 43,479,205 francs; condensed milk, 26,733,183 francs. The special imports from and exports to the different countries, including uncoined precious metals, were valued in 1900, in francs, as follow:

COUNTRIES.	Imports.	Exports.
Germany.....	35 74	801,573,146
France.....	30 88	109,568,188
Great Britain.....	8 86	173,504,806
Italy.....	10 86	44,180,839
Austria-Hungary.....	6 14	45,548,730
Russia.....	4 08	36,861,132
Belgium.....	2 44	14,528,080
Netherlands.....	2 84	6,701,791
East of Europe.....	2 50	26,083,708
America.....	2 75	128,231,307
Asia.....	3 59	22,048,048
Africa.....	1 18	8,086,805
Australia.....	.....	4,180,984
Not stated.....	.....	4,388,663
Total.....	1,111,109,700	886,079,700

Railroads, Posts, and Telegraphs.—The railroads in 1900 had a total length of 2,362 miles, besides which there were 200 miles of rack and cable railroads and tramways. The capital cost of the railroads proper was 1,249,779,489 francs, and of the other lines 37,101,600 francs; total, 1,286,881,089 francs. Receipts in 1899 were 138,097,542 francs, and expenses 79,303,177 francs. The number of passengers carried in 1900 was 64,512,071; freight traffic, 14,226,218 tons; receipts, 126,456,260 francs.

The post-office in 1900 carried in the internal service 93,646,364 letters, 39,002,887 postal cards, 37,176,298 book packets, etc., 987,901 samples, 117,231,417 newspapers, and 2,361,455 parcels, and of foreign matter 21,139,703 letters, 15,857,275 postal cards, 8,561,425 book packets, 935,961 samples, and 1,518,633 parcels. The internal post-office orders amounted to 622,629,803 francs; international orders, 59,778,482 francs.

The State telegraph-lines in 1900 had a length of 4,288 miles, with 13,478 miles of wire, and there were 1,412 miles of railroad and private telegraph-lines, with 8,954 miles of wire. The number of internal despatches was 1,577,974; international despatches, 1,694,371; despatches in transit, 677,817. The telegraph receipts were 3,031,582 francs, and expenses 3,043,952 francs; receipts from telephones were 6,229,857 francs, and expenses 7,115,206 francs. The length of telephone-lines was 8,807 miles, with 82,342 miles of line. The number of conversations in 1900 was 25,626,772.

Politics and Legislation.—The acquisition of the railroads by the Confederation was completed in 1902 and the railroad bonds are being converted into 3½-per-cent. federal bonds. The Federal Council on Aug. 19 issued a decree requiring religious congregations and orders not authorized by law to close in accordance with an article in the Constitution prohibiting the founding of new convents or orders or the reestablishment of such as have been suppressed. In the general election to the National Council on Oct. 26 the Radical-Democratic majority was considerably strengthened. The number of members, owing to the growth of the population, was increased from 147 to 167. For the future it has been decided by a popular referendum that in apportioning 1 seat to 20,000 inhabitants only the Swiss, not the total, population will be reckoned.

T

TELEGRAPHY, WIRELESS. (See WIRELESS TELEGRAPHY.)

TENNESSEE. (See under UNITED STATES.)

TEXAS. (See under UNITED STATES.)

TURKEY, an empire in eastern Europe and western Asia. The Government is an absolute monarchy, the laws of which are founded on the Koran. The Sultan exercises supreme civil authority through the Grand Vizier and supreme religious authority through the Sheikh-ul-Islam, whose appointment is made with the concurrence of the Ulema, a body composed of the highest acknowledged exponents of Mohammedan laws and doctrines, summoned by the muftis, who are the expounders of the Koran. The reigning Sultan is Abdul Hamid II, thirty-fourth ruler of the house of Osman and twenty-eighth since the capture of Constantinople in 1453, born Sept. 22, 1842, son of Sultan Abdul Medjid and brother of the deposed Sultan Murad V, whom he succeeded on Aug. 31, 1876. The throne descends to the senior prince born in the harem. The heir appar-

ent is the Sultan's brother, Mohammed Reshad, born Nov. 3, 1844. The Privy Council, or Cabinet, was composed in the beginning of 1902 as follows: Grand Vizier, Kutchuk Said Pasha, appointed Nov. 17, 1901; Sheikh-ul-Islam, Jemaledin Effendi, appointed in September, 1891; Minister of the Interior, Memduh Pasha; Minister of Justice and Worship, Abdurrahman Pasha; Minister of War, Riza Pasha; Minister of Marine, Hassan Pasha; Minister of Foreign Affairs, Ahmed Tevfik Pasha; Minister of Finance, Reshad Pasha; President of the Council of State, Mohammed Said Pasha; Grand Master of Artillery, Mustafa Zekki Pasha; Minister of Evkafs, Galib Pasha; Minister of Education, Zubdi Pasha; Minister of Public Works and Commerce, Zihni Pasha.

Area and Population.—Turkey in Europe has an extent of 65,752 square miles, with 6,086,300 inhabitants; Asiatic Turkey, 650,394 square miles, with 17,545,300 inhabitants; Tripoli and Benghazi, 398,900 square miles, with 1,300,000 inhabitants. The total area is 1,115,046 square miles

and the total estimated population 24,931,600, including only the territories at present under Ottoman administration. The countries under Turkish suzerainty, but no longer subject to the civil or military rule of the Ottoman Government, are Egypt, Bulgaria, Bosnia and Herzegovina, Samos, Cyprus, and Crete, having a combined area of 468,520 square miles and 15,746,379 inhabitants. Constantinople, the capital of the empire, has a population of about 1,125,000; Smyrna, 201,016; Bagdad, 145,000; Damascus, 140,487; Aleppo, 127,149; Beirut, 118,811; Salonica, 105,000.

Finances.—The available revenue of the Turkish Government is estimated at £ T. 13,961,700, and the normal expenditure at £ T. 15,354,000, leaving, unless it is averted by administrative and fiscal reforms, a deficit of £ T. 1,392,300. This estimate does not include the expenses of the external debt nor the revenues surrendered to the Council of the Debt Administration, viz., the Bulgarian, Eastern Roumelian, and Cyprus tributes, the tax on Persian tobacco, and the excise duties. A guaranteed loan of £5,000,000 sterling raised in 1855, loans secured on the Egyptian tribute, the Tumbeki loan of £900,000, and a loan of £5,909,080 raised in 1886 are not included in the debts administered by the international council. The receipts of the Council of Administration from taxes on salt, spirits, fisheries, and silk, stamps, the tobacco tithe and *régie*, and other ceded revenues in 1901 were £ T. 2,189,739. The Eastern Roumelian tribute fell into arrears and part of the Cyprus tribute was kept back till the following year; moreover, some of the ceded revenues declined, so that the receipts fell below those of the preceding fiscal year, at the end of which a reserve fund of £ T. 574,000 had been accumulated. The interest that the Council of Administration has been able to pay hitherto is 1 per cent. With increased receipts it may be raised to a maximum rate of 4 per cent., 20 per cent. of the amount received being set aside for amortization. The total amount of the Turkish debt outstanding on July 1, 1901, was £ T. 133,939,003, not including the war indemnity to Russia, of which £ T. 24,513,000 were still due, and £ T. 50,000 due to individual Russians, nor the Damascus Railroad debt of £ T. 273,494.

The Army.—The Nizam, the Redif, and the Mustahfiz of the Ottoman army correspond to the active army, the Landwehr, and the Landsturm in other countries where conscription obtains. Recruits have to serve, the infantry three years, the cavalry and artillery four years in the Nizam with the colors, and three or two years respectively in its reserve, or they are assigned at once to the reserve and are drilled from six to nine months and one month annually in succeeding years. Any conscript after three months of active service in the Nizam can obtain an indefinite furlough by paying £ T. 50. After the Nizam period is past the soldiers belong four years to the first and four years to the second ban of the Redif, and then six years to the Mustahfiz. Christians and Jews pay an annual military tax of 30 piasters for every male. Nomadic Arabs escape conscription, and many of the Kurds as well, but these are being enrolled, in Armenia, Kurdistan, and Mesopotamia, in a mounted militia, the *hamadiéh* cavalry, under their tribal chiefs. The *nizam* and Redif infantry have been armed with Mausers, the European regiments with the small-bore rifle of 7.65 millimeters, the Asiatic troops with one of 9.5 millimeters. There are 7 *ordus*, or army corps, drawn from as many military regions, with headquarters at Constantinople, Adrianople, Monastir, Erzinjan, Damascus, Bagdad, and Sanaa in

their numerical order. The Seventh Corps is not recruited in Yemen, where few loyal troops can be raised, but mainly among the Turks of Asia Minor, who furnish some troops for the garrison of Tripoli and European Turks the rest. The effective of the Turkish army in 1901 was as follows: 583,200 infantry, in 648 battalions; 55,300 cavalry, in 202 squadrons; 55,720 artillery, with 1,356 guns; and 7,400 engineers, in 39 companies; total, 700,620 men. The war effective is computed at 1,500,000 men.

The Navy.—The principal ships of the Turkish navy are the Hamidieh, of 6,700 tons; the Mesudieh, of 9,000 tons; and the barquette cruiser Abdulkader. A contract was signed in 1901 for the construction of a new cruiser in the United States.

Commerce and Production.—The cultivated area in the Turkish Empire is about 44,000,000 acres. Forests cover 21,000,000 acres, but they are being rapidly diminished. About 1,000,000 hectoliters of wine are made annually, of which 160,000 hectoliters are exported. Silk and silk-worm eggs are exported. The production of oil of roses in 1901 was about 2,600 kilograms. The export of raw silk in the fiscal year 1901 was 443,244 kilograms; of silk waste, 176,905 kilograms; of twisted silk, 151,482 kilograms; of cocoons, 133,975 kilograms; salt, 35,223 metric tons.

Navigation.—The number of vessels entered and cleared at Constantinople from and for foreign ports in 1900 was 10,787, of 10,277,272 tons, of which 3,169, of 410,289 tons, were sailing vessels and 7,618, of 9,866,983 tons, were steamers. Of the vessels 6,056, of 723,312 tons, were Turkish; 2,661, of 4,220,648 tons, were British; and 2,323, of 1,589,851 tons, were Greek. The total number of vessels entered and cleared during the year was 14,394, of 10,475,735 tons. The number entered and cleared at all Turkish ports in 1898 was 173,739, of 34,653,457 tons. The merchant marine in 1900 comprised 2,205 sailing vessels, of 141,055 tons, and 177 steamers, of 55,983 tons.

Railroads, Posts, and Telegraphs.—The length of railroads in 1900 was 2,980 miles, of which 1,267 were in European Turkey and 1,713 miles in Asia Minor. A railroad from Konia to Bagdad and Koweit is planned by a German syndicate, one from Damascus to Aleppo by French capitalists, one is being built with British capital from Damascus to Haifa, and one is projected by the Turkish Government from Damascus to Medina and Mecca.

The Turkish post-office during 1898 forwarded 11,880,000 letters and postal cards and 2,583,000 samples and printed enclosures in the domestic and 6,046,000 letters and postal cards and 3,363,000 samples and printed enclosures in the international service.

The telegraphs have a length of about 23,440 miles, with 38,400 miles of wire. The receipts amount to £869,700 and expenses to £324,280 a year.

The Island of Thasos.—Mehemet Ali, the first Viceroy of Egypt, received from the Sultan Selim I, as a reward for services rendered in Arabia, the island of Thasos, in the *Ægean*. It is a place of great strategical value, because it commands the entrance to the Dardanelles. The island has been administered by the Egyptian Wakf, and its revenues are devoted to the maintenance of a school of Mohammedan theology. The Turkish Government has contended that only the usufruct was granted, while Egyptian authorities hold that there was a cession of territory. The Egyptian Government has collected only

£ T. 7,000 taxes from the island and has supplemented this with an equal amount in order to keep up the religious institution. In 1902 the Egyptian commissary levied a goat tax, not merely in order to add to the revenue, but to preserve the trees which the multitudes of goats were destroying. The people refused to pay the tax, and when it was enforced they resisted. There was a fight in which many persons were wounded. The Sublime Porte therefore ordered the incorporation of the island as a new district in the vilayet of Salonica. A Turkish administrator appeared with gendarmes and law officials and assumed jurisdiction and control. The Khedive sent the director of the Wakf to enforce his rights of property and administration, but he was not successful in doing so. The English authorities thereupon offered the Khedive their support, but their intervention was declined.

Political Disturbances.—There was more unrest among the Christian populations of the Turkish Empire in 1902 than there had been for some years before, and a corresponding ferment was started among neighboring Mohammedan peoples. The financial embarrassment of the Central Government rendered any attempt at reorganization or reform impossible, and that embarrassment was increased by the mobilization of troops for the prevention of rebellion. The restraining influence of the Austro-Russian accord alone kept the Macedonians from a general open revolt, and caused a split among the Macedonians themselves, the majority of whom lost faith in Bulgarian aid, since Bulgaria was held in restraint by Russia, and planned a spontaneous movement for the creation of an autonomous Christian state within the Turkish Empire. The Albanians showed some tendency to break loose from Turkey and set up a separate Mohammedan state. Italians and Austrians were secretly busy in Albania endeavoring to foster their respective national interests and influence. The ill treatment of Servians by Albanians prompted Russia to establish a consulate in the country to watch over the safety of the Slav inhabitants. Neither Greece nor Servia would engage in a national propaganda in Macedonia, and the Bulgarian propaganda relaxed, although the revolutionary desires of the Macedonians were keener than ever. The Armenians put forward their national aspirations once more. They held a congress in Brussels, and afterward revolutionary outbreaks occurred at Mush and Sasun, which were rigorously repressed. The United States minister succeeded in getting from the Porte indemnities for the American schools and missions that were destroyed by the Turks in the Armenian outbreak of 1895. The Gregorian patriarch obtained an *trade* recalling the exceptional laws under which the Armenians have suffered ever since by convincing the Sultan that the masses of the Armenians are loyal to his rule. Until the *Hintchak* and other secret societies bred a revolutionary spirit among the Armenians they were the most favored race next to the Turks in the whole empire and were known distinctively as the loyal community. The Arabs betrayed their characteristic aversion to Turkish rule that is always manifested when the resources of Stamboul are crippled. A difficulty arose with Italy regarding piracy in the Red Sea. The Italian Government notified the Porte that if this was not stopped it would take measures itself to do so. An ultimatum was sent to the Arab authorities, and when it expired on Nov. 5 the Italian squadron sunk the pirate dhows of the island of Midi and the Turkish troops captured the chiefs, two old

Turkish cruisers having been repaired and sent to Yemen with troops to accomplish this purpose. The French Government took similar steps to protect its commerce. An English gunboat bombarded Balhof, the chief of that town having plundered a British ship that was wrecked on the coast. Koweit, at the head of the Persian Gulf, has been taken under the protection of Great Britain, and the Vali of Busra was thwarted in his efforts to reestablish Turkish authority over this stronghold, important for naval purposes and also a more commanding position in the Arabian peninsula than the rugged promontory of Aden, where Great Britain has extended its territory up to the edge of effective Turkish occupation, whereas in central Arabia effective Turkish possession is impossible without a military effort that the Porte has not the means of making at present. The Sheik of Koweit has been aided before in asserting his independence, and with British aid he has successfully defied the Turks, although Busra was made a separate vilayet in 1884 for the purpose of organizing Turkish rule in this part of Arabia. The Wahabis in the interior are supplied from Koweit with the means of maintaining their rebellion against the Turks, while British war-ships are kept at Koweit to forbid the landing of a Turkish force to subdue the rebellious Sheik Mubarakh. The position of the latter, however, can only be made secure by the constant presence of a British naval force ready to protect him against rival claimants. One of these, Ibn el Rashid, Emir of Nejd, attempted in September to attack him by land and water, and the British naval authorities intervened to save him. The British Government called upon the Porte to punish the Emir of Nejd, but the Vali of Busra did nothing. The dhows in which a part of the attacking force came were captured by British sailors, one of whom was killed. Germany has permission to extend the Bagdad river to Koweit, which lies at the mouth of the Tigris, and is unwilling that England by means of intrigues with Arab chiefs shall establish territorial claims in this part of Arabia, and British claims are not yet recognized by Russia or any of the powers. The Turks took more active measures for the suppression of piracy. The British alone have encouraged the rebellious Arabs in their revolts against Turkey and question the sovereign rights of the Sultan over the peninsula, compelling him to keep an army corps in Yemen and one on the other side of Arabia. Turkish sovereignty is not questioned in the holy places. The extension of the British protectorate over the part of Yemen lying behind Yemen was obtained by aiding a few rebellious tribes in their resistance to Turkish authority. The Sultan of Makalla and Chahar is desirous of setting up an independent kingdom, and if the British give him effective support they may establish a protectorate over a large part of Yemen, where their interests do not come into conflict with those of other powers as directly as in the Persian Gulf. Two commissions have been sent to delimit the British sphere in the Hinterland of Aden, and neither reached a definite conclusion of the matter. The Turkish Government will not admit the British extensions, which have been accompanied by the demolition of Turkish fortifications and the British authorities are content to leave the question open. In the Gulf of Aden, pending the negotiation of a more definite arrangement, the Porte agreed with Great Britain to maintain the *status quo* and not to attempt to land troops for the subjugation of the Sheik of Koweit.

The Vali of Busra established direct Turkish dominion over a great part of Nejd to guard against any extension of British claims such as those over the federated rebel tribes behind Aden. The Turkish Government consented to the passage of 4 Russian torpedo-boats up the Dardanelles into the Black Sea. These vessels carried no arma-

ment, and by this means they technically evaded the clause in the treaty of Berlin by which the straits were neutralized, which condition was imposed by England and the other powers not merely to safeguard Turkey, but also to prevent the development of Russian naval power in the Mediterranean Sea.

U

UNITARIANS. The reports of the American Unitarian churches for 1902 give them 540 ministers, 452 societies, and 71,000 members.

The annual meeting of the American Unitarian Association was held in Boston, Mass., May 27. The Rev. Samuel A. Eliot, D. D., presided. The report of the secretary showed that the names of 97 new life members had been enrolled; that 12 new churches, 21 preaching stations, and 27 ministers had been added during the year, 15 of the ministers having been received from various orthodox denominations; services had been resumed at 8 places, and missionary preaching had been maintained during the summer months at 8 points. The president of the association had visited 84 churches and the secretary 95 churches; and reports of similar labors were received from district and state secretaries. The gifts for capital account or increase of endowment amounted to more than \$60,000. Among them were gifts of \$10,000 to establish the James Walker fund, in memory of Dr. James Walker, the secretary of the first meeting called to establish the association, and one of its original directors; and \$24,000 as a memorial fund of Dr. Ezra Stiles Gannett, the first secretary of the association. Considerable attention had been given to missionary work among Spanish-speaking peoples. Tracts had been printed in Spanish and mailed to persons in Mexico and Cuba; and work had been instituted on the plan of the post-office mission; but no intention existed at present to undertake the establishment of Unitarian churches in Cuba. The work of special committees on investigating the condition of country work, on retiring allowances for ministers, on the sources of the Unitarian ministry, on non-sectarian education, and on plans for new church buildings was mentioned. The budget of the treasurer for 1902-'03 provided for the expenditure of \$91,500, income from the churches and from the various funds of the association.

A resolution was passed placing the association on record as condemning all such evils as the employment of children under twelve years of age in factories in the Southern States, and as favoring protective legislation in their behalf. A memorial was adopted to be presented to the President of the United States and the two houses of Congress, expressing deep concern "for a just, honorable, and humane settlement of our difficulties with the people of the Philippine Islands," asking that such prompt and efficient measures be taken as might "replace the present methods of coercion with a policy of conciliation and good will," and pledging support to the President "in his expressed desire to secure for the people of the Philippine Islands 'self-government after the fashion of really free nations.'" The committee appointed to confer with the Universalists reported progress, the organization of the joint commission of Unitarians and Universalists, and its first regular meeting Jan. 20, 1902, and was continued. The annual meetings of the Unitarian Sunday-School Association, the Unitarian Historical Society, and the National Alliance (Women's) were held in con-

nection with the meeting of the association. The reports of the National Alliance concerned the post-office mission, the study class, missions in the South, local missions, student aid, tours of secretaries, and other work aiming at cooperation in every possible way with the American Unitarian Association.

The annual meeting of the British and Foreign Unitarian Association was held in London, May 20. The report opened with a reference to the successful "International Council of Unitarians" that was held in 1901; it mentioned the publication of several volumes and the circulation of leaflets, which had reached very high figures; the increase of correspondence with inquirers; the foundation of a new church at Auckland, New Zealand; the work in Scotland, carried on chiefly by the aid of the McQuaker bequest; and the progress of the work in India, attended by a keen demand for literature. The grants in aid to congregations had amounted to £2,030. The education bill was condemned because its tendency was believed to be to perpetuate and intensify denominationalism, and the association declared that "the state ought in education to concern itself not with the desires of churches and sects, but with the needs and rights of citizens, and that the community which pays should appoint not less than two-thirds of the management." The Postal Mission and Unitarian Workers' Union held its fourteenth annual meeting. The presidential address was delivered by Mr. W. Blake Odgers, K. C.; the president-elect, the Rev. R. A. Armstrong, spoke on *The Principles of Unitarian Christianity as Distinguished from its Doctrines*; and other addresses were delivered on the importance of preaching truth in the common life, Unitarianism and Humanism, and *The Causes which have Retarded the Effectiveness of the Unitarian Churches*. The report of the National Unitarian Temperance Association showed a small but steady advance in the number of members and of affiliated societies.

UNITED EVANGELICAL CHURCH. The statistical reports of this Church for 1902 give it 501 ministers, 820 churches, and 63,390 communicant members. The bishops, in their quadrennial address to the General Conference in October, represented that the net gain in members for four years had been 4,200. During the same period 27,279 conversions had been reported, and 29,842 accessions by confession of faith. The gain in itinerant preachers in four years had been 75, while the number of local preachers, 214, remained exactly the same. The contributions during the quadrennium had been \$261,668 for missionary purposes, \$77,295 for other conference collections, \$117,412 for Sunday-school work, \$710,371 for preachers' salaries, and \$508,641 for building and repairing churches and parsonages; in all, \$1,675,387. One hundred and thirty-six churches and 88 parsonages had been added, and the total valuation of church property—\$2,751,207—had increased \$804,908, or 41 per cent.; but there were still 159 organized congregations without a church building. Of the educational institutions, Central

Pennsylvania and Albright Colleges had been united into one, called Albright College, and Dallas Seminary, Oregon, had become Dallas College. The per capita missionary contributions had increased from 70 cents in 1898 to \$1.13, or 61 per cent. The report of the statistical secretary gave the following percentages of gains during the past four years: In membership, 7.2; in preachers, itinerant and local, 11.7; in organized congregations (three years), 5.4; in Sunday-schools (present number 887), 13.1; in average attendance on the same (53,710), 6.2; in Keystone League Christian Endeavor Societies, 2.4, with a small decrease in active membership; in Women's Missionary Societies (231), 37.5; in active membership of the same, 37.1; in Young People's Missionary Societies (33), 120, and 120 per cent. in their membership; in mission bands (123), 36.6, and 61 per cent. in their membership; in aggregate circulation of periodicals, 16.4; in missionary collections—conference treasury, 34.6; general treasury, 109; in average missionary contribution per member, 60; in average salary of preachers (\$537), 10.3; in average contribution per member for preachers' salaries (\$3.17), 18.2.

The Board of Church Extension reported to the General Conference that its receipts for four years had been \$1,649, and its expenditures \$2,179. Six churches had been aided during the time. The receipts for the past year had been \$449.

The total volume of business of the publishing house at Harrisburg, Pa., for the past year had been \$65,754, showing an increase of \$3,228 over the previous year. The net profit for the year had been \$3,981.

The charitable society had received \$2,402 and expended \$31 in four years, and returned its resources on Oct. 1, 1902, as \$3,330. A by-law of the society provides that none of the income arising from its revenues or investments shall be distributed till the fund amounts to \$10,000.

The receipts of the Missionary Society for the year ending Oct. 1 had been \$21,366, and the expenditures \$20,872. The Conference Missionary Societies had received \$40,109, and expended \$53,741. The Woman's Missionary Society had received \$13,703 and expended \$10,138. The amount of the foreign mission fund—\$3,905 having been added during the year—was \$9,742; and the receipt of \$49 for the First Church in China was acknowledged. The quadrennial statement made by the society to the General Conference gave the total receipts for four years as \$254,142, and the expenditures as \$253,721. The appropriations for 1902-'03 amounted to \$66,600.

The General Conference met at Williamsport, Pa., Oct. 9. The report on education gave accounts of the three higher institutions—Albright College, Myerstown, Pa.; Western Union College, Le Mars, Iowa; and Dallas College, Dallas, Ore.; and embodied a declaration, which was adopted by the conference, that the demand upon the Church is imperative to furnish its youth the opportunity for thorough education in its own institutions, and under the guidance and influence of men and women of its faith. Regulations were adopted for the government of the theological institutions and theological departments in schools, prescribing that all the members of the Boards of Trustees controlling such departments shall be members in good standing of the United Evangelical Church; that each teacher shall be likewise a member of the Church, and shall, before he enters upon his office as a teacher and each successive year thereafter before the opening of the school year, sign a declaration promising "to uphold the doctrines, discipline, and polity of the United

Evangelical Church, as set forth in its discipline and established usages, and to teach nothing not in perfect harmony with, or subversive of, said doctrines, discipline, and polity," so long as he remains in connection with the institution.

Provision was further made for dealing with teachers offending against these rules, and each theological school was made amenable to the annual conferences under whose control it stands, to which it was required to report. A post-graduate course of study for preachers was adopted. A new article on church extension was adopted for insertion in the Discipline, contemplating the reorganization of the society on such a basis as shall enlist the entire Church in its work. The election of a corresponding secretary of the Missionary Society was recommended, he to be without salary except such compensation as may be given him for actual service in canvassing the Church. The interest of the conference was expressed in the newly established mission at Changsha, China; the purchase of property there was advised; the establishment of a medical service as soon as practicable recommended; and the establishment of a training-school in connection with the mission work was directed. All forms of Sabbath desecration were discountenanced and condemned, and all ministers and members of the Church were urged to keep constantly in mind the great importance of maintaining and perpetuating the sacredness of the Lord's Day. Resolutions on moral reform and temperance took cognizance of the various current aspects of temperance action and discussion and the standard of personal purity, emphasized the importance of steadfast adherence to the rule of the Church on divorce (for adultery only), and expressed opposition to all monopolies injurious to healthy competition. The interests and organization of Sunday-schools and Christian Endeavor Societies were recognized in resolutions embodying suggestions as to their conduct. A complete change of bishops was effected, the Rev. H. R. Hartzler, D. D., editor of the English official newspaper, The Evangelical, and the Rev. William F. Heil being chosen to that office, while Bishop W. M. Stanford was elected editor of The Evangelical and Bishop Rudolf Dubs editor of the Zeitschrift, the German official organ. The conference directed that one of the bishops should live in the East and one not farther east than Chicago.

UNITED STATES OF AMERICA, a federal republic in North America. The legislative power is vested in the Congress, consisting of the Senate and the House of Representatives. There are 90 Senators, 2 from each State, elected by the State Legislatures for six years, one-third being renewed every second year. The House of Representatives has 357 members, elected in the congressional districts, into which the States are divided on the basis of the population shown in the last preceding decennial census, for two years by the ballots of all persons qualified to vote in State elections, in most States by universal adult male suffrage. Each House of Congress is the judge of the elections, returns, and qualifications of its own members. No person holding office can while continuing in office be a member of either House. Senators must be thirty years of age, citizens of the United States for nine years, and residents of the States in which they are chosen. Representatives must be twenty-five years of age, citizens for seven years, and residents of the States from which they are elected.

The executive power is vested in the President of the United States, who is commander-in-chief of the military and naval forces, can lay before Congress projects of legislation, is empowered to

make treaties, subject to the ratifying vote of two-thirds of the Senate, has power to veto acts of Congress, which can be passed over the veto by a two-third majority in each House, commissions the officers of the army and navy, and appoints the civil officials of the Government, subject to confirmation by the Senate. The Vice-President is *ex officio* President of the Senate, and in case of the death, resignation, or removal of the President he succeeds to the powers of the latter during the remainder of the term. The President and Vice-President are elected for four years by colleges of electors chosen in each State in such manner as the Legislature prescribes, which is in every State by popular suffrage, their number in each State being equal to the number of Senators and Representatives of the State in Congress. It has become the custom of political parties to nominate in national convention their candidates for President and Vice-President, and the electors, chosen in each State on a collective ticket, are accustomed to vote solidly for the candidates designated by their party beforehand. Thus the election of the President and Vice-President is effected in reality, though not in form, by the direct vote of the nation. The presidential term is four years. Powers not delegated by the Constitution to the Federal Government are reserved to the States. Congress has power to legislate in matters of and pertaining to Federal taxation, treaties, and other dealings with foreign powers, the army, the navy, to a certain extent the militia, foreign and interstate commerce, the postal service, coinage, weights and measures, and crimes against the United States. Every State has an elected Governor at the head of the executive and a Legislature composed of two Houses, both elective. The revenues of the State governments are derived from direct taxes on real property or on both real and personal property, while Congress is forbidden in the Constitution to levy direct taxes save in proportion to population. Personal and property rights, the civil and criminal law, education, the public health, charities, the control of corporations, are matters of State legislation.

The President of the United States for the term ending March 4, 1905, is Theodore Roosevelt, of New York, born in 1858, who was elected Vice-President in 1900 and succeeded to the presidency on the death of President William McKinley, Sept. 14, 1901. The Cabinet at the beginning of 1902 was composed as follows: Secretary of State, John Hay, of Indiana, appointed in 1898; Secretary of the Treasury, Lyman Judson Gage, of Illinois, first appointed on March 5, 1897; Secretary of War, Elihu Root, of New York, appointed on July 21, 1899; Secretary of the Navy, John Davis Long, of Massachusetts, first appointed on March 5, 1897; Secretary of the Interior, Ethan Allen Hitchcock, of Missouri, appointed in January, 1899; Postmaster-General, Charles Emory Smith, of Pennsylvania, appointed on Dec. 18, 1901; Attorney-General, Philander Chase Knox, of Pennsylvania, appointed on April 5, 1901; Secretary of Agriculture, James Wilson, of Iowa, first appointed on March 5, 1897.

On Jan. 9, 1902, Gov. Shaw of Iowa was appointed Secretary of the Treasury on the resignation of Secretary Gage. Leslie Mortimer Shaw was born in Morristown, Vt., Nov. 2, 1848, went to Iowa with his parents when a child, entered Cornell College in that State at the age of twenty-three, earned his living while studying, read law, practised in Denison, became president of the banks of Denison and Marietta, was drawn into politics by the currency issue in 1896, in the following year was elected Governor, was nominated

by acclamation and reelected, and was serving his second term when called into the Cabinet.

On Jan. 9, 1902, Henry C. Payne, of Wisconsin, was appointed Postmaster-General. He was born in Ashfield, Mass., Nov. 23, 1843, was educated at Shelburne Falls Academy, went to Milwaukee in 1863, was cashier in a dry-goods store at first, became active in the commercial development of electricity and in syndicating electric railroads and telephones, and was also an energetic political leader and manager in his State, served as postmaster of Milwaukee for ten years, and was a delegate to the National Republican Conventions in 1888 and 1892.

On April 29, 1902, William H. Moody, of Massachusetts, succeeded Mr. Long as Secretary of the Navy. He was born in Newbury, Mass., Dec. 23, 1853, graduated at Phillips Academy, Andover, in 1872, and at Harvard in 1876, studied and practised law, was district attorney for the Eastern District of Massachusetts from 1890 to 1895, was first elected member of Congress for the Sixth District of Massachusetts in 1895, and was a member of the House when he received his appointment.

Area and Population.—The land area of the States and Territories is 2,939,000 square miles, exclusive of the Indian Territory, which has 31,000 square miles, and Alaska, which has 631,000 square miles, and the Territory of Hawaii, which has an area of 8,640 square miles, making the total area 3,507,640 square miles, which does not include Territories belonging to but not a part of the United States—the insular possessions, Porto Rico, with an area of 3,600 square miles; the Philippine and Sulu Islands, having an area of 114,000 square miles; Guam, having an area of 200 square miles; and Tutuila and Manua, in the Samoan group, which, with smaller islands, have an area of 79 square miles; bringing the total area under the American flag up to 3,625,519 square miles. The States and Territories, according to the census of 1900, have a population of 75,602,515, exclusive of 392,060 in the Indian Territory, 63,592 in Alaska, 154,601 in Hawaii, and 91,219 soldiers, etc., abroad, increasing the total to 76,303,387, which the population of the insular possessions not incorporated in the United States increases further to 85,271,730. The population of the North Atlantic division, comprising Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania, total area 162,065 square miles, had in 1900 a population of 21,046,695, compared with 17,406,969 in 1890; Delaware, Maryland, the District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida, forming the South Atlantic division of States, area 268,620 square miles, had 10,443,480, compared with 8,857,922; Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas, grouped as the North Central division, area 753,550 square miles, had 28,333,004 inhabitants in 1900, against 22,410,417 in 1890; the South Central division, comprising Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Oklahoma, and Arkansas, area 579,215 square miles, had 13,687,987, against 10,989,959 at the former census; and Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington, Oregon, and California, constituting the Western division, area 1,175,550 square miles, had 4,091,349 in 1900, compared with 3,102,269 in 1890.

The number of cities of 25,000 or more inhabitants in 1900 was 159, having increased from 124 since 1890, and the number of people living in

such cities was 19,694,625, having increased from 14,855,489. The population living in cities of 200,000 inhabitants and upward increased between 1890 and 1900 from 8,879,105 to 11,795,809, and the number of such cities increased from 16 to 19, notwithstanding the merger of Brooklyn and Long Island City in New York; cities of between 100,000 and 200,000 increased in number from 12 to 19, and their combined population from 1,808,656 to 2,412,538; cities of from 50,000 to 100,000 inhabitants increased from 30 to 40, and their population from 2,067,169 to 2,709,338; cities of between 25,000 and 50,000 increased from 66 to 81 and their population from 2,100,550 to 2,776,940. The total increase of population in the 159 cities was 4,839,136, which was 82,426 less than the increase between 1880 and 1890, when the population of these same cities grew from 9,933,927 to 14,855,489. The average annual rate of increase in the earlier period was 4.95 per cent. and in the later period 3.25 per cent. The rate of increase in the 19 cities having over 200,000 inhabitants in 1900 was 3.28 per cent. per annum between 1890 and 1900, compared with 4.06 per cent. between 1880 and 1890; the absolute increase was 2,910,704, against 2,567,452 in the former census period. The increase in the 19 cities of the second class was 3.33 per cent. per annum from 1890 to 1900, compared with 7.92 per cent. from 1880 to 1890. The rate for the 40 cities of the third class was 3.10 per cent. in the later period, against 5.10 per cent. between 1880 and 1890. In the 81 cities of the fourth class the average annual gain between 1890 and 1900 was 3.22 per cent., against 6.87 per cent. between 1880 and 1890.

Of the total population of 76,303,387 in 1900 resident in the States and Territories 39,059,242 were males and 37,244,145 females. The native-born population was 65,843,302, and the foreign-born 10,460,085, comprising 10,250,063 whites and 210,022 of colored races. Of the native-born 33,329,130 were males and 32,514,172 females; of the foreign born 5,730,112 were males and 4,729,973 females. Of the total population 66,990,802 were whites, comprising 34,349,021 males and 32,641,781 females, and 9,312,585 were colored, comprising 8,840,789 of African race, 119,050 Chinese, 85,986 Japanese, 137,242 Indians taxed, and 129,518 untaxed Indians. Of the total colored population 4,710,221 were males and 4,602,364 females. Of the negroes 4,393,221 were males and 4,447,568 females; of the Chinese 111,054 were males and 7,996 females; of the Japanese 71,386 were males and 14,600 females; of the 266,760 Indians 137,242 were males and 129,518 females. Of the white population 56,740,739 were native born, of whom 28,803,188 were males and 27,937,551 females; and of the native whites 41,053,417, comprising 20,934,099 males and 20,119,318 females, were born of native parents, and 15,687,322, comprising 7,869,089 males and 7,818,233 females, of foreign parents. The increase between 1890 and 1900 of the total population was 13,233,631, or 21 per cent.; of the total males, 6,744,179, or 20.9 per cent.; of females, 6,489,452, or 21.1 per cent.; of the native-born population, 12,081,637, or 22.5 per cent.; of foreign born, 1,101,994, or 12.4 per cent.; of the white population, 11,824,618, or 21.4 per cent.; of the colored population, 1,409,013, or 17.8 per cent.; of the native white population, 10,710,634, or 23.3 per cent.; of native whites born of native parents, 6,538,967, or 18.9 per cent.; of native whites born of foreign parents, 4,171,667, or 36.2 per cent.; of foreign whites, 1,113,984, or 12.2 per cent.; of negroes, 1,352,001, or 18.1 per cent.; of Japanese, 71,587, or 497.2 per cent. The Chinese decreased 7,728, or 6.1 per cent. The Indian population

shows a decline of 6,847, or 2.5 per cent. The percentage of males was 51.2 and of females 48.8 in both census years. The proportion of native born to the whole population rose from 85.2 per cent. in 1890 to 86.3 per cent. in 1900, while the foreign born descended correspondingly from 14.8 per cent. to 13.7 per cent. The proportion of whites advanced from 87.5 to 87.8 per cent., and the colored declined from 12.5 to 12.2 per cent. The percentage of native whites rose from 73 to 74.4 per cent., but that of native whites born of native parents declined from 54.7 to 53.8 per cent. of the total population, while the proportion of native whites born of foreign parents increased from 18.3 to 20.6 per cent.

The proportion of foreign whites in the population declined from 14.5 to 13.4 per cent., the ratio of negroes to the whole from 11.9 to 11.6 per cent., and of Indians from 0.4 to 0.3 per cent. The population of each State and Territory in 1900, divided as to sex and as to nativity, is given in the following table:

STATES AND TERRITORIES.	Males.	Females.	Native born.	Foreignborn.
Alabama.....	916,764	911,988	1,814,105	14,582
Alaska.....	45,872	17,720	50,981	12,661
Arizona.....	71,795	51,186	96,806	34,238
Arkansas.....	675,312	636,262	1,297,275	14,289
California.....	880,531	664,522	1,117,813	267,940
Colorado.....	265,332	244,368	448,545	91,155
Connecticut.....	454,394	454,126	670,210	268,210
Delaware.....	94,158	90,577	170,925	13,810
Dist. of Columbia.	182,004	146,714	258,599	30,119
Florida.....	275,946	258,266	504,710	25,832
Georgia.....	1,108,301	1,113,130	2,208,928	13,408
Hawaii.....	106,369	47,682	63,221	90,780
Idaho.....	98,367	68,405	137,166	34,004
Illinois.....	2,472,782	2,348,769	3,854,803	908,747
Indiana.....	1,295,404	1,231,058	2,574,341	148,121
Indian Territory.....	208,952	188,108	387,202	4,568
Iowa.....	1,156,494	1,075,004	1,925,968	306,380
Kansas.....	768,716	701,779	1,343,810	126,685
Kentucky.....	1,090,327	1,056,947	2,096,925	50,349
Louisiana.....	664,738	686,592	1,388,722	52,908
Maine.....	360,995	343,471	601,126	92,330
Maryland.....	589,275	568,769	1,094,110	93,934
Massachusetts.....	1,367,474	1,437,672	1,959,029	846,394
Michigan.....	1,348,905	1,172,077	1,879,339	541,653
Minnesota.....	932,490	818,904	1,246,076	505,318
Mississippi.....	771,451	769,619	1,543,269	7,961
Missouri.....	1,595,710	1,510,955	2,800,896	216,579
Montana.....	149,842	93,487	176,262	67,076
Nebraska.....	564,592	501,708	898,568	177,347
Nevada.....	25,603	16,782	32,342	10,088
New Hampshire.....	295,379	206,309	323,481	66,107
New Jersey.....	941,700	941,700	1,451,785	481,894
New Mexico.....	104,228	91,082	181,666	13,686
New York.....	3,614,780	3,654,114	5,398,469	1,900,425
North Carolina.....	938,677	958,133	1,899,818	4,492
North Dakota.....	177,493	141,653	306,055	113,091
Ohio.....	2,102,635	2,054,890	3,696,811	458,734
Oklahoma.....	214,359	188,972	392,651	16,680
Oregon.....	292,985	180,551	347,786	65,748
Pennsylvania.....	3,304,541	3,097,574	5,316,965	965,380
Rhode Island.....	210,516	218,040	294,137	134,519
South Carolina.....	664,805	675,421	1,354,768	5,588
South Dakota.....	216,164	185,406	313,088	88,508
Tennessee.....	1,081,224	999,392	2,002,870	17,746
Texas.....	1,578,900	1,439,810	2,869,353	179,367
Utah.....	141,687	135,062	222,972	53,777
Vermont.....	175,188	168,508	298,594	44,747
Virginia.....	926,897	926,287	1,894,723	19,481
Washington.....	304,178	213,925	406,739	111,364
West Virginia.....	499,949	459,558	986,349	92,451
Wisconsin.....	1,067,562	1,001,490	1,553,071	515,971
Wyoming.....	58,184	34,347	75,116	17,415
Total.....	39,059,242	37,244,145	65,843,302	10,460,085

The total number of persons of school age, from five to twenty years of age inclusive, was 26,110,788 in 1900, of whom 21,573,492 were under eighteen and 4,537,296 from eighteen to twenty. Of the total 22,490,211 were whites and 3,500,194 negroes. Excluding 217,523 persons in Alaska, Hawaii, and Indian Territory, and on Indian reservations, the number of school age was 25,893,265, of whom 24,689,118 were native born and 1,204,147

foreign born; 14,775,476 were native whites of native parents, 6,371,221 native whites of foreign parents, 1,193,443 foreign whites, and 3,553,125 colored, of whom 3,485,188 were of African descent; 12,972,994 were males and 12,920,271 females. The number of males of voting age was 21,329,819, of whom 16,227,285 were native born and 5,102,534 foreign born; 19,036,143 were whites, of whom 10,636,898 were native whites of native parents, 3,466,721 native whites of foreign parents, and 4,932,524 foreign whites; 2,065,589 were persons of African descent; 2,326,295 were illiterates.

The negro, Chinese, Japanese, and Indian population in 1900 in the different States and Territories was as follows:

STATES AND TERRITORIES.	Negroes.	Chinese.	Japanese.	Indians.
Alabama.....	827,307	58	3	177
Alaska.....	198	3,116	265	29,536
Arizona.....	1,848	1,419	281	26,480
Arkansas.....	366,366	62	.....	66
California.....	11,045	45,758	10,151	15,377
Colorado.....	8,570	599	48	1,437
Connecticut.....	15,286	599	18	153
Delaware.....	30,697	51	1	9
District of Columbia.....	86,702	455	7	23
Florida.....	220,730	190	1	358
Georgia.....	1,084,813	204	1	19
Hawaii.....	238	25,767	61,111	.....
Idaho.....	298	1,467	1,291	4,226
Illinois.....	85,078	1,508	80	16
Indiana.....	57,505	207	5	943
Indian Territory.....	36,853	37	.....	52,500
Iowa.....	12,698	104	7	882
Kansas.....	53,008	39	4	2,130
Kentucky.....	284,706	57	.....	102
Louisiana.....	650,804	599	17	593
Maine.....	1,819	119	4	796
Maryland.....	235,064	544	9	.....
Massachusetts.....	81,974	2,968	53	587
Michigan.....	15,816	240	9	6,354
Minnesota.....	4,959	168	51	2,182
Mississippi.....	907,630	237	.....	2,203
Missouri.....	161,234	449	9	130
Montana.....	1,523	1,739	2,441	11,343
Nebraska.....	6,299	180	3	3,332
Nevada.....	1,352	228	.....	5,816
New Hampshire.....	62	112	1	22
New Jersey.....	69,844	1,363	52	63
New Mexico.....	1,810	341	8	13,144
New York.....	99,222	7,170	354	5,257
North Carolina.....	624,469	51	.....	5,687
North Dakota.....	286	32	148	6,908
Ohio.....	96,901	371	27	42
Oklahoma.....	18,381	81	.....	11,945
Oregon.....	1,105	10,367	2,501	4,351
Pennsylvania.....	156,845	1,927	40	1,639
Rhode Island.....	9,092	366	13	35
South Carolina.....	732,321	67	.....	121
South Dakota.....	465	165	1	20,225
Tennessee.....	480,243	76	4	108
Texas.....	620,722	886	13	470
Utah.....	672	572	417	2,622
Vermont.....	826	29	.....	5
Virginia.....	660,722	243	10	854
Washington.....	2,514	3,629	5,617	10,089
West Virginia.....	43,499	56	.....	12
Wisconsin.....	2,542	212	5	8,372
Wyoming.....	940	461	393	1,696
Total.....	8,840,789	119,050	85,986	266,760

The density of population in 1900 was 35.5 to the square mile in Alabama, 0.1 in Alaska, 1.1 in Arizona, 24.7 in Arkansas, 9.5 in California, 5.2 in Colorado, 187.5 in Connecticut, 94.3 in Delaware, 4,645.3 in the District of Columbia, 9.7 in Florida, 37.6 in Georgia, 23.9 in Hawaii, 1.9 in Idaho, 86.1 in Illinois, 70.1 in Indiana, 12.6 in the Indian Territory, 40.2 in Iowa, 18.0 in Kansas, 53.7 in Kentucky, 30.4 in Louisiana, 23.2 in Maine, 120.5 in Maryland, 348.9 in Massachusetts, 42.2 in Michigan, 22.1 in Minnesota, 33.5 in Mississippi, 45.2 in Missouri, 1.7 in Montana, 13.9 in Nebraska, 0.4 in Nevada, 45.7 in New Hampshire, 250.3 in New Jersey, 1.6 in New Mexico, 152.6 in New York, 39.0 in North Carolina, 4.5 in North Dakota, 102.0 in Ohio, 10.3 in Oklahoma, 4.4 in Oregon,

140.1 in Pennsylvania, 407.0 in Rhode Island, 44.4 in South Carolina, 5.2 in South Dakota, 48.4 in Tennessee, 11.6 in Texas, 3.4 in Utah, 37.6 in Vermont, 46.2 in Virginia, 7.7 in Washington, 38.9 in West Virginia, 38.0 in Wisconsin, and 0.9 in Wyoming. The center of population in the United States in 1900 was in 30° 9.5' of north latitude and 85° 48.9' of west longitude, 6 miles southeast of Columbus, Ind., having shifted in ten years from 39° 11.9' of north latitude and 85° 32.9' of west longitude, 20 miles east of Columbus, Ind. In 1880 it was in 39° 4.1' of north latitude and 84° 39.7' of west longitude, 8 miles west by south from Cincinnati, Ohio; in 1870 it was in 39° 12' of north latitude and 83° 35.7' of west longitude, 48 miles east by north from Cincinnati, Ohio; in 1860 it was in 39° 0.4' of north latitude and 82° 48.8' of west longitude, 20 miles south of Chillicothe, Ohio; in 1850 it was in 38° 59' of north latitude and 81° 19' of west longitude, 23 miles southeast of Parkersburg, W. Va.; in 1840 it was in 39° 2' of north latitude and 80° 18' of west longitude, 16 miles south of Clarksburg, W. Va.; in 1830 it was in 38° 57.9' of north latitude and 79° 16.9' of west longitude, 19 miles west southwest of Moorefield, W. Va.; in 1820 it was 39° 5.7' of north latitude and 78° 33' of west longitude, 16 miles north of Woodstock, Va.; in 1810 it was in 39° 11.5' of north latitude and 77° 37.2' of west longitude, 40 miles northwest by west from Washington, D. C.; in 1800 it was in 39° 16.1' of north latitude and 76° 11.2' of west longitude, 18 miles west of Baltimore, Md.; in 1790 it was in 39° 16.5' of north latitude and 76° 11.2' of west longitude, 23 miles east of Baltimore, Md. The population of the United States has grown from 3,329,214 in 1790 to 5,308,483 in 1800, 7,239,881 in 1810, 9,633,822 in 1820, 12,866,020 in 1830, 17,069,453 in 1840, 23,191,876 in 1850, 31,443,321 in 1860, 38,558,371 in 1870, 50,155,783 in 1880, 62,622,250 in 1890, and 76,303,387 in 1900.

Immigration.—The number of immigrants in 1902 was 648,743, of whom 493,262 landed at New York, 39,679 at Baltimore, 39,465 at Boston, 17,175 at Philadelphia, 5,271 at San Francisco, and 53,891 came through other ports. Of the total number 242,679 were laborers, 80,562 farm laborers, 69,913 domestic servants, 10,369 tailors, 8,895 carpenters, 8,168 farmers, 7,242 merchants, 6,465 mariners, 6,402 shoemakers, 4,920 miners, 4,691 masons, 4,542 dressmakers, 3,721 clerks, 3,274 bakers, 2,937 professional men, 4,042 of other occupations, and 153,159 of no occupation and dependent persons. The skilled workers numbered 79,768. Of the immigrants, 178,372 were Italians, 171,989 Austro-Hungarians, 107,347 Russians, 30,894 Swedes, 29,138 Irish, 28,304 Germans, 17,484 Norwegians, 14,270 Japanese, 13,575 English, 8,104 Greeks, 7,196 Roumanians, 6,233 European Turkish, 5,660 Danes, 5,307 Portuguese, 4,711 West Indians, 3,117 French, 2,577 Belgians, 2,560 Scotch, 2,344 Swiss, 2,287 Dutch, 1,649 Chinese, 975 Spanish, 851 Servians and Bulgarians, 763 Welsh, 709 Mexicans, 636 Canadians, 384 Australians, 337 South Americans, 305 Central Americans, 187 Asiatic Turkish, 126 Philippine Islanders, 93 East Indians, 56 Pacific islanders, 37 from Africa, 9 Hawaiians, 37 Europeans not specified, 36 Asiatics from various countries, and 94 from other countries.

Education.—In the year ending June 30, 1901, the number of enrolled pupils in the common schools of the United States was 15,603,451, being 20.20 per cent. of the total population; average daily attendance, 10,692,091; number of teachers, 430,004. The private elementary schools had 1,261,672 pupils; public high schools and acad-

emies, 558,740; private academies, 177,260; State universities and colleges, 36,201; private universities and colleges, 79,070; public professional schools, 10,360; private professional schools, 50,804; State normal schools, 43,372; private training-schools for teachers, 20,030; city evening schools, 203,000; private business colleges, 110,031; reform schools, 25,327; public deaf and dumb schools, 10,849; private schools for deaf and dumb, 494; public schools for feeble-minded, 11,149; private schools for feeble-minded, 468; Government Indian schools, 23,077; schools in Alaska, 3,356; private orphan asylums and other benevolent institutions, about 15,000; private kindergartens, about 95,000; art, music, elocution, cookery, etc., about 50,000. In both private and public graded schools and universities the total number of persons receiving instruction was 17,841,560; in special educational institutions, 17,862,780. The professional schools comprised 150 theological seminaries, with 988 professors and 7,567 students, of whom 181 were women; 100 law schools, with 1,106 professors and tutors and 13,642 students, of whom 170 were women; 123 medical schools, with 3,876 lecturers and instructors and 24,199 students, besides 21 homeopathic colleges, with 639 professors and 1,812 students; 57 dental colleges, with 1,184 instructors and 8,308 students; 58 schools of pharmacy, with 522 instructors and 4,429 students; 448 training-schools for nurses, with 11,599 students; and 12 veterinary schools, with 189 instructors and 461 students. An order was issued by the War Department in August providing for military instruction in the colleges and schools. Any school, college, or university that will undertake to maintain 100 of its scholars under military instruction will have one of the 100 officers of the United States army detailed for the purpose to instruct the students in the same way as soldiers of the regular army, and the Government will furnish rifles and ammunition and a limited number of field-guns for practise in firing.

The Army.—The legal strength of the United States army as fixed by the act of Congress approved on Feb. 2, 1901, is 15 regiments of cavalry, 750 officers and 12,620 enlisted men; 30 batteries of field and 126 companies of coast-artillery, 651 officers and 17,742 enlisted men; 30 regiments of infantry, 1,500 officers and 25,345 enlisted men; 3 battalions of engineers, 1,282 enlisted men commanded by officers detailed from the corps of engineers; and the staff corps, Military Academy, Indian scouts, recruits, etc., 2,877 enlisted men. The total enlisted strength is 59,866 and the number of officers on the active list is 3,820. There were 100 officers and about 5,000 men in the Philippine native scouts and a Porto Rican regiment with 31 officers and 554 men, both bodies since disbanded. The army in the Philippines has been reduced from 40,000 to 17,000 men. The army act limits the enlisted strength of the United States army to 100,000 men. Recruits must be between eighteen and thirty-five years of age, of good physique, of good character, temperate, not less than 5 feet 4 inches in height, between 120 and 190 pounds in weight for infantry and under 165 pounds for cavalry and field-artillery, and able to speak and write English.

The National Guard of the States and Territories at the end of 1902 had 1,791 general and staff officers, 4,951 cavalry, 6,671 artillery, and 96,808 infantry. These numbers include 151 Indian Territory militia, 495 Hawaiian National Guards, 48 Guam volunteers, 600 Porto Rican militia, and 73 Samoan volunteers. The State appropriations amount to the annual sum of

\$2,839,150. The number of militia authorized is 183,596. The total population liable to military service is 8,727,500.

The Navy.—The United States navy, completed and building or authorized, consists of 19 first-class battle-ships, 1 of the second class, 10 armored cruisers, 6 double-turret monitors, 4 single-turret monitors for harbor defense, 5 old monitors with low freeboard, 1 ram for port defense, 23 protected steel cruisers, 4 unprotected steel cruisers, 12 unarmored steel gunboats, 5 light-draft gunboats, 6 unarmored composite gunboats, 1 despatch boat, 1 dynamite cruiser, 1 training-ship, 16 destroyers, 36 twin-screw torpedo-boats, 8 submarine boats, 22 steam-vessels of the old navy, 13 wooden sailing vessels, 40 steam-propellers, 21 gunboats under 500 tons captured from Spain, and 5 auxiliary cruisers, 23 yachts, 16 colliers, and 11 special vessels purchased during the Spanish War; total number of vessels, 310, of which 223 were fit for service at the end of 1902, while 24 were not fit for sea service and 63 were not yet built or not completed. The newest battle-ships, costing from \$3,000,000 to \$4,000,000 apiece, have a displacement of 15,000 or 16,000 tons, engines of 16,000 to 19,000 horse-power, a speed of 18 or 19 knots, and carry 4 12-inch, 8 8-inch, and 12 6-inch guns in the main battery, the last rapid-firing, and in the secondary battery 12 3-inch, 12 three-pounder, 8 one-pounder, and 2 3-inch field, 2 machine, and 6 automatic quick-firers. The Connecticut and Louisiana, of 16,000 tons, will have 7-inch breech-loaders instead of 6-inch rapid-fire guns in the main battery and the auxiliary armament will consist of 20 3-inch rapid-fire, 12 semi-automatic three-pounder, 2 field, and 8 machine guns. The armored cruisers, which cost as much as the battle-ships, have been increased in size to 14,500 tons in the latest development, with engines of 23,000 horse-power, giving a minimum speed of 22 knots, and their armament has usually been 4 8-inch breech-loaders and 14 6-inch quick-firers in the main battery and 18 3-inch, 12 three-pounder, and numerous smaller guns. The Tennessee and Washington, authorized by Congress on July 1, 1902, will have the most powerful armaments of any cruisers, with the best protection, and a cruising radius of 6,500 miles at 10 knots and 3,100 miles at 22 knots. The hull will be protected by a 5-inch belt tapering at stem and stern to 3-inch thickness and extending from 5 feet below the water-line to the upper deck, while the guns will be protected at the base with 6-inch bulkheads uniting with the barbettes to form a citadel. The armored deck will be 1½ inch on top and 3 and 4 inches on the slopes. The armament will consist of 4 10-inch guns in balanced turrets within 7-inch barbettes, 16 6-inch quick-firers, four of them on the main deck in armored casemates, the others in a broadside battery on the gun-deck, 22 3-inch quick-firers on the broadside of both decks, 12 semiautomatic three-pounders and 2 one-pounders, 2 quick-firing one-pounders, 3 field-guns, and 8 machine and automatic guns. For the quick-firing battery 7 rounds can be served every minute.

The United States navy is manned by 1,346 commissioned officers, 461 warrant officers, and 25,258 men. The marine corps consists of 212 officers and 6,000 men.

Pensions.—There were drawing pensions on July 1, 1902, 4 widows and 4 daughters of soldiers of the Revolutionary War; 1 survivor and 1,317 widows of soldiers of the War of 1812; 903 survivors and 3,320 widows of soldiers who fought in the early Indian wars; 6,828 survivors and

8,017 widows of soldiers of the Mexican War; 277,965 army invalids, 87,046 army widows, 634 army nurses, 4,360 navy invalids, and 2,263 navy widows pensioned under the general laws on account of services after March 4, 1861; 426,118 army invalids, 148,201 army widows, 15,953 navy invalids, and 6,977 navy widows pensioned under the act of June 27, 1899; and 6,282 army invalids, 2,727 army widows, 329 navy invalids, and 127 navy widows of the war with Spain; total number of pensioners, 999,446. The amounts paid out during the year in pensions were \$136,742,567 to 994,751 pensioners in the States and Territories, \$11,845 to 86 pensioners in the insular possessions, and \$646,329 to 4,695 pensioners outside of the United States.

Patents.—During the year ending Dec. 31, 1901, there were 43,973 applications for mechanical patents, 2,361 for design patents, 2,410 for trade-marks, 1,064 for registration of labels, 233 for registration of prints, and 115 for reissues of patents. The number of patents issued was 27,292; reissued, 81; trade-marks registered, 1,928; labels, 878; prints, 878. The number of patents that expired was 19,147. There were 8,360 applications allowed that awaited the payment of fees, and 4,111 were forfeited for non-payment. There were granted under international treaties 1,045 patents to Germans, 986 to Englishmen, 376 to Canadians, 306 to French citizens, 156 to Austro-Hungarians, 56 to Swiss citizens, 55 to Scots, 54 to Belgians, 53 to Swedes, 37 to Italians, 35 to Victorians, 29 to Russians, 25 to Irishmen, 25 to New Zealanders, 20 to citizens of New South Wales, 20 to Norwegians, 19 to Netherlanders, 11 to Mexicans, 9 to Transvaalers, 8 to South Australians, Argentinians, and Queenslanders severally, and 37 to other foreigners.

Public Lands.—Out of a total surface of 1,809,539,849 acres in the United States and Alaska 1,119,910,456 acres had been surveyed up to June 30, 1902, and 689,629,384 acres remained unsurveyed, including 368,100,311 acres in Alaska, mountain areas, unsurveyed lakes and rivers, private land claims, unsurveyed school lands and Indian and other reservations. The area of surveyed public lands vacant and subject to entry and settlement on July 1, 1902, was 391,979,307 acres, and of unsurveyed lands 591,976,169 acres; total, 893,955,476 acres. During the fiscal year railroad selections amounted to 4,848,846 acres; road selections, 156,132 acres; State selections, 2,508 acres. No lands were entered under the homestead and timber-culture acts. The forest reserves covered 4,909,880 acres in Alaska, 6,740,410 acres in Arizona, 8,784,009 acres in California, 3,113,180 acres in Colorado, 4,147,200 acres in Idaho, 7,427,320 acres in Montana, 208,902 acres in Nebraska, 3,258,080 acres in New Mexico, 57,120 acres in Oklahoma, 4,596,760 acres in Oregon, 1,177,120 acres in South Dakota, 1,029,760 acres in Utah, 7,036,000 acres in Washington, and 7,690,024 acres in Wyoming.

Commerce and Production.—The total value of foreign merchandise imported into the United States during the year ending June 30, 1902, was \$903,320,948, compared with \$823,172,165 in 1901. The total value of domestic exports was \$1,355,481,861, compared with \$1,460,462,806. Of the imports the value of \$56,366,711 was brought in cars and other land vehicles, \$102,188,002 in American vessels, and \$744,766,235 in foreign vessels. Of the domestic exports the value of \$115,967,630 was carried in land vehicles, \$81,083,527 in American vessels, and \$1,158,430,704 in foreign vessels. The total value of exports, domes-

tic and foreign, the foreign exports amounting to \$26,237,540, was \$1,381,719,401; total foreign trade in merchandise, \$2,285,040,349, compared with \$2,310,937,156 in 1901 and \$2,244,424,266 in 1900. Of the domestic exports in 1902 the value of \$851,460,312 represents agricultural, \$39,075,999 mining, and \$403,890,763 manufactured products, the proportion being 62.81, 2.88, and 29.80 per cent. respectively. The total value of imported merchandise free of duty was \$396,818,871 and of dutiable merchandise \$506,502,077. The values of the various articles and classes of merchandise imported in the fiscal year 1902 were as follow: Chemicals, drugs, and dyes, free of duty, \$3,748,670; coffee, \$70,982,155; cotton, unmanufactured, \$11,712,170; fruits, including nuts, \$8,883,426; furs and fur-skins, undressed, \$9,787,013; hides and skins, other than fur-skins, free of duty, \$40,532,579; india-rubber and gutta-percha, crude, \$25,652,977; paper stock, crude, \$2,770,255; silk, unmanufactured, \$42,635,351; textile grasses and fibrous vegetable substances, free of duty, \$28,437,136; tin, \$19,461,850; wood, unmanufactured, free of duty, \$7,578,065; breadstuffs, \$2,034,357; chemicals, drugs, dyes, and medicines, dutiable, \$23,974,952; cotton, manufactures of, \$44,460,126; earthen, stone, and chinaware, \$9,680,156; flax, hemp, jute, unmanufactured, \$3,108,826; flax, hemp, jute, manufactures of, \$38,070,205; fruits, including nuts, etc., \$12,647,099; furs, manufactures of, \$5,836,588; glass and glassware, \$6,013,963; hides and skins, other than fur-skins, dutiable, \$17,474,039; iron and steel, manufactures of, \$26,488,295; jewelry and precious stones, \$19,778,934; leather, and manufactures of, \$11,377,785; metal, metal compositions, etc., dutiable, \$6,223,383; silk, manufactures of, \$32,640,242; sugar and molasses and confectionery, \$56,142,016; tea, \$9,390,128; tobacco leaf, \$15,211,671; tobacco, manufactures of, \$2,494,822; vegetables, \$7,039,835; wines, \$8,921,138; wood and manufactures, dutiable, \$16,867,534; all other dutiable articles, \$130,625,913; all other articles free of duty, \$144,274,460; total merchandise imports, \$903,320,948.

The values of the exports of merchandise, the produce and manufacture of the United States in 1902 were as follow: Agricultural implements, \$16,286,740; animals, \$44,871,684; books, maps, engravings, \$3,997,977; breadstuffs, \$213,134,344; carriages, horse-cars, and cars, \$9,872,516; chemicals, drugs, dyes, and medicines, \$13,288,218; clocks and watches, \$2,144,490; coal, \$20,765,461; copper ore, \$2,601,697; copper, manufactures of, \$41,218,373; cotton, unmanufactured, \$290,651,819; cotton, manufactures of, \$32,108,362; fibers, vegetable and textile grasses, \$4,575,219; fish, \$6,563,199; fruits, including nuts, \$8,719,344; furs and fur-skins, \$5,030,204; hops, \$1,550,657; iron and steel, and manufactures of, \$98,552,562; leather, and manufactures of, \$27,798,323; naval stores, \$11,733,562; oil-cake and oil-cake meal, \$19,943,198; oils, animal, \$910,697; oils, mineral, crude, \$6,084,818; oils, refined or manufactured, \$66,218,004; oils, vegetable, \$15,308,633; paper, and manufactures of, \$7,312,030; paraffin and paraffin wax, \$8,858,844; provisions, comprising meat and dairy-products, \$199,861,378; seeds, \$8,027,824; sugar and molasses, \$3,237,329; tobacco, unmanufactured, \$27,103,990; tobacco, manufactures of, \$5,668,853; vegetables, \$2,546,287; wood, and manufactures of, \$47,779,848; all other articles, \$82,506,670; total, domestic merchandise, \$1,355,481,861.

The imports of raw sugar were 3,031,915,875 pounds, valued at \$55,061,097; of hides and skins, 326,124,103 pounds, valued at \$58,006,618; of coffee, 1,091,004,252 pounds; of rubber and gutta-

percha, 67,790,069 pounds; of wool, 166,576,966 pounds, valued at \$17,711,788; of tin in bars, blocks, and pigs, 79,352,356 pounds; of tobacco, 29,428,837 pounds; of tea, 75,579,125 pounds; of raw cotton, 98,715,680 pounds; of cacao, 51,379,396 pounds, valued at \$6,656,504; of bituminous coal, 1,941,422 tons, valued at \$5,310,456; of cement, 423,844,160 pounds, valued at \$1,478,451; of lead, 206,750,967 pounds, valued at \$4,632,770; of rice, 157,658,894 pounds; of bristles, 2,013,109 pounds; of malt liquors, 3,751,511 gallons. The value of woollen manufactures imported was \$17,384,463; copper and copper manufactures, \$10,968,948; live animals, \$4,624,531; feathers, artificial flowers, etc., \$5,110,921; paper and paper manufactures, \$4,223,125; distilled spirits, \$4,445,154; books, maps, engravings, etc., \$4,133,215; spices, \$3,685,249; bristles, \$2,047,331; toys, \$4,023,676; hats, bonnets, and materials, \$3,050,478; hair, \$2,055,536; art works, \$3,516,536; rice, \$2,926,921; bristles, \$2,047,331; cork, \$2,464,934; clocks and watches and parts, \$2,460,324; malt liquors, \$1,880,348; fertilizers, \$2,426,758.

The exports of corn were 26,636,552 bushels, valued at \$16,185,673; of wheat, 154,856,102 bushels, valued at \$112,875,222; of wheat flour, 17,759,203 barrels, valued at \$65,661,974; of anthracite coal, 1,570,490 tons, valued at \$7,117,809; of bituminous coal, 5,400,694 tons, valued at \$13,647,652; of copper ore, 25,076 tons; of raw cotton, 3,500,778,763 pounds; of apples, 459,719 barrels, valued at \$1,628,886; of hops, 10,715,151 pounds; of oil-cake and oil-cake meal, 1,648,093,619 pounds; of animal oils, 2,121,661 gallons; of crude mineral oil, 133,536,800 gallons; of paraffin and paraffin wax, 173,583,203 pounds; of beef products, 451,987,178 pounds, valued at \$8,858,844; of hog products, 1,337,315,909 pounds, valued at \$40,719,626; of oleomargarine, 144,267,342 pounds, valued at \$12,856,490; value of other meat products, \$11,529,151; value of dairy-products, \$7,104,770; exports of clover-seed, 7,256,573 pounds, valued at \$594,733; of distilled spirits, 2,956,889 proof gallons, valued at \$3,011,894; of starch, 28,183,967 pounds, valued at \$656,705; of sirup and molasses, 17,777,253 gallons, valued at \$2,465,031; of refined sugar, 7,213,050 pounds, valued at \$292,715; of raw tobacco, 301,007,475 pounds. Exports of brass and brass manufactures were \$1,930,810 in value; fertilizers, \$6,256,035; earthen and stone wares, \$600,798; glass and glassware, \$1,960,106; glucose, \$2,319,286; explosives, \$2,082,381; hay, \$2,580,622; india-rubber manufactures, \$4,032,100; scientific instruments, \$5,389,476; malt liquors, \$1,290,062; marble, stone, and manufactures, \$1,761,696; musical instruments, \$3,694,143; soap \$1,630,938; wool and woolen goods, \$1,525,826; fish, \$6,563,199; watches and clocks, \$2,144,490.

The values of imports and exports of the different ports of the United States for the year ending June 30, 1902, were as follow: Baltimore, imports \$22,825,281, exports \$80,532,512; Boston and Charlestown, imports \$71,921,436, exports \$102,404,304; Brunswick, imports \$33,097, exports \$7,338,808; Charleston, imports \$1,590,078, exports \$5,857,364; Detroit, imports \$3,469,077, exports \$18,053,055; Galveston, imports \$969,246, exports \$96,722,066; Mobile, imports \$3,714,371, exports \$12,503,556; New Orleans, imports \$23,763,480, exports \$134,486,863; Newport News, imports \$4,311,348, exports \$33,504,830; New York, imports \$559,936,879, exports \$490,361,395; Norfolk and Portsmouth, imports \$390,345, exports \$7,088,335; Pensacola, imports \$406,052, exports \$14,466,928; Philadelphia, imports \$47,750,342, exports \$80,383,403; Portland, Me., imports \$1,194,

899, exports \$14,325,018; Puget Sound, imports \$11,970,799, exports \$33,788,821; San Francisco, imports \$35,102,981, exports \$38,183,756; Savannah, imports \$571,682, exports \$41,525,428; Wilmington, N. C., imports \$258,808, exports \$11,102,171.

The amount of trade with each foreign country in the year ending June 30, 1902, can be seen in the following table:

COUNTRIES.	Imports.	EXPORTS.	
		Domestic.	Foreign.
Austria-Hungary....	\$10,150,601	\$5,913,462	\$253,665
Azores and Madeira..	19,373	351,851	4,667
Belgium.....	16,592,308	45,772,273	499,483
Denmark.....	663,847	15,489,972	24,650
France.....	82,890,086	69,244,213	2,268,771
Germany.....	101,997,528	170,222,737	2,925,543
Gibraltar.....	21,494	506,986	.....
Greece.....	1,563,142	306,861	89
Greenland, Iceland..	81,116	458	.....
Italy.....	30,554,981	30,868,808	499,622
Malta, Goso, etc.....	17,556	321,157	94
Netherlands.....	19,645,808	74,603,882	429,273
Portugal.....	3,179,449	3,044,306	1,445
Roumania.....	289	128,879	.....
Russia, Baltic, etc....	5,978,378	6,849,658	286,548
Russia, Black Sea....	1,836,127	2,309,808	4,350
Serbia.....	32,731	.....	.....
Spain.....	8,870,546	15,802,410	9,577
Sweden and Norway...	8,806,179	10,108,330	4,886
Switzerland.....	17,784,853	217,465	50
Turkey in Europe....	4,896,346	604,775	.....
Great Britain and Ireland.....	165,748,560	542,001,128	6,547,849
Bermuda.....	487,331	1,475,408	15,465
British Honduras....	294,331	760,141	13,585
British North America:			
Nova Scotia, New Brunswick, etc....	7,518,324	5,649,619	366,568
Quebec, Ontario, etc.	83,800,581	88,395,867	7,322,808
British Columbia..	7,361,269	7,660,986	297,280
Newfoundland and Labrador.....	711,449	2,058,649	6,638
Central American States:			
Costa Rica.....	3,220,494	1,376,499	29,243
Guatemala.....	2,963,586	1,606,326	74,611
Honduras.....	1,080,788	910,691	73,904
Nicaragua.....	1,978,025	1,184,997	174,889
Salvador.....	616,887	675,558	17,865
Mexico.....	40,898,596	39,072,488	801,118
Miquelon, Langley..	58,548	159,576	9,443
West Indies:			
British.....	12,178,896	9,581,041	123,922
Cuba.....	84,694,684	25,012,109	1,611,391
Danish.....	394,948	683,259	21,800
Dutch.....	307,411	625,225	5,147
French.....	3,245	1,668,840	21,912
Haiti.....	1,804,461	2,481,753	209,680
San Domingo.....	2,563,470	1,478,092	99,500
Argentine Republic..	11,120,721	9,608,674	196,280
Bolivia.....	237	88,498	653
Brazil.....	79,178,087	10,810,647	80,453
Chile.....	7,740,759	3,710,423	4,099
Colombia.....	3,271,894	2,923,611	49,849
Ecuador.....	1,546,564	1,457,658	4,452
Falkland Islands....	18,190	1,006	.....
Gulana:			
British.....	3,416,816	1,980,758	33,641
Dutch.....	1,386,870	489,720	498
French.....	26,648	307,406	2,512
Paraguay.....	1,969	16,784	.....
Peru.....	3,269,411	2,555,730	3,365
Uruguay.....	2,590,879	1,543,125	44,334
Venezuela.....	6,267,121	2,765,226	38,517
Aden.....	1,980,644	916,896	.....
British China.....	6,732	6,732	.....
China.....	21,065,890	24,531,118	191,798
East Indies:			
British.....	48,421,218	4,630,988	898
Dutch.....	14,749,241	2,074,791	1,500
French and Port....	6,892	1,510	.....
Hong-Kong.....	1,277,065	7,961,977	66,132
Japan.....	87,552,778	21,139,726	346,157
Korea.....	.....	251,668	.....
Russian China.....	.....	496,899	20,920
Russia, Asiatic.....	34,188	1,089,327	898
German China.....	1,117	9,067	.....
Turkey in Asia.....	3,960,394	109,452	385
All other Asia.....	686,887	108,598	.....
British Australasia..	5,896,609	28,278,015	97,184
French Oceania.....	678,884	387,770	15,999

COUNTRIES.	Imports.	EXPORTS.	
		Domestic.	Foreign.
Hawaiian Islands.....			
German Oceania.....	\$11,652	\$45,041	\$ 292
Guam.....		18,491	255
All other Oceania.....		18,453	
British Oceania.....	1,476,716	191,968	1,283
Philippine Islands.....	6,612,700	5,251,867	6,608
British Africa.....	979,361	28,759,878	20,227
Canary Islands.....	22,038	317,889	22,912
French Africa.....	480,642	315,718	2,874
Liberia.....	2,072	41,574	14
Madagascar.....	575	31,121	
Portuguese Africa.....	17,216	2,568,224	
Spanish Africa.....	10,631		
Egypt.....	11,323,301	1,266,424	3,015
Tripoli.....	209,494		
All other Africa.....	347,265	121,425	
Total.....	\$908,320,948	\$1,355,481,861	\$26,237,540

The imports into the United States from Cuba were \$34,694,684, and exports to Cuba \$25,100,453; imports from Porto Rico were \$8,297,422, and exports to Porto Rico \$6,861,917; imports from Hawaii were \$24,700,429, and exports to Hawaii were \$19,000,000; imports from the Philippines were \$6,612,700, and exports to the Philippines were \$5,251,867. The total exports show a decrease of over 7 per cent. from those of 1901. Exports of farm-products fell off most heavily. The decrease in corn exports was nearly \$50,000,000; in iron and steel manufactures, nearly \$19,000,000; in copper, \$2,000,000. The exports of manufactured goods fell off from \$412,000,000 to \$403,750,000, but apart from iron and steel and copper goods there was an increase of \$12,500,000. The demand for railroad and structural steel goods was so strong in the United States that there was no surplus for export, and the imports of iron and steel increased from \$17,750,000 to \$27,000,000. In the general imports there was a great increase in materials for manufactures, such as cotton, wool, silk, fibers, tobacco, hides, rubber, wood, tin, copper, and chemicals, and the increase in quantities was larger than in values. While exports to Europe fell off considerably, there was an increase in the exports to Asia, Oceania, and Africa. Exports to China increased from \$10,500,000 to \$24,750,000; to Japan, from \$19,000,000 to \$21,500,000. The exports to all Asiatic countries have risen from \$19,750,000 in 1890 to \$64,000,000; to Oceania, from \$16,500,000 to \$34,250,000.

The imports of American gold coin in the year ending June 30, 1902, were \$3,870,320; of foreign gold coin, \$12,838,592; of gold bullion, \$10,496,745; of gold in ore, \$24,815,597. The imports of American silver coin were \$518,397; of foreign silver coin, \$3,731,544; of silver bullion, \$6,931,678; of silver in ore, \$17,050,635. The exports of gold coin were \$9,370,841; of gold bullion, \$37,204,010; of gold in ore, \$186,587; of silver coin, \$209,291; of silver bullion, \$45,685,325; of silver in ore, \$76,633. The total gold imports were \$52,021,254; exports of domestic gold were \$46,761,438, and of foreign gold, \$1,807,512. The total silver imports were \$28,232,254; the exports of domestic silver were \$45,971,249, and of foreign silver \$3,761,141.

The production of corn in the United States in the census year 1900 was 2,105,102,516 bushels; of wheat, 522,229,505 bushels; of oats, 809,125,989 bushels; of barley, 58,925,833 bushels; of rye, 23,795,927 bushels; of buckwheat, 9,566,966 bushels; of hay, 50,110,906 tons; of potatoes, 210,926,897 bushels; of rice, 285,750,000 pounds; of hops, 208,000 bales of 180 pounds; of flaxseed, 20,086,000 pounds; of hemp, 11,750,630 pounds; of sweet potatoes, 42,526,696 bushels; of peanuts, 11,964,957

pounds; of apples, 175,397,626 bushels; of peaches, 15,433,623 bushels; of pears, 6,625,417 bushels. The number of farm animals on Jan. 1, 1900, was 13,537,534 horses, value \$603,969,442; 2,086,127 mules, value \$111,717,092; 16,292,360 cows, value \$514,812,106; 27,610,054 oxen and other cattle, value \$689,486,260; 41,883,065 sheep, value \$122,665,916; total value, \$2,212,756,578. There were 5,739,657 farms on June 1, 1900, of which 5,537,731 had buildings. The total acreage was 841,901,546, of which 414,793,191 acres were improved and 426,408,355 acres unimproved. The total estimated value of farm property was \$90,514,001,838; value of land improvements, \$13,114,422,056; value of buildings, \$3,660,198,191; value of implements and machinery, \$761,261,550; value of live stock, \$3,078,050,041; value of farm-products in 1899, \$4,739,118,752; value of products fed to live stock, \$974,941,046; value of products not fed to live stock, \$3,764,177,706; expenditure for labor, \$365,305,921; expenditure for fertilizers, \$54,783,757; number of farms worked by owners, \$3,713,371; number rented for money, 759,920; number rented on shares, 1,273,366. The number of farms worked by white persons was 4,970,129; by negroes, 746,717. There were about 11,000,000 dairy cows in 1899, producing 1,430,000,000 pounds of butter, an average of 130 pounds, of the total value of \$257,400,000, at an average price of 18 cents a pound; 1,000,000 cows producing 300,000,000 pounds of cheese, worth, at 9 cents a pound, \$27,000,000; and 5,500,000 cows producing an average of 380 gallons of milk, 2,090,000,000 gallons altogether, worth, at 8 cents a gallon, \$167,200,000; total value of dairy-products, \$451,000,000, besides calves and the skim milk, buttermilk, and whey for feeding stock, which were worth enough to make the total \$500,000,000. The exports of butter in 1902 were 10,333,007 pounds to Great Britain, value \$1,924,408; 206,582 pounds to Germany, value \$32,080; 696,067 pounds to Canada, value \$140,545; 140,428 pounds to Cuba, value \$30,526; 1,311,313 pounds to Brazil, value \$164,407; total quantity, 16,002,169 pounds, value \$2,885,609. The cheese exports were 25,107,421 pounds to Great Britain, 4,235 pounds to Germany, 354,889 pounds to Central America, and 1,124,347 pounds to the West Indies; total quantity, 27,203,184 pounds, value \$2,745,597. The number of hogs packed during the year ending March 31, 1902, was 30,395,000. The exports of hams for the year ending June 30, 1902, were 227,653,232 pounds, value \$25,222,744; of bacon, 383,150,624 pounds, value \$35,449,797; of pork, 160,067,949 pounds, value \$13,770,026; of lard, 556,840,222 pounds, value \$52,375,864. The wool-clip in the fiscal year 1901 was 288,636,621 pounds; imports, 32,865,844 pounds of clothing and 67,127,159 pounds of carpet wool, making a total of 103,583,505 pounds; exports, 3,790,067 pounds; retained for consumption, 388,430,059 pounds. The domestic production in 1902 was 302,502,328 pounds. The cotton-crop of 1902 was 10,701,453 bales averaging 487 pounds. The consumption of the United States and Canada was 4,539,018 bales and the exports to Europe were 6,440,787 bales; total, 10,979,805 bales. The consumption of United States mills was estimated at 4,037,000 bales. There were 21,559,000 spindles in operation, one-fifth of the total number in the world. The number of spindles in Southern mills increased from 1,500,000 in 1890 to over 5,000,000 in 1900. The sugar-crop in 1902 was 310,000 tons of cane-sugar in Louisiana and 163,126 tons of beet-sugar. The consumption of the United States in 1901 was 1,932,330 tons refined from imported sugar, including 300,070 tons from Hawaii, 66,279 tons

from Porto Rico, and 5,100 tons from the Philippines; 17,977 tons manufactured from imported molasses; 292,150 tons from domestic cane-sugar; 124,859 tons from domestic beet-sugar; and about 5,000 tons of maple-sugar; total consumption, 2,372,316 tons.

The area of irrigated lands in Colorado, California, Montana, Utah, Wyoming, Idaho, Nevada, Oregon, New Mexico, Washington, and Arizona in 1900 was 7,093,629 acres irrigated from streams and 169,644 acres from wells. The irrigation systems cost \$64,289,601 to construct. The value of irrigated crops was \$84,433,438, including hay valued at \$34,834,966, cereals valued at \$14,338,326, vegetables valued at \$9,627,491, and orchard fruits valued at \$8,920,409. The number of farmers raising tobacco in 1899 was 308,317. The crop covered 1,101,483 acres, an increase in ten years of 58.4 per cent., and the total production was 868,163,275 pounds, an increase of 77.8 per cent. The value of the crop was \$56,993,003. The average crop was 788 pounds per acre, the average price 7 cents per pound. The imports of tobacco in 1902 were 29,829,512 pounds, valued at \$17,708,189. The exports were 315,575,309 pounds, valued at \$32,772,849. The production of fermented liquors in 1901 was 46,614,258 barrels. The production of distilled spirits was 128,568,201 gallons, including 26,209,804 gallons of bourbon whisky, 18,263,709 gallons of rye whisky, 10,775,117 gallons of alcohol, 1,724,589 gallons of rum, 1,636,200 gallons of gin, 30,228,804 gallons of pure neutral spirits, 4,047,602 gallons of fruit brandy, and also including high wines and miscellaneous spirits. The importation of malt liquors in the fiscal year 1902 was 1,190,406 gallons in bottles and 2,553,106 gallons in casks; total value, \$1,880,348. The importation of still wines in casks was 3,300,026 gallons; of still wines in bottles, 397,818 dozen; of sparkling wines, 335,256 dozen; total value, \$8,921,138. The production of wine in the United States in 1900 was 24,306,905 gallons, of which 14,620,000 gallons were produced in California, 2,528,250 gallons in New York, 1,934,838 gallons in Ohio. The importation of brandy in 1902 was 316,311 gallons, and of other spirituous liquors 1,909,812 gallons; total value, \$4,445,154. The consumption of malt liquors in 1901 was 1,390,127,379 gallons, of which 1,254,653,009 gallons were domestic and 3,596,382 imported. The consumption of domestic wines was 24,002,439 gallons, and of imported wines 4,788,710 gallons. The consumption of domestic fruit brandy was 1,078,389 gallons; of other domestic spirits, 100,066,821 gallons; of imported spirits, 1,941,629 gallons.

The mineral products of the United States in the calendar year 1901 reached a total value of \$1,092,224,380, against \$1,064,408,321 in 1900. The value of pig-iron was \$242,174,000; of bituminous coal, \$236,201,899; of anthracite coal, \$112,504,020; of copper, \$86,629,266; of gold, \$80,218,800; of silver, \$77,126,382; of petroleum, \$66,417,335; of stone, \$55,615,926; of natural gas, \$27,067,500; of lead, \$23,280,200; of cement, \$15,786,789; of brick clay, \$13,800,000; of zinc, \$11,265,760; of mineral waters, \$7,586,962; of salt, \$6,617,449; of limestone for iron flux, \$4,659,836; of clay, other than brick, \$2,591,332; of aluminum, \$2,238,000; of quicksilver, \$1,382,305; of antimony, \$542,020; of nickel, \$3,551. The coal production was 225,759,980 tons of bituminous and 67,538,536 tons of anthracite; total, 293,298,516 tons. The production of pig-iron was 16,132,408 metric tons; of raw steel, 13,689,173 metric tons. The production of petroleum was 63,363,929 barrels, equal to 138,445,430 gallons. The exporta-

tion of crude oil in 1902 was 133,536,800 gallons; of naphtha, benzene, and gasoline, 23,498,479 gallons; of illuminating oil, 842,829,070 gallons; of lubricating oil and heavy paraffin, 76,035,611; total, including residuum, 1,106,208,470 gallons. The production of copper in 1900 was 254,460,713 pounds in Montana, 144,227,340 pounds in Michigan, 115,403,846 pounds in Arizona, 29,639,987 pounds in California, 18,504,726 pounds in Utah, 7,826,949 pounds in Colorado, 6,918,122 pounds in the Eastern and Southern States, and 12,536,850 pounds in other States and Territories.

The production of zinc was 111,794 long tons. The production of rock phosphate was 1,490,358 long tons, valued at \$5,354,022; of iron ore, 28,887,479 long tons, valued at \$49,256,245; of zinc white, 46,500 short tons, valued at \$3,720,000; of sulfuric acid, 98,000 short tons, valued at \$2,293,200; of manganese ore, 638,795 long tons, valued at \$1,644,117. The production of aluminum was 7,150,000 pounds; of antimony, 5,298,000 pounds; of copper, 597,443,212 pounds; of ferromanganese, 291,461 long tons, value \$16,589,960; of lead, 270,700 short tons; of nickel, 6,700,000 pounds. The production of metals from foreign ores and bullion in 1901 was 102,645,963 pounds of copper, valued at \$16,536,285; 1,730,856 ounces of gold, valued at \$35,776,794; 22,260 tons of lead, valued at \$1,927,716; 8,664,614 pounds of nickel, valued at \$4,037,710; and 45,410,085 ounces of silver, valued at \$27,850,005; total value, \$86,128,490. The total value of domestic ores and minerals was \$723,348,715; of metals, \$490,279,923; of secondary products, \$73,068,974; total, \$1,372,826,102. The number of establishments manufacturing iron and steel products in 1900 was 669, having a capital of \$590,530,484, employing 222,607 persons who earned \$120,836,338 in wages, turning out 29,507,860 tons of products worth \$804,034,918 from material costing \$522,431,701. The gold production in 1902 was 3,805,500 ounces, valued at \$78,666,700, exceeding that of any other country.

Shipping and Navigation.—The number of registered vessels in 1902 was 24,273, of which 7,727 were steamers and 16,546 sailing vessels. There were 332 steamers, of 455,017 tons, and 858 sailing vessels, of 418,218 tons, 1,190 vessels in all, of 873,235 tons, engaged in foreign trade and 7,386 steamers of 2,718,049 tons, and 14,130 sailing vessels, of 2,140,665 tons, 21,516 vessels in all, of 4,858,714 tons, engaged in the coasting-trade. The aggregate registered tonnage was 5,797,902 tons on June 30, 1902, having increased from 4,068,034 tons in 1880 after a previous decline from 5,299,175 tons in 1860. The iron and steel tonnage built in 1902 was 280,362 tons, of which 270,932 tons were steamers and 9,430 tons sailing vessels and barges. The number of new vessels of all kinds built was 1,491, of 468,833 tons, of which 581, of 97,698 tons, were sailing vessels; 579, of 308,180 tons, were steamers; 44, of 4,539 tons, were canal-boats; and 287, of 58,416 tons, were barges.

The Post-Office.—The number of post-offices in 1902 was 76,215; total length of mail-routes, 507,540 miles. Of the post-offices 4,743 were presidential and 71,472 fourth-class. About 8,000,000 pieces of mail-matter are handled annually. The number of domestic money-orders issued in 1902 was 40,474,327, of the total amount of \$313,551,279; international money-orders, 1,311,111, of the amount of \$22,974,473.

Telegraphs and Telephones.—The Western Union Telegraph Company in 1902 had 196,115 miles of poles and cables, with 1,029,984 miles of wire. The number of offices was 23,567. The number of messages sent during the year was 69,374,883; receipts were \$28,073,095, and expenses

\$20,780,766. The average toll per message was 25.7 cents.

The American Telephone Company on Jan. 1, 1902, had 823,193 miles of wire on poles, 17,947 miles on buildings, and 4,200 miles of submarine wire. The total length of wire was 1,729,619 miles. The number of exchanges was 1,411; branch offices, 1,594; number of circuits, 592,467; number of stations, 1,020,647; number of employees, 40,864. The number of instruments was 2,525,606. The number of conversations was over 2,425,000,000 during the year, an average of 7,531,761 a day. The long-distance telephone system had 14,886 miles of poles and cable and 198,684 miles of wire.

Railroads.—The length of railroads in the United States as estimated by the Interstate Commerce Commission was 197,237 miles in 1901, including 1,162 miles of unofficial lines. The increase in the year was 3,892 miles. The number of miles operated in 1901 is estimated at 195,886. The capital stock of the railroads was \$5,978,796,249; bonded debt, \$6,035,469,741; gross earnings, \$1,612,448,826 in 1901; net earnings, \$520,294,727; interest paid, \$261,645,714; dividends, \$156,887,283. The railroad mileage in 1902 is estimated at 195,886 miles, with 70,105 miles of second track and sidings; total length of track, 265,992 miles. The cost of railroads and equipment was \$10,717,752,155, besides \$1,976,518,412 invested otherwise. Including unfunded debt, sinking-funds, and current accounts, the total stock and liabilities amounted to \$12,926,900,521, while assets were figured at \$13,308,029,032, giving a surplus of \$381,068,511. On 194,974 miles operated in 1901 were carried 600,485,790 passengers and 1,084,066,451 tons of freight. Receipts from passengers were \$360,710,686; from freight, \$1,126,267,652; from miscellaneous sources, \$125,478,488. The surplus earned during the year after paying interest and dividends was \$111,308,194.

Foreign Relations.—The ratifications of the Hay-Pauncefote treaty, signed at Washington Nov. 18, 1901, were exchanged on Feb. 21. On Jan. 22, 1903, a convention was signed at Washington by Secretary Hay and the Colombian *Chargé d'Affaires*, Tomas Herban, relative to the Completion of the Panama ship-canal by the United States pursuant to the act of Congress approved June 28, 1902. The Colombian Government authorizes the new Panama Canal Company to sell to the United States its rights and properties and its shares in the Panama Railroad, the Republic of Colombia reserving its shares in the new French company, for which it will receive their full nominal value. The United States shall have the exclusive right for the term of one hundred years, renewable at the option of the United States for periods of similar duration to construct, operate, and protect the maritime canal, with or without locks, such canal to be of sufficient depth and capacity for vessels of the largest tonnage and greatest draft now engaged in commerce, and such as may be reasonably anticipated, and also the same rights for the construction, operation, and protection of the Panama Railroad and of railway telegraph and telephone lines, canals, dikes, dams, and reservoirs and such other auxiliary works as may be necessary. To enable the United States to exercise the rights and privileges granted by this treaty the Republic of Colombia grants the use and control, for the term of one hundred years, renewable at the option of the United States, of a zone of territory along the route of the canal 5 kilometers in width on either side thereof, measured from its center line, including therein the necessary auxiliary canals, not exceeding in

any case 15 miles from the main canal, and other works, together with 10 fathoms of water in the Bay of Limon in extension of the canal, and at least 3 marine miles from mean low-water mark from each terminus of the canal. This grant shall not include the cities of Panama and Colon, except so far as lands and other property therein are now owned by or in possession of the canal or railroad company, shall be neutral territory, and the United States shall continue to guarantee their neutrality and the sovereignty of Colombia. In furtherance of this provision there shall be created a joint commission by the governments of Colombia and the United States that shall establish and enforce sanitary and police regulations.

The rights and privileges granted to the United States shall not affect the sovereignty of the Republic of Colombia over the territory within whose boundaries such rights and privileges are to be exercised. The United States freely acknowledges and recognizes the sovereignty and disavows any intention to impair it in any way whatever or to increase its territory at the expense of Colombia or of any of the sister republics in Central or South America, but, on the contrary, it desires to strengthen the power of the republics on this continent and to promote, develop, and maintain their prosperity and independence. The Republic of Colombia authorizes the United States to construct and maintain at each entrance and terminus of the proposed canal a port for vessels, with suitable lighthouses and other aids to navigation, and the United States is authorized to use and occupy within the limits of the zone fixed by this convention such parts of the coast-line and islands adjacent as are necessary for this purpose, including the construction and maintenance of breakwaters, coaling stations, docks, and other appropriate works. The United States will give attention to works of drainage along the line of the canal in order to prevent the invasion of epidemics, will organize hospitals, and will supply the towns of Panama and Colon with the necessary aqueducts and drainage-works in order to prevent their becoming centers of infection on account of their proximity to the canal. The Republic of Colombia agrees that it will not cede or lease to any foreign Government any of its islands or harbors within or adjacent to the Bay of Panama, nor on the Atlantic coast of Colombia between the Atrato river and the western boundary of the Department of Panama, for the purpose of establishing fortifications, naval or coaling stations, military posts, docks, or other works that might interfere with the construction, maintenance, operation, protection, safety and free use of the canal. In order to enable Colombia to comply with this stipulation, the Government of the United States agrees to give Colombia the material support that may be required in order to prevent the occupation of said island and ports, guaranteeing there the sovereignty of Colombia. The Republic of Colombia includes in the grant the privilege to control rights conferred upon it by the waters of Chagres river and other streams, lakes, and lagoons, to raise and lower the levels of the waters and to deflect them, and to impound any such waters and to overflow any lands necessary for the due exercise of such grants and rights to the United States, and to rectify, construct, and improve the navigation of any such rivers, streams, lakes, and lagoons. All damages caused to private landowners by inundation or by the deviation of watercourses or in other ways arising out of the construction or operation of the canal, shall in each case be appraised and settled by a joint commission. The ports leading to the canal, in-

cluding Panama and Colon, shall be free to the commerce of the world, and no duties or taxes shall be imposed except upon merchandise destined to be introduced for the consumption of the rest of the Republic of Colombia, or upon vessels touching at the ports of Colon and Panama and which do not cross the canal. There shall not be imposed any taxes upon the canal, the vessels that may use it, or property and effects appertaining to the canal or railroad nor contributions of a personal character upon individuals in the service of the canal. The United States shall have authority to protect and make secure the canal, as well as railways and other auxiliary works and dependencies, and to preserve order and discipline among the laborers and other persons who may congregate in that region, and to make and enforce such police and sanitary regulations as it may deem necessary to preserve order and public health and to protect navigation and commerce from interruption or damage. The Republic of Colombia may establish judicial tribunals within said zone, which shall have exclusive jurisdiction of all controversies between citizens of the Republic of Colombia or between citizens of any foreign nation other than the United States.

Subject to the general sovereignty of Colombia over said zone, the United States may establish judicial tribunals thereon, which shall have jurisdiction of all controversies between citizens of the United States and between citizens of the United States and citizens of any foreign nation other than the Republic of Colombia; and of all controversies growing out of or relating to the construction, maintenance, or operation of the canal, railway, and other properties and works. The United States and Colombia engage jointly to establish judicial tribunals, which shall have jurisdiction of all controversies between citizens of the United States and citizens of Colombia, and between citizens of nations other than Colombia or the United States; and also of all crimes, felonies, and misdemeanors committed within said zone, and of all questions of admiralty arising therein.

The two governments shall agree upon the laws and procedure which shall govern this tribunal, and also shall make adequate provision by agreement for the capture, detention, and delivery within said zone of persons charged with the commitment of crimes, felonies, or misdemeanors within and without said zone. The works of the canal, the railways, and their auxiliaries are declared of public utility, and in consequence all areas of land and water necessary for the construction, maintenance, and operation of the canal and the other specified works may be expropriated in conformity with the laws of Colombia. The indemnities awarded by a joint commission for such expropriation shall be borne by the United States, but the appraisal of said land and the assessment of damages shall be based upon their value before the commencement of the work upon the canal.

The canal, when constructed, and the entrance thereto shall be neutral in perpetuity. The Government of Colombia shall have the right to transport over the canal its vessels, troops, and munitions of war at all times, without paying charges of any kind. This exemption is to be extended to the auxiliary railroads for the transportation of persons in the service of the Republic of Colombia or of the Department of Panama, or of the police force charged with the preservation of public order outside of said zone. The United States shall have full power and authority to establish and enforce regulations for the

use of the canal, the railways, and the entering ports and auxiliary works, and to fix rates of tolls and charges thereof.

The Republic of Colombia renounces the participation to which it might be entitled, in the future earnings of the canal under the concessionary contract and all other claims of a pecuniary nature arising under concessions, and confirms and grants to the United States all the rights and property which otherwise would belong to Colombia at or before the expiration of the title and interest which it now has in the lands, and rights which might by lapse of time, forfeiture, or otherwise, revert to the republic.

If it should become necessary at any time to employ armed forces for the safety or protection of the canal, or of the ships that make use of the same, or the railways and other works, the Republic of Colombia agrees to provide the forces necessary for such purpose according to the circumstances of the case, but if the Government of Colombia can not effectively comply with this obligation, then, with the consent of or at the request of Colombia, or of the local authorities, civil or military, the United States shall employ such force as may be necessary for that sole purpose; and as soon as the necessity shall have ceased will withdraw the forces so employed. Under exceptional circumstances, however, on account of unforeseen or imminent danger to said canal, railways, and other works, or to the lives and property of the persons employed, the Government of the United States is authorized to act in the interest of their protection without the necessity of obtaining the consent beforehand of the Government of Colombia; and it shall give immediate advice of the measures adopted for the purpose stated, and as soon as sufficient Colombia forces shall arrive to attend to the indicated purpose those of the United States shall retire.

The Government of the United States agrees to complete the construction of the preliminary works necessary, together with all auxiliary works, in the shortest time possible; and within two years from the date of the exchange of ratifications the main works of the canal properly shall be commenced, and it shall be opened to the traffic between the two oceans within twelve years from that date. In case, however, that any difficulties or obstacles should arise in the construction of the canal the Government of Colombia will prolong for twelve years more the terms stipulated. But in case the United States should, at any time, determine to make such canal practically a sea-level canal, then such period shall be extended for ten years further. As the price or compensation for the right to use the zone granted in this convention, together with the proprietary right over the Panama Railroad, and for the annuity of \$250,000 gold, which Colombia ceases to receive from the railroad, as well as in compensation for other rights, privileges, and exemptions granted to the United States, and in consideration of the increase in the administrative expenses of the Department of Panama, the Government of the United States binds itself to pay Colombia the sum of \$10,000,000 in gold on the exchange of ratifications, and also an annual payment during the life of this convention of \$250,000 in gold, beginning nine years from that date. If Colombia shall hereafter enter as a constituent into any other Government or into any union or confederation of States, so as to merge her sovereignty or independence in such Government, union, or confederation, the rights of the United States under this convention shall not be in any effect lessened or impaired.

The joint commission referred to shall be established as follows: The President of the United States shall nominate two persons and the President of Colombia shall nominate two persons, and they shall proceed to a decision; but in case of disagreement of the commission an umpire shall be appointed by the two governments, who shall render the decision. All decisions by a majority of the commission or by the umpire shall be final.

A dispute with Russia regarding the seizure of 4 American sealing vessels by a Russian war-vessel in Bering Sea was referred before the constitution of The Hague Court of Arbitration to Dr. Asser, the Dutch jurist, but the award was given under the sanction of The Hague Tribunal. The vessels were chased and seized by the Russian cruiser, and the American seamen were compelled to work. The seizures were made without warning, and were not afterward confirmed by any court of maritime jurisdiction. The Russian Government acknowledged that in two cases its naval authorities were at fault, and the arbitrator awarded \$38,750 and \$1,488 respectively, with interest at 6 per cent. from September, 1892. In the other cases, in which \$101,336 and \$150,720 were claimed, the Russian Government contended that the seizure of the vessels and the imprisonment of Capts. Lewis and White were legal, as they were guilty of illegal sealing in Russian territorial waters. The American delegate, Herbert Peirce, said the United States Government claims rights in Bering Sea and adjacent waters and will admit jurisdiction only over territorial waters, extending a marine league from the coast, unless a different rule is fixed by treaty, and in such case the treaty binds only the parties to the agreement. M. Komaroff, the Russian delegate, claimed for Russia by custom a wider extent of territorial waters and also the right to chase and capture beyond territorial waters vessels guilty of unlawful fishing within the territorial waters. The arbitrator upheld the position taken by the United States that the right of seizure extends only to the limit of territorial waters, one marine league from shore, and condemned Russia to pay respectively \$28,688 with interest from 1892 and \$32,444 with interest from 1893. The indirect claims for the prospective catch of the illegally detained vessels was disallowed.

The United States Government failed to reach a *modus vivendi* with Great Britain with regard to pelagic sealing before the season of 1902. It was proposed in Congress to kill off the seal herd on Pribilof Islands. On Jan. 24, 1903, a convention was signed by Secretary Hay and the British ambassador, Sir Michael Herbert, for the reference of the Alaska boundary dispute to a tribunal of 6 impartial jurists, 3 to be selected by the United States and 3 by Great Britain, all questions at issue, including the final award, to be decided by a majority vote of the tribunal. The tribunal shall consider in the settlement of the matter the Anglo-Russian boundary treaty of Feb. 28, 1825, and the treaty of March 30, 1867, between the United States and Russia, by which Russia ceded Alaska to the United States.

In interpreting the treaty of 1825 the tribunal shall decide what is intended as the point of commencement of the boundary-line, what channel is the Portland channel, what course should the line take from the point of commencement to the Portland channel, to what point on the fifty-sixth parallel is the line to be drawn from the head of the Portland channel, and what course should it follow between those points.

The tribunal will decide whether—in extending the line of demarcation northward from this point, following the crest of the mountains parallel with the coast until its intersection with the one hundred and forty-first degree of longitude west of Greenwich, subject to the condition that if the line should anywhere exceed the distance of 10 marine leagues from the ocean, then the boundary should be formed by a line parallel to the sinuosities of the coast and distant therefrom not more than 10 marine leagues—it was the intention and meaning of the convention of 1825 that there should remain in the possession of Russia a continuous fringe or strip of coast on the mainland not exceeding 10 marine leagues in width separating the British possessions from the bays, inlets, and havens of the ocean extending from the point on the fifty-sixth parallel to the intersection of the line with the one hundred and forty-first meridian. If this question should be decided in the negative, and in the event of the summit of the mountains being found to be in places more than 10 marine leagues from the coast, the tribunal shall decide whether the *lisière* which was to belong to Russia should be measured from the mainland coast of the ocean, strictly so called, along a line perpendicular thereto, or if not, whether it was the intention of the convention that, where the mainland coast is indented with deep inlets forming part of the territorial waters of Russia, the *lisière* was to be measured from the line of the general direction of the mainland coast or from the line separating the waters of the ocean from the territorial waters of Russia or from the heads of the inlets. The tribunal shall also decide what, if any exist, are the mountains referred to as situated parallel with the coast that are declared to be the eastern boundary. When the high contracting parties shall have received the decision of the tribunal on the questions submitted, which decision shall be final and binding, they will each appoint one or more scientific experts who shall proceed together to lay down the boundary-line in conformity with the decision. Should there be a failure by a majority of the members of the tribunal to agree upon any of the points submitted, or should a majority agree upon only a part of the questions, they will report to their respective governments.

The first case submitted to The Hague Arbitration Court since its institution was a dispute between the United States and Mexico on a question of the endowments of Catholic missions in California. While California was a part of Mexico President Quesada in 1842 seized a fund that was created for the support of Californian missions, promising to pay an annuity to the clergy, who received it as long as California belonged to Mexico, but after its annexation to the United States the missions of Lower California received their share, while the clergy of Upper California, when they claimed from the Mexican Government the continuance of their stipends, were referred to the United States Government. The question was once decided by arbitration, but Mexico, dissatisfied with the award, paid only the exact sum awarded, and has not since continued the payments, holding that the Pious fund, as it is called, is a purely Mexican fund that should be used only for the benefit of the Mexican Church. On May 22, 1902, Secretary Hay and Dr. Manuel de Azpiroz, the Mexican minister, signed a convention for the reference of the question to the decision of The Hague Tribunal. The United States chose as arbitrators Sir Edward Fry and Prof. Martens,

one an English, the other a Russian juriconsult; Mexico chose Senator Guarnaschelli, an Italian, and M. de Savornin Lohman, a Dutch member of the court. Judge Guarnaschelli being unable to accept, M. Asser was appointed by the Mexican Government. The 4 members met at The Hague on Sept. 1 and chose Dr. Matzen, a Danish jurist, as umpire. The Pious fund originated in 1697, and consisted of money collected in Mexico to enable the Jesuits to carry on their missionary labors in the two Californias. After the expulsion of the Jesuits from Spanish dominions in 1768 the property of the fund was confiscated by the Government, but it was provided that it should remain subject to the charges imposed by the original donors. The Dominicans took over the Jesuit missions in Lower California, the Franciscans those in Upper California, and both the Spanish Crown and the Mexican Republic kept the promise to the Church until the property was seized in the exigencies of the Mexican treasury, when an undertaking was given that 6 per cent. interest would be paid in perpetuity on the full value. This pledge was kept likewise. The Franciscans established 21 missions, which occupied the sites of the principal cities of California. About twenty years after the cession of Upper California to the United States a treaty was concluded with Mexico for the settlement of claims of Mexican citizens against the United States and of United States citizens against Mexico. Each Government appointed an arbitrator, and the arbitrators chose Sir Edward Thornton, British minister at Washington, to be umpire. The arbitrators having disagreed in the matter of the Pious fund, the umpire decided that it amounted to \$1,435,033, and that half belonged to the clergy of the State of California. He accordingly condemned Mexico to pay interest at 6 per cent. on half the total sum for twenty-one years, amounting to \$904,070 up to Feb. 2, 1869, the date at which the umpire's jurisdiction ended. This was paid in instalments from 1877 to 1890, but the interest that has accrued since 1869 has not been paid, although the claim of the Californian bishops has been urged repeatedly by the State Department at Washington. In the new treaty of arbitration the judges were asked to decide three questions: First, whether the claim was, in consequence of the decision of Sir Edward Thornton, *res adjudicata*; second, if not governed by that principle, whether it was just; third, if the decision went against Mexico, in what currency should it be paid. Mexico held that the principle of *res adjudicata*, which was acknowledged to be applicable in international law, as it is in the civil law of most European countries, did not apply in this case because Sir Edward Thornton had no jurisdiction to make his award; and, in case it was found that he had, because his award did not cover the present claim. The Tribunal decided that Sir Edward Thornton had jurisdiction to make his award, and that, as the principles and evidence on which it was based were identical with those governing the present claim, the matter was *res adjudicata*. The full amount of the claim, which is \$1,420,689, was awarded to the United States for the benefit of the bishops of California, the claimants in behalf of the Church. The court decided that this could be paid in Mexican currency. The Mexican Government was, moreover, directed to pay in perpetuity the annual sum of \$43,051. The court was opened on Sept. 15 and the award was made on Oct. 14. In the dispute with Germany regarding Samoa the decision of King Oscar of Sweden was against the United States. (See SAMOA.)

Sir Robert Bond, Premier of Newfoundland, arranged a reciprocity convention with Secretary Hay in September, 1902. He negotiated a convention with Secretary Blaine in 1900, but the British Government withheld ratification at the request of the Dominion Government in order that Canada might have an opportunity to effect a similar arrangement. If Canada failed to secure this within a reasonable time the Newfoundland Government received an assurance that the Imperial Government would not withhold its consent longer to an arrangement it might make for the advantage of Newfoundland. The principle of the Bond-Blaine convention was free bait for free fish. It provided for the admission of Newfoundland dried codfish into the United States free of duty on condition that American vessels engaged in the deep-sea fisheries for cod, haddock, halibut, etc., on the Grand Banks and adjacent waters may freely buy bait, consisting of herring, caplin, and squid, caught in the Newfoundland inshore fisheries. At present American fishermen obtain bait in Newfoundland under a *modus vivendi* arranged in 1888 by paying an annual license fee of \$1.50 a ton, taxing each ship from \$120 to \$200 a year. In 1901 in Newfoundland waters 76 American vessels baited and supplied Newfoundland bait to probably as many more at Gloucester. During the winter herring can be obtained nowhere else. The Canadians, who can not be restricted in any way from baiting in Newfoundland, being British subjects, desire the same reciprocity with the United States for fishery products that the Newfoundlanders do. The supply of bait, however, in Canadian waters is so limited or inaccessible that at least two-thirds of the Dominion fishermen obtain theirs in Newfoundland. Except for the *modus vivendi* the New England fishermen would find it as difficult to fish on the banks as the French do, who as foreigners can only get bait by smuggling. The French by the treaty of Utrecht, made in 1713, have the right to trawl in the territorial waters of the west and the northeast coasts of Newfoundland. Americans by the treaty of Washington, made in 1818, have equal rights on the west shore and also are entitled to frequent the southwest coast. All these shores are remote and the inshore fishery rights are valueless for the bank fishermen. The catch of American fishermen on the Newfoundland banks is in value about \$4,000,000 a year, only 10 per cent. of the total fisheries of the United States and not more than half the catch of the Canadian fishermen, those of the maritime provinces who wish to obtain free entry for their fish into the United States to compete with the New England fishermen. The Newfoundlanders threaten no serious competition. They depend on their inshore fisheries, and what cod they cure after their fashion by drying it after it is pickled in the wind and sun. Of this peculiar product 35,000 quintals is exported to the United States, valued at \$150,000 paying a duty of $\frac{1}{2}$ cent a pound. The Newfoundlanders would like to have the duty on their salt cod removed in the United States and Porto Rico, and on salt herring, of which American vessels took away 200,000 barrels in the winter of 1901, and on other fishery products. The Bond-Hay convention goes much further to meet their wishes than the Bond-Blaine convention. It offers to admit free of duty all fishery products, except fresh fish, and also crude minerals. If it is ratified by both parties Newfoundlanders can market in the Atlantic cities not only dry fish, but green fish, in which state, simply packed in the holds of the schooners with salt

between, cod is preserved by the New England fishermen, and by the fishermen of New Brunswick and Nova Scotia, and is liked best by the American consumers. For these new concessions Newfoundland agrees to admit certain American foodstuffs and other articles at the same fixed rates of duty that are imposed on Canadian products of the same kinds, and if the duties are made lower for Canada or any other country the United States while the convention remains in force also will have the benefit of the reduction.

An American, Capt. A. A. Rosehill, laid claim to Marcus Island, whence a Japanese colony ships guano, dried fish, stuffed birds, and feathers. His claim to the island being disputed, he fitted out an expedition at Honolulu for the purpose of taking forcible possession of the guano deposits there. The Japanese minister notified the Government at Washington that Japan claims the island as one of the Bonin group, in which it was officially included in 1898. Japan sent a cruiser with a diplomatic official to defend her claim, and this official bore a message from Washington to Capt. Rosehill, warning him to offer no forcible opposition. The American claimant landed on the island in 1889, and finding it uninhabited, raised the American flag, and put up a monument where he deposited a record of his claim to the island. In 1901 he filed a bond at Washington such as is required to perfect a legal claim to a guano island under American protection. Meanwhile Japanese had come, and finding the island unoccupied had shipped away guano, and in 1896 formed a permanent settlement of about 20 souls. Capt. Rosehill arrived on July 30, but sailed away again on receiving the message from the Japanese officer. The Japanese have long known the island, and since 1879 their fishermen have visited it. The American discoverer filed a claim at Washington against the Japanese Government for possession of the island and indemnification for the guano taken away.

Finances.—The receipts of the Government for the fiscal year ended June 30, 1902, exceeded the expenditures by \$91,287,375. The excess for the preceding year was \$77,717,984. There was a net decrease in the revenues of about \$15,000,000, the principal items of change being a decrease of \$35,000,000 on account of internal revenue, due to the repeal of war-taxes, and an increase of nearly \$16,000,000 for customs. Another increase was more than \$10,000,000 from postal revenues.

There was a net decrease of expenditures of \$38,776,495, the chief items of decrease being \$2,300,000 for refunding excess of customs deposits, \$2,500,000 for deficiency in postal revenues, \$4,900,000 for the twelfth census, \$1,800,000 for public buildings, \$4,600,000 for improving rivers and harbors, \$16,500,000 for the quartermaster's department, and \$6,300,000 for the subsistence department of the army. There was a decrease in the annual interest on the public debt of \$3,234,934.

The principal items of increased expenditure were as follow: Rebate of tax on tobacco, \$3,000,000; refunding to States expenses incurred in raising volunteers, \$1,000,000; increase of the navy, \$4,600,000; Bureau of Equipment of the naval establishment, \$1,000,000; general account of advances Navy Department, \$2,000,000.

Of the excess of revenues for the year, \$70,410,000 were expended in the purchase of bonds and other securities applied to the sinking-fund. With the exception of the two years 1880 and 1881, this is the largest expenditure on account of the sinking-fund since it was established in 1869. The premium paid on bonds purchased for the sinking-fund amounted to \$14,339,000.

Detailed receipts and expenditures for 1902, compared with those for 1901, are as follows:

RECEIPTS.

SOURCES.	YEAR ENDING JUNE 30,	
	1902.	1901.
Internal revenue.....	\$271,880,122.10	\$307,180,063.77
Customs.....	254,444,708.19	238,585,455.99
Profits on coinage, bullion deposits, etc.....	10,979,506.87	12,731,356.94
Tax on sealskins and rent of seal islands.....	251,821.20	228,655.75
Sales of Indian lands.....	1,775,833.63	1,492,321.24
Sales of Government property.....	829,214.15	450,098.49
Sales of public lands.....	4,144,122.78	2,965,119.65
District of Columbia.....	4,317,841.43	3,988,176.19
Navy pension, navy hospital, clothing, and deposit funds.....	2,019,850.25	1,778,454.91
Fees—consular, letters patent, and land.....	4,085,229.87	3,414,933.49
Depredations on public lands.....	107,995.58	75,977.70
Customs fees, fines, penalties, etc.....	886,971.85	711,791.43
Judicial fees, fines, penalties, etc.....	324,233.95	324,078.33
Immigrant fund.....	747,217.15	555,022.70
Deposits for surveying public lands.....	316,579.23	247,258.90
Payment of interest by Pacific railways.....	1,564,554.71	1,316,516.02
Sales of lands and buildings.....	372,432.72	236,897.53
Tax on national banks.....	1,643,454.73	1,651,473.05
Soldiers' Home permanent fund.....	536,045.62	422,622.06
Prize money.....	20,000.00	454,955.25
Miscellaneous.....	854,081.49	1,166,626.37
Sales of ordnance material.....	320,438.53	708,054.43
Sales of old vessels.....	313,946.96	87,220.61
From sale of claim of United States against Sioux City and Pacific Railroad Company.....		2,122,841.24
Dividend paid by receivers of Union Pacific Railroad for account of Kansas Pacific.....		123,942.80
Part payment Central Pacific Railroad indebtedness.....		4,576,247.10
Postal service.....	121,848,047.26	111,651,193.39
Total.....	\$684,226,230.47	\$699,316,530.23

EXPENDITURES.

OBJECTS.	YEAR ENDING JUNE 30,	
	1902.	1901.
Legislative:		
Salaries and expenses.....	\$11,380,301.87	\$11,211,514.80
Executive proper:		
Salaries and expenses.....	213,535.22	213,310.64
Department of State:		
Salaries and expenses.....	186,407.44	156,015.39
Foreign intercourse.....	2,765,724.01	3,217,900.35
Treaty obligations between United States and Spain in 1900.....		100,000.00
Treasury Department:		
Salaries and expenses.....	3,533,329.24	3,395,011.92
Independent Treasury.....	688,544.89	686,610.52
Mints and assay offices.....	1,535,666.06	1,906,475.17
Territorial governments.....	165,724.85	224,241.84
Salaries, etc., internal revenue.....	4,242,497.33	4,278,479.65
Miscellaneous, internal revenue.....	1,369,659.97	1,711,808.07
Rebate of tax on tobacco.....	2,928,191.23	
Collecting customs revenue.....	7,967,473.66	7,713,418.32
Refunding excess of deposits, customs.....	5,414,259.32	7,718,087.34
Debentures or drawbacks, customs.....	5,226,157.44	5,227,980.91
Miscellaneous items, customs.....	242,733.01	209,171.23
Revenue-Cutter Service.....	1,203,637.12	1,256,550.61
Regulating immigration.....	399,692.33	333,195.34
Chinese-exclusion acts.....	202,744.03	158,928.84
New revenue vessels.....	112,514.96	199,511.39
Alien contract-labor laws.....	150,032.16	140,078.25
Marine-Hospital Service.....	1,224,264.51	1,240,192.37

EXPENDITURES (continued.)

OBJECTS.	YEAR ENDING JUNE 30,	
	1902.	1901.
Treasury Department: (cont'd)		
Life-Saving Service.....	\$1,067,688.48	\$1,650,907.17
Lighthouse Establishment.....	4,181,408.89	3,688,898.53
Coast and Geodetic Survey.....	888,633.07	753,398.04
Steamboat-Inspection Service.....	344,490.06	354,329.90
Engraving and printing.....	2,653,532.43	2,058,598.31
Public buildings.....	4,919,574.17	6,781,368.78
Fuel, etc., public buildings.....	881,379.99	889,316.73
Custodians and janitors.....	1,080,039.38	1,063,553.14
Furniture for public buildings.....	257,889.74	287,155.80
Heating apparatus, public buildings.....	164,357.68	173,576.68
Vaults, safes, etc., public buildings.....	34,335.50	56,543.78
Fish hatcheries.....	51,435.73	43,660.81
Salaries and expenses, Fish Commission.....	489,355.45	473,386.85
National Museum.....	371,393.94	340,095.46
Zoological Park.....	88,353.19	75,388.68
Smithsonian Institution.....	140,009.18	141,176.87
Interstate Commerce Commission.....	370,059.55	267,548.50
French spoliation claims.....	193,357.73	29,006.68
Claims under Bowman and Tucker acts.....	407,855.31	14,068.87
Epidemic diseases.....	141,814.53	173,872.41
Buffalo Exposition, Niagara frontier.....	83,756.90	343,692.92
Louisiana-Purchase Exposition, St. Louis.....	45,375.59	17,331.08
Refunding customs revenue collected from Porto Rico.....	399,988.10	506,011.90
Payment of debt of Hawaii For credit Central Pacific Railroad indebtedness.....	731,303.44	2,488,071.88
Credits in settlement of indebtedness of Sioux City and Pacific Railroad Company.....		1,496,090.41
Miscellaneous items.....	559,589.95	260,841.24
War Department:		666,825.63
Salaries and expenses.....	2,336,080.04	2,578,323.88
Navy Department:		
Salaries and expenses.....	496,897.02	478,325.56
Interior Department:		
Salaries and expenses.....	4,748,480.26	4,728,737.91
Public Lands Service.....	3,312,636.38	3,171,031.35
Colleges for agriculture.....	1,300,000.00	1,300,000.00
Twelfth census.....	2,915,194.81	7,809,948.00
Liquidation of deposits in Hawaiian Postal Savings Bank.....	4,460.88	757,084.67
Reconstructing rooms of old Library of Congress.....	305,365.43	288,021.93
Miscellaneous items.....	1,048,191.98	735,030.23
Post-Office Department:		
Salaries and expenses.....	1,053,649.79	986,574.57
Deficiency in postal revenues.....	2,408,153.52	4,954,763.31
Mail transportation, Pacific railways.....	593,682.31	606,534.08
Department of Agriculture:		
Salaries and expenses.....	3,423,315.93	2,900,638.45
Weather Bureau.....	1,156,773.69	1,063,244.00
Department of Labor:		
Salaries and expenses.....	179,302.49	169,321.35
Department of Justice:		
Salaries and expenses.....	473,908.04	435,608.17
Salaries of justices, assistant attorneys, etc.....	1,063,000.85	1,090,048.60
Salaries, fees, and expenses of marshals.....	1,151,351.90	1,116,465.33
Fees of witnesses.....	839,086.97	774,953.68
Salaries and fees of district attorneys.....	416,267.34	430,357.87
Fees of jurors.....	614,853.37	610,528.11
Fees of clerks.....	247,928.05	223,757.69
Fees of commissioners.....	130,531.70	125,871.20
Support of prisoners.....	734,008.16	693,553.58
Pay of bailiffs.....	146,838.52	146,691.20
Judgments, United States courts.....	26,496.64	29,937.24
Miscellaneous items.....	953,492.33	1,061,867.01
District of Columbia:		
Salaries and expenses.....	9,363,742.00	8,748,323.04
Deduct repayments in excess of expenditures.....		\$124,464,465.84
		2,182,462.74
Total civil.....	\$113,469,323.91	\$123,282,008.10

EXPENDITURES (continued.)

OBJECTS.	YEAR ENDING JUNE 30,	
	1902.	1901.
Military:		
National defense.....		\$600,233.00
Emergency fund.....	\$42,362.20	360,583.08
Refunding customs revenue collected from Porto Rico.....		373,090.34
Pay Department.....	36,915,384.17	26,343,379.21
Extra pay, war with Spain.....	82,538.85	249,334.61
Subsistence Department.....	6,490,827.28	12,764,977.27
Quartermaster's Department.....	31,735,890.32	43,322,946.50
Medical Department.....	850,602.41	2,553,168.34
Ordnance Department.....	11,155,777.83	11,631,915.70
Engineer Department.....	755,081.73	841,094.75
Signal Service.....	245,379.08	446,696.98
Military telegraph and cable lines.....	106,491.47	123,050.00
Military Academy.....	257,104.93	393,981.67
Improving harbors.....	6,331,797.39	6,731,441.94
Improving rivers.....	8,616,213.45	12,733,081.77
Bringing home remains of officers, soldiers, and others.....	109,972.27	201,367.85
Military posts.....	1,053,943.45	643,919.77
National homes for disabled soldiers.....	2,236,424.40	3,376,708.85
State homes for disabled soldiers.....	1,004,724.80	1,123,280.59
Support of Soldiers' Home.....	536,045.62	492,610.71
Soldiers' Home permanent fund.....	236,000.00	243,000.00
Soldiers' Home interest account.....	87,661.27	73,082.77
Reimbursing States and Territories, expenses of raising troops, Spanish War.....	599,431.34	964,186.77
Refunding to States expenses incurred in raising volunteers.....	1,053,632.42	
Miscellaneous items.....	849,750.51	919,700.88
Total military.....	\$112,372,216.08	\$144,615,697.20
Naval:		
National defense.....	\$34,999.72	\$303,895.74
Emergency fund.....	114,019.42	555,385.72
Increase of the navy.....	19,793,144.22	15,392,578.53
Bureau of Yards and Docks.....	5,701,780.29	5,394,178.99
Bureau of Equipment.....	5,144,548.33	4,000,522.73
Bureau of Navigation.....	580,547.94	473,590.51
Bureau of Construction and Repair.....	6,993,826.98	7,810,405.49
Bureau of Ordnance.....	2,549,000.51	3,097,303.27
Bureau of Steam Engineering.....	3,253,231.78	3,542,627.03
Bureau of Supplies and Accounts.....	3,967,819.29	3,573,119.61
Bureau of Medicine and Surgery.....	415,370.92	403,893.29
Marine Corps.....	2,718,021.93	2,318,064.18
Naval Academy.....	872,693.13	725,723.03
Pay of the navy.....	18,017,086.61	13,847,546.36
General account of advances.....	1,905,899.92	
Judgments, bounty for destruction of enemies' vessels.....	314,853.97	
Miscellaneous items.....	440,236.30	541,392.14
Deduct repayments in excess of expenditures.....		61,150,010.60
		643,032.13
Total naval.....	\$67,803,123.24	\$90,506,978.47
Indian service.....	\$10,049,584.86	\$10,896,073.35
Pensions.....	138,486,559.73	139,323,621.99
Interest on the public debt.....	39,106,044.82	32,342,979.04
Postal revenues expended.....	121,848,047.36	111,631,193.39
Grand total.....	\$393,088,904.90	\$621,598,546.54

The gross gold in the Treasury at the close of the calendar year was \$616,750,218, which is the largest amount of gold ever held by the Treasury. This colossal holding never has been approached by any nation except Russia, which accumulated \$598,000,000 a few years since during the effort to establish the gold standard in that empire. The cash balance at the close of the calendar year,

available for ordinary expenditure, was \$211,681,177, of which \$150,556,000 was held in United States national-bank depositaries, and the remaining \$61,000,000 was in the Treasury vaults. A great growth in the use of depositary banks has taken place during the past five years. The number of such banks increased from 165 in 1897 to 700 at the close of 1902, and in that time their holdings of public funds increased from about \$15,000,000 to \$150,000,000. The following tables show the assets and liabilities of the Treasury for the years ended Dec. 31, 1901 and 1902:

ASSETS.	YEAR ENDING DEC. 31,	
	1902.	1901.
Gold coin and bullion.....	\$314,750,216	\$240,797,508
Silver dollars or bullion.....	494,324,351	496,718,314
United States notes.....	2,722,299	5,514,530
Treasury notes (1890).....	74,850	150,323
National-bank notes.....	15,535,945	10,433,450
Balances in national-bank de- positaries.....	150,556,054	112,053,534
Gold certificates.....	37,634,630	33,788,080
Silver certificates.....	4,646,343	8,594,103
Bonds and interest checks paid.....	15,003	678,188
Minor coins and fractional notes.....	638,530	333,294
Subsidiary silver coins.....	6,333,550	6,914,367
Total.....	\$1,339,956,731	\$1,219,631,731

LIABILITIES.	YEAR ENDING DEC. 31,	
	1902.	1901.
Gold certificates.....	\$368,564,069	\$315,785,099
Silver certificates.....	468,967,000	496,087,000
Treasury notes (1890).....	24,053,000	33,596,000
Redemption national-bank notes.....	14,750,287	14,398,521
Disbursing officers' balances.....	86,353,906	55,651,940
Outstanding checks and drafts.....	8,223,143	5,438,170
Post-Office Department account.....	8,236,956	7,593,505
Miscellaneous items.....	3,736,941	3,319,318
Reserve fund.....	150,000,000	150,000,000
Available cash balance.....	211,681,177	171,808,278
Total.....	\$1,339,956,731	\$1,219,631,731

The changes in the public debt are shown in the following table:

OBLIGATIONS.	Interest rate.	OUTSTANDING DEC. 31,	
		1902.	1901.
Consols of 1900.....	2	50	\$445,940,750
Loan of 1902-18.....	3	80	97,554,160
Funded loan of 1907.....	4	50	240,083,300
Refunding certificates.....	4	30	33,250
Loan of 1905.....	4	60	130,518,600
Loan of 1904.....	5	10	20,060,150
Old loans matured.....	..	10	1,336,790
Old demand notes.....	..	47	53,847
National-bank redemption account.....	..	42,169,933	35,038,908
Fractional notes.....	..	6,972,594	6,974,493
Total.....	..	\$964,933,043	\$966,550,547

There were also outstanding at the close of the calendar year \$346,681,016 in United States notes, commonly called greenbacks, and \$24,053,000 Treasury notes of 1890. Under the operation of the act of March 14, 1900, the Treasury notes are gradually being retired, their place being taken by silver certificates as rapidly as the bullion purchased under the act of 1890, for which Treasury notes were issued, is coined into silver dollars.

There was a material decrease in the coinage of the mints, particularly gold coinage. At the same time there has been a corresponding increase in bullion. The cause for the decrease in coinage is due largely to the fact that operations were suspended at Philadelphia while the change was being made from the old to the new mint building

in that city. The following table shows in detail the coinage of the year, compared with 1901:

DENOMINATIONS.	1902.	1901.
Double-eagles.....	\$35,697,380	\$32,800,330
Eagles.....	5,233,150	51,300,850
Half-eagles.....	5,337,630	14,333,115
Quarter-eagles.....	334,330	100,300
Louisiana Exposition gold dollars.....	75,060	.....
Total gold.....	\$47,134,330	\$99,035,715
Standard silver dollars.....	\$18,180,777	\$34,398,550
Half-dollars.....	4,454,723	4,541,435
Quarter-dollars.....	4,617,539	3,674,575
Dimes.....	2,736,073	2,650,345
Total silver.....	\$30,089,107	\$35,265,495
Five-cent nickel.....	\$1,574,080	\$1,344,105
One-cent bronze.....	673,737	.....
Total minor.....	\$2,247,736	\$2,000,505
Total coinage.....	\$79,471,173	\$136,301,715

The following table shows the amount of money in circulation Jan. 1, 1903, compared with the same date in 1902:

CHARACTER OF MONEY.	AMOUNT IN CIRCULATION JAN. 1,	
	1902.	1901.
Gold coin (including bullion in Treasury).....	82	\$335,374,550
Gold certificates.....	78	377,997,080
Standard silver dollars.....	54	73,330,965
Silver certificates.....	83	449,433,592
Subsidiary silver.....	60	33,051,034
Treasury notes of 1890.....	95	33,433,737
United States notes.....	83	341,163,533
National-bank notes.....	51	349,656,375
Total.....	\$2,346,700,501	\$2,350,627,900

Jan. 1, 1903, the circulation per capita was \$29.43, against \$28.69 for Jan. 1, 1902.

The Supreme Court.—Oliver Wendell Holmes, of Massachusetts, was appointed Associate Justice in place of Horace Gray, deceased, and took his seat on the bench Dec. 8, 1902.

The number of cases docketed and pending at the beginning of the October term, 1901, was 732, of which 377 were disposed of during the term. The number actually considered by the court was 375, of which 168 were argued orally and 126 were submitted on printed arguments. Among the cases of general interest decided were the following:

Controversy between States.—The court, in an opinion delivered by Chief-Justice Fuller, April 7, 1902, overruled the demurrer of the State of Colorado in the case of *Kansas vs. Colorado*. The case involved the right of Colorado to appropriate for purposes of irrigation the waters of Arkansas river, which Kansas sought by an original action to restrain on the ground that the stream flows through Kansas and the people of the latter State are injured by Colorado's appropriation of the water. Colorado contested the jurisdiction of the court in the case and filed a demurrer. The court held that the case is one in which it can properly assume jurisdiction, and the next proceeding will be for Colorado to answer the bill of complaint.

Insolvent National Banks.—The case of *Studebaker vs. Perry*, receiver of the National Bank of Kansas City, involved the question whether the Comptroller of the Currency, acting under the national banking laws, can validly make more than one assessment upon the shareholders of an

insolvent national banking association. The court held that several assessments could be legitimately made if necessary.

Statutory Construction.—*Rodgers vs. United States*, decided April 7, 1902. This was a suit brought by Admiral Rodgers of the navy to recover money claimed to be due under the law known as the navy personnel act, approved March 3, 1899. The Court of Claims decided the case in favor of the United States, and the Supreme Court affirmed that decision. Section 7 of the act referred to abolished the rank of commodore, at least as far as respects the active list of the line of the navy, and lifted those in that rank to that of rear-admiral. It is a canon of statutory construction that a later statute, general in its terms and not expressly repealing a prior special statute, will ordinarily not affect the special provision of such earlier statute.

Patent Cases.—In the case of *Excelsior Wooden Pipe Company vs. Pacific Bridge Company*, decided May 5, 1902, the question of jurisdiction was involved, and interesting dictums were pronounced. If a suit is brought to enforce or set aside a contract, though such contract be connected with a patent, it is not a suit under the patent laws, and jurisdiction of the Circuit Court can only be maintained upon the ground of diversity of citizenship. It is sometimes difficult to determine whether the action be upon the patent or upon a contract.

The case of the *Carnegie Steel Company vs. Cambria Iron Company* was for recovery of damages for infringement of a patent for a "method of mixing molten pig metal." The decision was in favor of the Carnegie Company, but a dissenting opinion was delivered by Mr. Justice White, in which the Chief Justice, Mr. Justice Harlan, and Mr. Justice Brewer united. Their judgment was that the decision of the court tended "to put the patentee in a position where, without invention on his part, and without the possession by him of lawful letters patent, he is allowed to exact tribute from the steel and iron making industry, whenever those engaged in such industry desire to increase their plants or to more conveniently and satisfactorily conduct their operations, so as to keep pace with the natural evolution of modern industrial development."

Extradition Treaty with Prussia.—The case of *Terlinden vs. Ames* was an extradition proceeding involving the status of the Kingdom of Prussia since its incorporation into the Empire of Germany. Terlinden, a citizen of Prussia, was apprehended in Chicago, where the German authorities made application under our treaty with Prussia of 1852 for extradition for an offense committed in Prussia. The proceeding was resisted on the ground that the absorption of Prussia had had the effect of nullifying the treaty. Application was made for a writ of *habeas corpus*, which was denied by the lower courts. The Supreme Court sustained the lower courts in their action. Treaties may be terminated by the absorption of powers into other nationalities and the loss of separate existence; but as the German Government had recognized this treaty, and the Executive Department of our Government had acted in the same direction, it was held not to be within the province of our courts to interfere.

Treaty with Russia.—*Tucker vs. Alexandroff*, decided Jan. 6, 1902. This case presented an important international question. Alexandroff, assistant physician in the Russian navy, came to this country from Russia as a member of the crew of the *Variag*, a Russian cruiser under con-

struction at Philadelphia. He deserted, renouncing his allegiance to the Emperor, and declared his intention of becoming a citizen of the United States. He was arrested, charged with desertion, and committed to prison, subject to orders of the Russian vice-consul or commander of the cruiser. The United States District Court, upon a hearing on a writ of *habeas corpus*, ordered his discharge, and the Circuit Court of Appeals affirmed the decision. The Russian vice-consul at Philadelphia appealed the case, and the Supreme Court decided that, under the treaty with Russia, Alexandroff should be surrendered to the Russian Government. Although the *Variag* was still upon the stocks when Alexandroff arrived in Philadelphia, before he deserted she had been launched, and thereby became a ship in the legal sense. Chief-Justice Fuller and Justices Harlan, White, and Gray dissented. They held that the *Variag* was not, at the time Alexandroff deserted, a Russian ship of war in the sense that the authorities could take affirmative action to enforce the jurisdiction of that country over the men intended to become part of her crew.

New York Transfer Tax.—*Orr vs. Gilman*, decided Jan. 6, 1902. This was the case of a transfer tax imposed under the laws of the State of New York, under the following circumstances: David Dows, Sr., died in 1890, leaving a will containing a power of appointment to his son, David Dows, Jr., which will was duly admitted to probate. David Dows, Jr., died in 1899, leaving a will, in which he exercised the power of appointment given to him in the will of his father, and appropriated the property, which was the subject of the power, among his 3 sons. The New York State law of 1897 provided that when a person exercised a power of appointment derived from any disposition of property, such appointment, when made, shall be deemed a transfer taxable in the same manner as though the property to which such appointment related belonged absolutely to the donee of the power. It was argued that the grandchildren acquired vested rights under the will of David Dows, Sr., and that it was not competent for the State, by an enactment passed in 1897, to exact a tax on the property that passed to the grandchildren under the will. The court held that the subject was one of State law, and must follow the construction put upon the law by the State courts; and that it was not in conflict with the provisions of the federal Constitution.

Federal Legacy Tax.—In *Eidman, collector, vs. Martinez, administrator*, decided March 17, 1902, a test case on the application of the federal legacy tax law to estates of persons domiciled abroad, it was held that no tax is imposed upon the passing of any legacy or distributive share arising out of the personal property of a non-resident alien, who dies without the United States, leaving a will made and executed at his foreign domicile pursuant to the laws thereof, by which he gives his property to a non-resident alien legatee; or, in case of an intestate whose property, by the laws of his foreign domicile, passes to his son, also a non-resident alien, and who leaves certain property within the United States exceeding \$10,000 in value.

In *Moore, collector, vs. Ruckgaber, executor*, decided on the same date, it was held that the personal property of a non-resident testatrix, actually located within the United States at the time of her death, is deemed not to have a *situs* in the United States for the purpose of levying a tax. The transmission or receipt of personal property of the non-resident testatrix was held

not subject to legacy tax under the act of June 13, 1898.

The sections of that act (now repealed) imposing a legacy tax did not apply to deceased persons domiciled abroad who left property by will executed in this country.

Carrier's Liability.—The *Kensington*, decided Jan. 6, 1902. The *Kensington*, a steamer running between Antwerp and New York, took on board at Antwerp as passengers Mrs. and Miss Bleecker, the wife and daughter of a United States naval officer. Their baggage was totally destroyed on the voyage, on account of bad storage. One of the conditions printed on the ticket provided that the company should not be liable for baggage beyond 250 francs for each passenger, unless an increased value was declared and an additional sum paid. It was held in the United States District Court that the stipulation as to the value of the baggage was valid, and judgment was rendered against the company for 250 francs in favor of each of the above-named passengers, which was affirmed by the Circuit Court. The Supreme Court reversed the decision, and allowed actual damages with interest. Exemptions limiting carriers' responsibility for the negligence of themselves or their servants are unjust and unreasonable, and such conditions are in conflict with public policy. One of the conditions provided that all questions arising were to be settled according to the law of Belgium, which authorized the conditions, the contract having been made in that country; but such a contract can not be enforced in this country in violation of the rule of public policy adopted by our courts.

Bankruptcy Law.—In the case of the *Hanover National Bank vs. Moyse*, decided June 2, 1902, the court, in an opinion delivered by Chief-Justice Fuller, decided the national bankruptcy law of 1898 to be constitutional. The court held that to be valid a bankruptcy law must be uniform throughout the United States, and further, that it is uniform "when the trustee takes in each State whatever would have been available to the creditors if the bankrupt law had not been passed." The general operation of the law is uniform, although it recognizes the local law in the matter of exemptions. The opinion said: "Congress may prescribe any regulations concerning discharge in bankruptcy that are not so grossly unreasonable as to be incompatible with fundamental law; and we can not find anything in this act on that subject which would justify us in overthrowing its action."

Interstate Commerce Commission Overruled.—In the case of the *Interstate Commerce Commission vs. the Chicago, Burlington and Quincy Railroad Company* the right of the commission to reduce the terminal rate made by the railroads in Chicago on cars containing live stock was involved. The opinion affirmed the decision of the Circuit Court of Appeals, which refused to carry into effect the order of the commission reducing the rate from \$2 to \$1 per car. The court said: "Being constrained to the conclusion that the order of the commission was not sustained by the facts upon which it was predicated, we can not enter into an investigation of the facts, even if it be conceded the record is in a condition to enable us to do so, in order that new and substantive findings of fact may be evolved upon which the order of the commission may be sustained. It follows that the decree of the Circuit Court of Appeals refusing to command compliance with the order of the commission was right and must, therefore, be affirmed."

Privacy of Telegrams.—The case of the *United States vs. Edward A. Mosely*, secretary of the Interstate Commerce Commission, involving the right of the commission to withhold from the auditing officers of the Government copies of telegrams sent by it, was decided in Mr. Mosely's favor. The opinion was handed down by Justice McKenna.

Exclusion from the Mails.—The case of the *American School of Magnetic Healing vs. McAnulty*, postmaster at Nevada, Mo., decided Nov. 17, 1902, involved the right of the Post-Office Department to refuse to deliver mail to the school, on the ground of fraud. The act of the Postmaster-General was declared invalid. The statute was only intended to cover cases of actual fraud in fact. Justices White and McKenna dissented.

Courts-Martial.—In an opinion delivered in the case of *McClaghry vs. Deming*, May 19, 1902, it was held that an officer in the volunteer service can not be tried for a crime by a court-martial composed of officers of the regular army. The invalidity of the court-martial can be raised on a hearing on *habeas corpus*. The Chief Justice and Justice McKenna dissented.

Stanton Carter vs. McClaghry was a *habeas corpus* proceeding, instituted to bring before the court the case of Oberlin M. Carter, formerly a captain in the Engineer Corps of the army, serving a term of imprisonment in the Leavenworth Penitentiary under the sentence of a court-martial. Carter was tried and convicted and was sentenced to be dismissed from the army and pay a fine of \$5,000, and to be imprisoned in the penitentiary for five years. The principal point made was that, having paid the fine and been dismissed from the army, he could not be imprisoned in the penitentiary without punishing him twice for the same offense. The court held that he had been convicted under separate charges of distinct offenses, for which the court-martial was empowered to punish him. The rule was reiterated, that civil tribunals will not revise the proceedings of courts-martial, except for the purpose of ascertaining whether they had jurisdiction of the person and of the subject-matter, and whether, though having such jurisdiction, they have exceeded their powers in the sentences pronounced.

Exclusion of Aliens.—*Fok-Yung-Yo vs. United States*, decided May 5, 1902. This case related to the privilege of transit of Chinese persons across the territory of the United States, and raised an inquiry as to the power of the judiciary to interfere with the action of the executive authorities of the Government in such matters. The conclusions of the court were as follow: The power to exclude or expel aliens is vested in the political departments of the Government, to be regulated by treaty or by act of Congress, and to be executed by the executive authority according to such regulations, except so far as the judicial department is authorized by treaty or by statute, or is required by the Constitution, to intervene. And this is true of the privilege of transit. By the treaty between the United States and China, of 1894, the privilege of transit across the territory of the United States could only be enjoyed subject to such regulations of the Government of the United States as might be necessary to prevent the privilege from being abused. Under existing regulations the action of the collector of customs in refusing transit can not be interfered with by the courts. Justices Brewer and Peckham dissented.

Tax on Merchandise Brokers.—*Stockard vs. Morgan*, decided April 7, 1902. This case raised

the question of the validity of the Tennessee statute providing for the collection of a privilege tax on merchandise brokers. It was held that the statute violated the interstate commerce clause of the Constitution, and the decision of the Supreme Court of Tennessee was reversed. When the tax is applied to an individual within the State, selling the goods of his principal, who is a non-resident of the State, it is in effect a tax upon interstate commerce, and the fact is not altered by calling the tax one upon the occupation of the individual residing within the State while acting as the agent of a non-resident principal.

Illinois Antitrust Statute.—*Connolly vs. Union Sewer-Pipe Company*, decided March 10, 1902. This case grew out of the sale of pipe by the pipe company to Connolly and others, who, after securing it, declined to make payment on the ground that the company was an illegal combination for the restraint of trade under the common law and was a combination in violation of the Sherman antitrust law, and, further, a violation of the antitrust law of the State of Illinois. The latter law was declared invalid. The ninth section of the statute declares that "the provisions of the act shall not apply to agricultural products or live stock while in the hands of the producer or raiser," thereby excepting the articles named under certain conditions from the operation of the statute. This clause the Supreme Court held to be class legislation and void, and the whole act was considered to fall with this clause. An antitrust law to be constitutional must apply indiscriminately to all combinations. The State has the power by appropriate legislation to protect the public morals, the public health, and the public safety; but if, by their necessary operation, its regulations looking to either of these ends amount to a denial to persons within its jurisdiction of the equal protection of the laws, they must be deemed unconstitutional and void. Mr. Justice McKenna filed a dissenting opinion.

Illinois Mine Law.—*St. Louis Consolidated Coal Company vs. Illinois*. This case involved the constitutionality of the Illinois statute providing for the inspection of mines. The law was attacked on the ground that it required an inspection only of mines employing more than five miners, and that it gave a discretion to the inspectors to determine how many times a year a mine should be inspected, and also what fees within certain limits should be charged for inspection. The court affirmed the decision of the Illinois Supreme Court and held the law to be valid.

Illinois Statute against dealing in Futures.—In the case of *Booth vs. Illinois*, decided March 3, 1902, the Supreme Court upheld the validity of the Illinois statute against dealing in options on grain or other commodities. Under that law, attempts to corner the market, to influence it by spreading false reports, or contracts to buy or sell at a future time grain or other commodities are punishable by fine or imprisonment. Booth, a grain and provision broker, was indicted for violation of the statute and was convicted in the lower courts, and the case was appealed to the Supreme Court on the ground that it was repugnant to the fourteenth amendment of the Constitution. Justice Harlan, in delivering the opinion of the court, said: "The statute here involved may be unwise. But an unwise enactment is not necessarily for that reason invalid. It may be, as suggested by counsel, that the steady, vigorous enforcement of this statute

will materially interfere with the handling or moving of vast amounts of grain in the West, which are now disposed of by contracts or arrangements made in the Board of Trade in Chicago. But these are suggestions for the consideration of the Illinois Legislature. The courts have nothing to do with the mere policy of legislation." Justices Brewer and Peckham dissented.

Kentucky Constitution affecting Interstate Commerce.—*Louisville and Nashville Railroad Company vs. Eubank*, decided Jan. 27, 1902. This case involved a section of the State Constitution of Kentucky prohibiting a greater charge for short than for long hauls on railroads, and its validity when the larger haul was beyond the State limits. Eubank alleged that he paid 25 cents a hundred pounds for transporting tobacco from Franklin, Ky., to Louisville, 134 miles, while only 12 cents was charged for transporting it from Nashville to Louisville, 50 miles farther. It was held that the section in question was invalid so far as it was made applicable to or affected interstate commerce, the power of regulating which belongs to Congress exclusively. Justices Brewer and Gray dissented.

Foreign Insurance Companies.—The case of *Nutting vs. Massachusetts*, decided Jan. 13, 1902, involved the constitutionality of the law of that State prescribing penalties upon brokers or others who negotiate or make contracts in the State of Massachusetts with insurance companies that are not permitted to do business in the State. The decision upheld the State law as not in conflict with the federal Constitution. A State has the undoubted power to prohibit foreign insurance companies from making contracts of insurance, marine or other, within its limits, except upon such conditions as the State may prescribe, not interfering with interstate commerce. A contract of marine insurance is not an instrumentality of commerce, but a mere incident of commercial intercourse. The State, having the power to impose conditions on the transaction of business by foreign insurance companies within its limits, has the equal right to prohibit the transaction of such business by agents of such companies, or by insurance brokers, who are to some extent the representatives of both parties.

Street-Railway Fare.—*Detroit vs. Detroit Citizens' Street Railway Company*. The decision in this case was that the ordinance enacted by the city government of Detroit arbitrarily reducing street-car fares to three cents was without binding effect. The decision was based upon the fact that a previous ordinance had fixed the fares at five cents, such ordinance being in the nature of a contract. Justice Peckham, in delivering the opinion of the court, said: "It is a contract which gives the company the right to charge a rate of fare up to the sum of five cents for a single passenger, and leaves no power with the city to reduce it without the consent of the company."

State Quarantine Regulations.—*Compagnie Francaise, etc., vs. Louisiana State Board of Health*, decided June 2, 1902. An action was brought against the Louisiana Board of Health for damages by the owners of a French steamer that sought to land passengers in New Orleans in 1898, but was refused. The passengers and cargo were from foreign ports free from any infectious disease, but there was a quarantine in force at New Orleans against yellow fever, and the Board of Health, acting under the State law, prohibited the entry of all persons from infected or uninfected ports, for an indefinite period. The law was sustained as not repugnant to the Con-

stitution nor in conflict with treaties, but a dissenting opinion by Justices Brown and Harlan held that such a law was not a proper exercise of the police power of the State, as interfering with foreign or interstate commerce and in conflict with the Constitution and our treaties with foreign nations.

Colorado's Stock Quarantine.—The court sustained the constitutionality of the stock quarantine law of Colorado, in the case of *Reed vs. Colorado*. The law prohibits importation of cattle or other live stock into the State from points south of the thirty-sixth parallel of latitude, between April and November, unless they bear bills of health. The law was attacked as unconstitutional and also as antagonistic to the interstate commerce law and the animal industry law, but the court held the law to be valid.

State Tax Laws.—The case of the *Cleveland Trust Company vs. Landes*, involved the method of levying taxes on the shares of a corporation under the Ohio statutes. The opinion sustained the State law, affirming the decision of the court below. What the Constitution or statutes of a State require as to taxation must be left to be decided by the Supreme Court of the State.

Traveler's Insurance Company vs. Connecticut.—Decided May 5, 1902. This case involved the constitutionality of the laws of Connecticut in regard to taxation of stock held by non-residents in a local corporation. The law was sustained, and the difficulty of adjusting a system of perfect equality in taxation was stated. Mere inequality in the results of a State tax law is not sufficient to invalidate it.

Oleomargarine.—The *Capital City Dairy Company vs. Ohio*. This case, decided Jan. 6, 1902, involved the constitutionality of the statutes of Ohio regulating the manufacture and sale of oleomargarine. The decision affirmed the decision of the Supreme Court of Ohio, and sustained the validity of the State laws.

New Hampshire Law.—The case of *Collins vs. New Hampshire* involved the constitutionality of the New Hampshire law that forbids the coloring of oleomargarine yellow. The judgment of the Supreme Court of New Hampshire was affirmed by an equally divided court. The provision in question, therefore, remains in force.

Stamp Tax on Drashop Bonds.—*United States vs. Ambrosini*. Under the laws of the State of Illinois and the ordinances of the city of Chicago, it is necessary for a person making application for license as a saloonkeeper to file with the city collector a bond. The case of the *United States vs. Ambrosini* involved the question whether such bonds were subject to a stamp-duty under the war-revenue act of 1898. The case was decided in favor of the Government in the lower court. It was taken to the Supreme Court, where a decision was rendered, holding that such bonds were not taxable by the United States. The court said: "The legislation was enacted in the exercise of the police power for the safety, welfare, and health of the community, and it is conceded that that power is a power reserved by the States, free from federal restriction. The general principle is that as the means and instrumentalities employed by the General Government to carry into operation the powers granted to it are exempt from taxation by the States, so are those of the States exempt from taxation by the General Government."

Insurance Cases.—*Northern Assurance Company of London vs. Building Association*. Where a policy of insurance provides that notice of prior or subsequent insurance must be given by indorse-

ment upon the policy or by other writing, such provision constitutes a condition the breach of which will void the policy. Parol evidence is inadmissible to contradict or vary the terms of a valid written instrument. The subject of waiver by agents was considered.

The decision in the case of *Lewis vs. the Iowa Insurance Company*, delivered Dec. 8, 1902, established a rule in regard to notes given for the payment of life-insurance policies. Many policies are issued, the insured giving a note or notes for the payment of the first premium, the notes bearing a stipulation that in default of payment when due the policy shall cease and determine. In some States it has been held that default of payment terminated the policy. In others it has been held that the company must pay the face of the policy, deducting, in case of default of payment of premium note, the amount thereof with interest. The Supreme Court held that the policy lapsed on default of payment of the note.

Knight Templar and Mason's Life Indemnity Company vs. Jarman involved what is known as the suicide statute of Missouri. It was held that the policy must be paid in case the insured committed suicide while insane, notwithstanding it contained a provision of avoidance in case of suicide whether the party was sane or insane.

Burt vs. the Union Central Life Insurance Company, decided Dec. 22, 1902. The question of the effect of murder upon a life-insurance policy when issued upon the life of the murderer was passed upon in this case. William E. Burt was insured. His policy was made payable to his wife, and, in case of her death, to his executors. Burt's wife died, and he was charged with her murder, and was found guilty and executed. The heirs of the estate made an effort to collect upon the policy, but the insurance company resisted payment. The court affirmed the decision of the Court of Appeals, holding the policy invalid, on the ground that to sanction payment under the circumstances would be contrary to public policy. "It can not be that one of the risks covered by a contract of insurance is the crime of the insured. There is an implied obligation on his part to do nothing to wrongfully accelerate the maturity of the policy. Public policy forbids the insertion in a contract of a condition which would tend to induce crime, and as it forbids the introduction of such a stipulation, it also forbids the enforcement of a contract under circumstances which can not be lawfully stipulated for."

ALABAMA, a Southern State, admitted to the Union Dec. 14, 1819; area, 52,250 square miles. The population, according to each decennial census since admission, was 127,901 in 1820; 309,527 in 1830; 590,756 in 1840; 771,623 in 1850; 964,201 in 1860; 996,992 in 1870; 1,262,505 in 1880; 1,513,017 in 1890; and 1,828,697 in 1900. Capital, Montgomery.

Government.—The following were the State officers in 1902: Governor, William D. Jelks; Secretary of State, Robert P. McDavid; Auditor, Thomas L. Sowell; Treasurer, J. Craig Smith; Attorney-General, Charles G. Brown; Superintendent of Education, John W. Abercrombie, who resigned to become president of the State University, and was succeeded July 1 by Harry C. Gunnels; Commissioner of Agriculture, Robert R. Poole; Adjutant-General, William W. Brandon; State Examiner of Public Accounts, John T. Gorman; State Tax Commissioner, Harvey E. Jones; Railroad Commissioners, John V. Smith, W. C. Tunstall, A. E. Caffee; President of the Board of Convict Inspectors, J. M. Carmichael; Director of the State Department of Archives and History,

Thomas M. Owen; Agent for the Sale of Swamp Lands, W. M. Byrd; Chief Mine Inspector, J. de B. Hooper; Chief Justice of the Supreme Court, Thomas N. McClellan; Associate Justices, Jonathan Haralson, John K. Tyson, Henry A. Sharpe, James R. Dowdell; Clerk, Robert F. Ligon, Jr. All are Democrats.

By the terms of the new Constitution, which now goes into effect, the term of State officers is four years; and the Legislature will meet once in four years, on the second Tuesday in January; it will meet in 1903.

Finances.—The balance on hand in the treasury Oct. 1, 1901, was \$501,359.34. The receipts to the close of business July 28 were \$2,809,260.71; the disbursements, \$2,407,448.04.

The revenue collected by the Tax Commissioner in 1901 from escaped taxes, taxes from undervaluations, and delinquent licenses, amounted to \$156,873.69.

The valuation of the State for 1902 amounts in round numbers to \$294,000,000, an increase of about \$9,000,000. The taxable property in 1901 amounted to \$284,622,937.

The bonded debt, according to the report for 1901, is \$9,357,600; the interest on it is \$448,680.

Poll-Taxes.—The law requires a poll-tax of \$1.50 to be paid before Feb. 1. No provision is made for collecting it if delinquent; the penalty is the loss of the delinquent's vote. It is estimated that 90 per cent. of the negroes of voting age under forty-five have been disqualified by failure to pay the \$1.50 poll-tax this year. The reduction of the white vote has also been great. The total number of white males in Alabama of voting age is 232,294, and of these 139,000 are subject to poll-tax. Not less than 42,000 of them failed to pay the tax, and consequently are not qualified to vote. Persons who failed to pay the \$1.50 poll-tax this year may reinstate themselves as electors next year by paying \$3, and the next year by paying \$4.50, and so on.

Education.—In the Annual Cyclopædia for 1901 were given the figures of literacy of the voters of the State. Further census bulletins give the whole number of illiterates in the State as 443,590; and the percentage of persons between the ages of ten and fourteen who were able to read and write in 1900 as 71.11. This is an advance on the percentage for 1890, which was 64.50; but only two States—South Carolina and Louisiana—stand lower. These figures afford a measure of the efficiency of the public schools. The enrolment in the schools in 1901 was 344,426; the average attendance was 158,976. The amount expended from the general school fund gave \$1.42 per capita on the basis of the whole number of children of school age, and \$2.76 per capita for those actually enrolled. This does not include the poll-tax or the funds appropriated by municipalities. In a table showing the average monthly wages paid to teachers in the various States, Alabama is credited with \$32.04 to male teachers—3 States standing lower; and \$25.35 to female teachers, North and South Carolina alone showing a lower average.

The fifteenth annual commencement of the Troy Normal College took place in May with a graduating class of 12.

The enrolment at the Alabama Polytechnic Institute, at Auburn, Oct. 18, was 400, the largest number ever in attendance at one time.

In April the Medical College at Alabama graduated a class of 13 in medicine and 7 in pharmacy.

The Southwest Alabama Agricultural School, at Evergreen, began its fall term in September with 9 teachers and 113 pupils.

The following paragraphs are from the report of the principal of the Tuskegee Normal and Industrial Institute, Booker T. Washington:

"The number of students enrolled during the year covered by the report was 1,384, and the average attendance has been 1,218. These students have come from 30 States and Territories, and from 5 foreign countries. No one has been admitted under fourteen years of age; 1,337 of the whole number have boarded and slept on the grounds. The number which I have given does not include the pupils in 'the Children's House,' which is a primary school for the children in the neighborhood, and at the same time serves as a model and training school for normal students. Neither does it include the 121 students in the night-school in town, nor the 18 students in the afternoon cooking-school in the town of Tuskegee; nor the thousands of colored men and women who are being reached and helped through the Tuskegee Negro Conferences. In all the departments, religious, academic, and industrial, 112 officers and instructors and assistants of various kinds have been employed.

"If we add the number of persons in the families of our instructors to the number of students and teachers, it is safe to say that we have constantly upon or near our school-grounds a colony of 1,500 people. A large proportion of these families reside in small, neat cottages owned by themselves or by the school, and the object-lesson they afford is most valuable to the students and to our people in this part of the State.

"Up to the present time there have grown out of the Tuskegee Institute at least 12 schools of considerable size—I mean institutions above the grade of common public schools. One of these, the Snow Hill Industrial Institute, at Snow Hill, Ala., has 300 students, 25 teachers, 14 buildings, and property valued at \$3,000.

"Since my last report there have been received into our treasury from all sources and for all purposes \$341,401.09. Of this amount \$126,864.29 have been used for current expenses, \$46,788 have been added to the permanent endowment fund, and \$150,203.95 for the permanent improvement of the plant. The present indebtedness of the school is \$5,887.52. The endowment fund amounts to \$299,759.02."

In regard to the training the report says: "Industry after industry has been added, as there was a natural demand for them, until at the present time the students receive training in 34 industries. You will get some idea of the volume of the industrial work accomplished by the students when I add that since my last report they have made 2,128,000 bricks alone."

Soldiers' Home.—Land for a home for Confederate veterans has been given by J. M. Falkner at Mountain Creek, about 27 miles from Montgomery. Lumber and other materials have been given as well as money by various firms and individuals, and some of the smaller buildings are already erected. A plan has been adopted for marking the logs of the headquarters building with brass plates bearing the names of veterans, for each of whom \$10 are paid to the fund for the home. A book of record will be kept, giving a biographical sketch of each veteran for whom a memorial log is named.

Banks.—A bulletin issued in September by the Treasury Department, shows that 16 new national banks were established in Alabama in the period between March 14, 1900, and Aug. 31, 1902. Six of these banks have a capital of less than \$50,000 each, and the other 10 more. The combined capital is \$777,500.

Convicts.—By the report of July 1 it was shown that there were then 1,866 State convicts, of whom 1,476 were leased to contractors, and 390 were worked on the State farms or kept at the State prisons. The net profits from the department for the year ending Sept. 30 were \$98,885.61. On Jan. 1, 1903, a new system in regard to the leasing of convict labor will go into operation. The conditions as regards the treatment of convicts by contractors have been much improved in the past two years. Some of these conditions were described in the Annual Cyclopædia for 1901. This year one of the inspecting physicians reported that the mines at Coalburg, where many were employed, were totally unfit for the compulsory working of men. "On April 1, 1899, there were 559 convicts confined there. Between that time and April 1, 1902, 1,676 convicts have been received, making a total of 2,235. Of this number 100 have died, 87 from disease and 13 from accident and other causes." After this report the contracting company removed the convicts to a better location. But henceforth the prisoners will be under the direct supervision of State officials.

At the Boys' Industrial School, also known as the East Lake Reformatory, established in 1900, there were at the beginning of the year 52 boys in residence. The receipts for the year were \$16,445.34, and the expenditures \$15,813.23. Boys are employed in printing, shoe, and carpenter shops and on the farm; military drill is given and each boy has a half-day's work in school.

Crime.—The biennial report of the Attorney-General, which covers the two years ending Sept. 30, 1902, shows that 13,388 criminal cases were disposed of in Alabama in that period. The figures in the report show that 61 per cent. of these cases resulted in conviction.

More cases against prisoners charged with carrying concealed weapons were disposed of than for any other offense. In the two years 1,349 concealed-weapon cases were disposed of.

Militia.—The report of the Adjutant-General shows the strength of the National Guard to be nearly 3,000. There is 1 battalion of artillery with 3 batteries, 17 officers, and 171 enlisted men and non-commissioned officers; 1 squadron of cavalry, consisting of 4 troops, with 14 cavalry officers and 187 non-commissioned officers and enlisted men; and 3 regiments of infantry with 153 officers and 2,197 men; there is also a complete hospital corps with 40 men and an ambulance.

Lawlessness.—Two "race riots" were reported this year, one at Jasper, March 26, the immediate occasion of which was the whipping of 2 negroes by white men on a charge of stealing. The other took place at Littleton, 25 miles from Birmingham, Oct. 19. It arose, according to the despatch, from a white man being pushed from a railroad trestle by a negro woman. In the fight that ensued 2 negroes were seriously shot, 1 white man was fatally wounded, and another was missing and supposed to be dead.

A negro was lynched near Troy, March 24, charged with assault on a little white girl. From testimony taken afterward it appeared that the charge was false, having originated with a woman who sought revenge on the negro for having given evidence against her in a suit for slander, and several alleged lynchings were arrested.

A negro resisting arrest near Tusculumbia, April 6, on a charge of obtaining goods on false pretenses, killed 2 men and fatally wounded 5 others. The negro had fortified himself in a small cabin, and 3 houses were burned before he was forced out and shot.

A mulatto who had attempted an assault on a

young lady was captured and hanged by a mob near Cocoa in July.

At or near Opelika, Nov. 3, a negro field-hand entered the house of his employer, intending robbery, and attacked the farmer's wife and daughter, mortally wounding one and leaving both for dead. On being identified by the daughter, he was lynched by a crowd of men.

Three men who were convicted of taking part in the lynching of Robert White in July, 1901, were pardoned unconditionally by the Governor in June. One had been sentenced to life imprisonment, the others to ten years each. They had been led to take part in the crime by the exaggerated statement of the white man with whom White had quarreled, who said that White had attempted to murder him and his family. This man is under sentence of ten years' imprisonment.

Railroads.—The State is credited with 102.97 miles of new track built in 1901. The official assessment of railroad property in the State for 1902 shows a total of \$50,519,520, against \$50,253,750 in 1901.

Products and Industries.—Following are the figures of Secretary Hester's report on the cotton-crop of 1901-'02, relating to Alabama: The commercial crop, 1,200,000 bales, against 1,000,000 bales the year preceding; consumption in mills of the State, 198,011 bales, an increase of 33,654 bales; number of mills, 58; looms, 13,051; spindles, 653,440; consumption in pounds of lint-cotton, 94,995,017; average weight of bales, 479.75 lbs.

The census report on cotton-seed manufacture in 1900 gives the figures for Alabama: Cotton-seed, 172,093 tons; cost, \$2,019,085; products, \$2,952,254.

The capital in flour and grist mills in 1900 was \$1,047,961, and the product \$3,310,757. The capital in saw and planing mills was \$13,020,183, and the product \$12,867,551.

According to the census there are 223,220 farms in Alabama, valued at \$134,618,183. Farm implements are valued at \$8,675,900; and live stock at \$36,105,799—a total of \$179,399,888 invested in agriculture. Acreage in farms, improved, 8,654,991; unimproved, 12,030,436; total, 20,685,427. Percentage of improved land to unimproved 41.8, an increase of 3 per cent. in the last decade.

The number of farms shown in this census is over five times as great as in 1850 and 41.5 per cent. greater than in 1890, but the average size of farms is less than one-third the size of farms in 1850. This shows an increase in the number of farmers and naturally an increase in the agricultural development of the State.

The output is given as follows: Animal products, \$18,196,689; crops, \$73,190,720; total, \$91,387,409—a value which exceeds the total of 1889 by 38 per cent.

Other items are: Number of white farmers, 129,137; colored farmers, 94,083; white owners, 69,823; colored owners, 11,123; white part-owners, 8,686; colored part-owners, 2,871; white cash tenants, 18,118; colored cash tenants, 56,212; white share tenants, 30,855; colored share tenants, 23,689; average acreage of white farmers, 123.6; of colored farmers, 50.2; value of farm property cultivated by white farmers, \$123,481,529; by colored farmers, \$46,918,253.

The value of manufactured products in 1900 was \$82,793,804; in 1890 it was \$51,226,605.

The output of coal in 1901 is given at 9,078,677 tons; in 1891 it was 4,759,781 tons.

The shipments of pig-iron from the Anniston district for the year ending June 30, 1902, amounted to 225,164 tons, and of cast-iron pipe 38,957 tons; those from the Birmingham district were

respectively 842,809 and 79,453 tons. The total shipments from the Southern field in the first half of the year aggregated 987,716 tons, of which 904,014 tons were pig-iron and steel and 83,702 tons were cast-iron pipe.

Labor.—A strike took place in the mines of the Tennessee Coal, Iron, and Railroad Company in the Birmingham district, involving about 4,500 men. It arose from the refusal of about 70 of the miners to allow the assessment for the anthracite strikers to be withheld from their wages. The company held that it could not collect the assessments against the protest of the men, and a strike was ordered Oct. 1. It was settled Oct. 15.

Mobile.—The celebration of the bicentennial of the founding of Mobile, the first capital of Louisiana, at Twenty-seven-Mile Bluff, on Mobile river, began Jan. 22 with a grand civic parade and the placing of a tablet in honor of the brothers Iberville and Bienville. The inscription on the bronze memorial tablet on the stone base of the colonnades supporting the portico of the county court-house is as follows: "1902. To the Glory of God. Erected in Honor of the Illustrious Brothers Lemoyne Bienville and Lemoyne Iberville, who Founded Mobile, the First Capital of Louisiana, 1702." The exercises of the second day were held at the site of Fort Louis de Mobile. On the site of the old fort the granite shaft unveiled bears this inscription: "Erected by the People of Mobile, Jan. 23, A. D. 1902, to Commemorate the Two Hundredth Anniversary of the Founding Here of Fort Louis de la Mobile by Pierre Lemoyne Sieur d'Iberville and Jean Baptiste Lemoyne Sieur de Bienville."

Alexander City.—This little place of 1,500 inhabitants was practically destroyed by a fire in June, the loss reaching by estimate \$750,000, which was not nearly covered by insurance.

Congressional Appropriations.—For improvement of waterways wholly or partly in Alabama, Congress made the following appropriations: Mobile harbor, \$300,000; Alabama river, \$20,000; Black Warrior, Warrior, and Tombigbee rivers, \$374,000; Tombigbee, \$20,000; Choctawhatchee river, \$16,000; Chattahoochee river, \$100,000; Coosa river, \$35,000. A survey was ordered to be made of the Coosa and Alabama rivers with a view to determining the advisability of securing 6-foot navigation in them and the probable expense; also the advisability of further prosecuting the present project for locks and dams in the Coosa river.

The amount for the public buildings at Anniston was raised from \$50,000 to \$75,000; and that for the post-office and court-house at Montgomery from \$185,456 to \$250,456.

Political.—State officers were elected this year in November, the time of the State election having been changed. In view of the general demand in the Democratic party for the nomination of candidates for State offices by a general primary instead of by convention, the State Committee, at its meeting in July, ordered such a primary by a vote of 15 to 12; the date was fixed at Aug. 25. If a second primary were necessary, it should be held Sept. 15; and if a third, Sept. 29. There had been some sentiment in favor of making it a general white primary; but the action of the committee limited the right to vote to white Democrats.

Gov. Jelks was a candidate for renomination, and opposed to him was ex-Gov. Johnston. The candidates for other offices were: For Lieutenant-Governor, Russell M. Cunningham, Charles E. Waller; Secretary of State, J. Thomas Heflin,

Frank N. Julian, J. L. Tanner; State Treasurer, J. Craig Smith; State Auditor, T. L. Sowell; Attorney-General, James E. Cobbe, Alex. M. Garber, Alex. Troy, Massey Wilson; Superintendent of Education, Thomas L. Bulger, Chappell Cory, John G. Harris, Isaac W. Hill; Commissioner of Agriculture, R. R. Poole.

At the primary, Aug. 25, Gov. Jelks received a majority of 25,746 out of a total of 89,236 votes polled. For the office of Attorney-General a second primary was needed to decide between Messrs. Garber and Wilson; and for Superintendent of Education Messrs. Harris and Hill also would have entered the second had not Mr. Harris withdrawn. The ticket as finally fixed was: For Governor, William D. Jelks; Lieutenant-Governor, R. M. Cunningham; Secretary of State, J. Thomas Heflin; Treasurer, J. Craig Smith; Auditor, Thomas L. Sowell; Attorney-General, Massey Wilson; Superintendent of Education, Isaac W. Hill; Commissioner of Agriculture and Industries, R. R. Poole.

The State Executive Committee of the Republican party met in Birmingham Aug. 2 and called a convention to meet there Sept. 16 to nominate a full State ticket. The most important action of the committee was the adoption of the following resolution:

"Resolved, That only those shall be recognized and permitted to participate in the State and county conventions and be at meetings who are duly qualified voters under the new Constitution of Alabama."

The effect of this is to make the Republican party in Alabama a white man's party, as under the new Constitution of the State the negroes are practically all disfranchised.

No negro's name appeared upon the report of the Committee on Credentials for the convention, which was adopted, although on the list of delegates from more than one county there were names of negroes when the credentials were given to the subcommittee for action.

The platform of the convention as reported reaffirmed the Philadelphia platform, favored "the organization of labor for its legitimate protection and the enactment of laws for the peaceable and fair settlement by arbitration of disagreements as they may arise between organized capital and labor," favored child-law legislation relating to work in cotton-mills, condemned "the spirit which seeks to arouse the prejudice of the people against the railroads," and advocated the "enactment of laws so regulating the railroads as to adequately protect the interests of the people, but is opposed to any drastic measures." The platform then approved "the wisdom of the Dingley tariff law," urged a continuance of that policy, and expressed confidence in the administration of President Roosevelt.

When this was read there were loud cries of "No! No!" This opposition is understood to have had its origin in the action of the President in removing William Vaughan, retiring Republican State chairman, from the office of United States District Attorney for North Alabama for alleged neglect of duty.

After the reading of the platform, J. A. W. Smith offered a substitute, the same as the original report, except that it omitted all reference to an indorsement of President Roosevelt for renomination. The substitute was vigorously debated, and the convention was thrown into turmoil. Finally the roll was called, and the substitute was defeated, 158 to 146. The platform as originally reported was finally adopted, including the indorsement of President Roosevelt for the nomi-

nation in 1904. The majority for adoption was large.

The ticket follows: For Governor, J. A. W. Smith; Lieutenant-Governor, Charles P. Lane; Attorney-General, W. H. Armbricht; Secretary of State, J. H. Karter; Auditor, T. B. McNair; Treasurer, H. Lee Brown; Superintendent of Education, J. C. Fonville, Crenshaw County; Commissioner of Agriculture, T. B. Morton.

The Prohibitionists met Aug. 13 and adopted a platform in accordance with the party principles. The ticket was: For Governor, W. D. Gay; Lieutenant-Governor, H. L. Martin; Secretary of State, T. D. Witherspoon; State Treasurer, R. O. Simpson; Commissioner of Agriculture and Industries, Dabney Palmer; State Auditor, C. D. Alverson; Superintendent of Education, O. E. Comstock; Attorney-General, W. W. Whiteside.

These names did not, however, appear on the official ticket filed by the Secretary of State.

At the election Gov. Jelks's vote was 67,760, against 24,423 for Smith. The entire Democratic ticket was successful, including the candidates for Congress. The Legislature is almost entirely Democratic.

In May an organization called "the Colored Man's Suffrage Association" was formed for the purpose of fighting the new Constitution of Alabama in the courts, and subscriptions were taken for a fund of \$2,000 to be used for this purpose. Steps had already been taken to test the suffrage provision by an action brought in the name of a negro who made affidavit that he was denied the right to register, though complying with all the qualifications exacted by the Constitution. He asserts that he was denied the right because he is a negro, and invokes the fourteenth and fifteenth amendments in support of his contention.

In December negroes from all parts of the State met at Selma to form a colored Republican party. Resolutions were adopted indorsing the action of President Roosevelt in not recognizing the "Lily White" branch of the party in Alabama. An address was issued to the negroes of the State, advising them to appeal to the Democrats to allow them to register.

ALASKA, a Territory of the United States, in the extreme northwestern part of the North American continent. It was ceded by Russia to the United States in a treaty concluded March 30 and proclaimed June 20 1867, in consideration of the payment of \$7,200,000. The population, according to each decennial census, was 33,426 in 1880; 32,052 in 1890; and 63,592 (whites, native born 21,709, foreign born 8,798; Indians, 29,536; negroes, 168; Chinese, 3,116; Japanese, 265) in 1900. Its area according to the census of 1900, is 590,884 square miles, including a strip, known as Southeast Alaska, 600 miles long, bounded south by Dixon Sound and Portland Channel, and east by the summit line of the mountains parallel to the coast; and where such a line is at a greater distance than 10 marine leagues (34½ statute miles), by a line drawn parallel to the windings of the coast, which shall never exceed 10 marine leagues therefrom. The position of the boundary of this southeastern extension is now a matter of dispute between Great Britain and the United States.

Government.—The temporary seat of Government is at Sitka, formerly the Russian capital. The following were the officials of the Territory in 1902: Governor, John G. Brady. *Ex-officio* Secretary, William L. Distin. United States Land Office—Surveyor-General, William L. Distin, Sitka; Register, John W. Dudley, Juneau; Receiver, T. M. Mullan, Juneau. Department of

Agriculture—Special Agent, C. C. Georgeson, Sitka. Superintendents—Fred. E. Rader, Sitka; H. P. Nielsen, Kenai; T. W. Neal, Copper Center. Bureau of Education—Agent, Sheldon Jackson; Assistant Agent, William Hamilton; Superintendent of Schools, W. A. Kelly. Internal Revenue, John Cameron, Deputy Collector, Juneau.

Banking.—The only national bank in Alaska is the First National Bank of Juneau. Its condition at the close of business Dec. 10, 1901, was: Resources—loans and discounts, \$45,524.20; United States bonds, \$87,500; stocks, securities, etc., \$7,359.08; banking-house, furniture, and fixtures, \$2,480; due from national banks, \$4,464.62; due from State banks and bankers, \$9,046.43; due from reserve agents, \$13,079.08; checks and other cash items, \$10,100.33; total specie, \$41,796.05; other resources, \$10,119.81; total resources, \$231,469.60. Liabilities—capital stock, \$50,000; surplus and undivided profits, \$2,641.88; national bank-notes outstanding, \$4,370; dividends unpaid, \$62.50; individual deposits, \$99,659.12; United States deposits, \$53,419.28; deposits of United States disbursing officers, \$21,316.82; total liabilities, \$231,469.60. On Nov. 25, 1902, the liabilities were: Capital stock, \$50,000; surplus and undivided profits, \$4,060.71; national bank-notes outstanding, \$2,870; dividends unpaid, \$1,120; individual deposits, \$133,929.13; United States deposits, \$24,763.72; deposits of United States disbursing officers, \$50,236.28; total liabilities, \$266,979.84. Resources—loans and discounts, \$68,927.15; United States bonds, \$87,500; stocks, securities, etc., \$17,121.70; banking-house, furniture, and fixtures, \$2,300; due from national banks, \$2,432.06; due from State banks and bankers, \$25,518.24; due from reserve agents, \$16,616.35; checks and other cash items, \$637.71; total specie, \$39,536; other resources, \$6,390.63; total resources, \$266,979.84.

Commerce and Navigation.—Alaska forms a single customs district of the United States, with Sitka as its port of entry. The following are classed as subports of entry: Dyea, Eagle City, Wrangel, Mary Island, Juneau, Kodiak, Unalaska, Cook Inlet (Homer), Orca, St. Michael Island, Skagway, Unga, Karluk, Kechikan. In the fiscal year ending June 30, 1901, 15 sailing vessels, of 6,040 tons, and 298 steam-vessels, of 191,664 tons, were entered by the district of Alaska, of which 7 sailing vessels, of 5,519 tons, and 179 steam-vessels, of 128,768 tons, were American; during the same period 8 sailing vessels, of 1,845 tons, and 261 steam-vessels, of 164,678 tons, were cleared, of which 1 sailing vessel, of 1,332 tons, and 149 steam-vessels, of 102,031 tons, were American. During the fiscal year ending June 30, 1902, 15 sailing vessels, of 3,870 tons, and 292 steam-vessels, of 188,471 tons, were entered, of which 6 sailing vessels, of 3,136 tons, and 180 steam-vessels, of 123,504 tons, were American; during the same period 11 sailing vessels, of 775 tons, and 226 steam-vessels, of 149,386 tons, were cleared, of which 3 sailing vessels, of 235 tons, and 131 steam-vessels, of 93,253 tons, were American.

The total values of exports for the fiscal year ending June 30, 1901, were gold, \$1,800; merchandise, \$2,534,318, of which \$2,018,104 represents the value of domestic products and manufactures and \$516,214 that of foreign products and manufactures. The imports were: Gold (from British Columbia), \$15,816,907; merchandise, \$557,992. The total value of exports for the year ending June 30, 1902, were: Gold, \$806,817; merchandise, \$2,612,021, of which \$2,537,325 represents the value of domestic products and manu-

factures and \$74,696 that of foreign products and manufactures. The imports were: Gold, \$16,666,344; merchandise, \$511,830.

These figures are for the foreign commerce alone, and do not include the values of merchandise shipped to and from the United States.

The total value of domestic merchandise imported into Alaska from the United States during the six months ended Dec. 30, 1902, was \$3,318,079, and of foreign merchandise \$4,771; the total value of imports from foreign countries was \$307,993. Of the exports to the United States during the same period, the value of foreign merchandise was \$34,408, the value of domestic merchandise \$9,775,193; of the exports to foreign countries, the value of foreign merchandise was \$10,583, of domestic merchandise \$1,236,463. The total values of gold and silver coin and bullion exported from Alaska to the United States during the same period were: Domestic \$3,279,255, foreign \$10,653,286; the total value of gold and silver imported from the United States was \$100,863.

Manufactures.—The bulletin of manufactures of the United States Census of 1900 gives the following comparative statistics of manufactures for Alaska:

ITEMS.	1890.	1900.
Number of establishments.....	10	68
Capital.....	\$105,727	\$3,600,409
Salaried officials, clerks, etc.....	8*	89
Salaries.....	\$3,549*	\$117,480
Average number of wage-earners.	78	2,363
Men sixteen years and over....	78	2,363
Wages.....	\$18,635	\$1,395,709
Miscellaneous expenses.....	\$5,253	\$170,334
Cost of materials used.....	\$30,198	\$1,785,776
Value of products, including custom work and repairs.....	\$58,440	\$4,260,984

* Includes proprietors and firm members, with their salaries; not included for 1900.

Of 45 establishments reporting in 1900, using 1,962 horse-power, 1,078 was derived from 49 steam-engines, 597 from 14 water-wheels, and 287 from 11 electric motors. Of 9 establishments reporting in 1890, using 451 horse-power, 290 were derived from 7 steam-engines, and 161 from 3 water-wheels.

Mineral Resources.—The final estimate of the Director of the Mint, based upon the receipts at San Francisco, Seattle, and the Selby Refinery, places the total output of gold from Alaska for the ten months ended Nov. 1, 1902, at \$18,870,075, of which \$5,008,980 came from the Nome district, and the remainder from the Yukon districts, the Canadian Klondike, and southeastern Alaska. This is more than \$4,000,000 in excess of the Alaska output for the calendar year 1901, the figures for that year being \$14,675,675. In the output for the ten months is included \$250,000 expected to arrive from the Klondike before Jan. 1, and \$1,350,000 expected from Nome.

The Seward peninsula continues to be the objective point for placer-mining, and with improved methods its phenomenal yield is increasing rather than diminishing, as was predicted for the Nome workings in their early days. New workings have been opened up in every direction and are yielding in paying quantities. The rich discoveries in the Forty-Mile district have attracted many miners from the Klondike country. The distributing point for this district is a new camp called Wickersham, after the judge of the district. According to the estimate of the Governor the miners at the head waters of the Koyukuk river, a tributary to the Yukon from the northward, cleaned up \$500,000 during the season. The new placer-mines in the vicinity of

Rampart have shown rich deposits. Rampart offers especial advantages as a distributing point on account of its possibilities in agriculture and stock-raising. Good claims have been worked in the region north and south of the sixty-fourth parallel and immediately west of the one hundred and forty-first meridian. Here is a vast field for the hydraulic miner, but transportation is too expensive for him to do much on an extensive scale. Placer discoveries of great importance have been found on tributaries of Copper river. Those on the Chitochina have been worked more than two years. The Nazina river, a branch of the Chittyna which flows into the Copper from the east, has attracted marked attention. Mining is going on in the north part of Kenai peninsula, and a fairly prosperous season is reported. The Porcupine district, near the boundary-line up Chilkat river from Haines, has made a good showing. One hydraulic plant has been running several years in Silver Bow basin, near Juneau.

The chief production of gold from quartz-mines is in southeastern Alaska, where several companies operate large and expensive workings, the great 300-stamp mill of the Alaska-Treadwell mine near Juneau being the largest of its kind in the world. The Treadwell Company operates 2 mills—1 with 300 stamps and 1 with 240. The Alaska United Company operates 2 mills—1 with 120 and the other with 100 stamps—while the Alaska-Mexican Company operates 1 mill with 120 stamps.

Preliminary work has been begun near Juneau on one of the largest and longest mining tunnels in the world. The tunnel will be about 10,000 feet long and will extend from the beach south of Juneau into the mountains to tap claims in the Silver Bow basin.

Much interest has been manifested in the copper prospects of Alaska. There are large deposits of ore on Prince of Wales island, at Ellamar, on Prince William Sound, and on Latouche island. A great deal is being taken out, and efforts are being made to interest capital in the exploitation of this industry.

Finds of cinnabar, platinum, tin, iron, and diamonds are also reported, and the extensive deposits of gypsum on Clearwater Bay, Chatham Straits, are receiving attention. Analysis shows it to be 98 per cent. pure and the vein is 75 feet wide, traceable on the surface 700 feet.

Coal of good quality is found in the Territory. Admiralty island has the most valuable field so far discovered. Important discoveries are reported to have been made in 1902 of large veins and fine quality on the mainland across from Kayak island. Kenai peninsula is nearly all coal land. There is coal on the Tanana, and in several places on the Yukon.

Oil has been discovered on Comptrollers Bay, where a well has been driven several hundred feet, and there is a flow of a fine grade of oil. The field is large. Oil has also been found in the region around Lake Iliamna on the Alaska peninsula.

Fisheries.—The canning industry was represented in 1901 by 30 companies and individual packers, with 55 canneries and 12 salteries, capitalized at \$22,000,000. The plants were valued at \$12,000,000; number of salmon taken, 31,000,000; output, 2,029,269 cases of 48 1-pound cans each, and 18,942 barrels, in all about 100,000,000 pounds of salmon. The value of the salmon pack was estimated at \$6,928,167. The total value of the catch of codfish in the same year amounted to less than \$150,000. Some halibut was taken,

and there is a small trade in salted herring; but no figures are given. The purchase value of the salmon pack for 1902 was \$7,200,000. Several hatcheries are in operation, and it is the desire of the cannery owners to cooperate with the Government in preserving the fish, but the hatcheries are mostly in the hands of men little skilled in such work, and have not proved very satisfactory. The United States revenue-cutters Perry and Rush were in Alaskan waters during the season to enforce the fishery laws, and many complaints of violations were prosecuted. The Oil and Guano Company, at Killisnoo, has closed its first season and reports a ready market for its product.

The value of the products of the whale fishery brought into the United States from Alaska during the fiscal year ending June 30, 1901, was \$61,147, of which \$56,873 represents the value of 18,662 pounds of whalebone or baleen and \$4,274 of other products.

Sealing.—The Pribilof Islands are the breeding-place of the fur-seals which inhabit the Pacific Ocean. They were considered a part of Alaska and included in the cession by Russia. They were the breeding-place of the fur-seals when discovered by the Russians in 1786, and a Russian company was formed for the purpose of taking the skins of these animals, and continued its operations up to the time of the transfer of the islands to the United States in 1867. In 1889 a contract was made with the North American Commercial Company, fixing the rental of the lands at \$60,000 and a tax upon each skin at \$9.62½. Under this lease, as construed by the Supreme Court of the United States, rental is now paid at the rate of 60 cents for each skin taken. The Governor of Alaska reports 19,000 seals taken on St. Paul and 3,304 on St. George island in 1902. At the contract price, with the rental, the total revenue would be \$274,676.05.

In February, 1902, Collector J. W. Ivey issued orders to his deputy at Unalaska closing the port to Canadian vessels presumably engaged in violating the laws in regard to pelagic sealing, and forbidding the sale to them of supplies. His action did not meet with the approval of the Government at Washington, and upon his refusal to withdraw the order he was removed from office.

Timber.—In a proclamation dated Aug. 20, 1902, President Roosevelt set aside as the Alexander Archipelago Forest Reserve the group of islands in southeastern Alaska known by that name. This new reservation, the first in Alaska, embraces Prince of Wales island and the smaller islands seaward thereof, Zarembo, Kupreanof, and Kuiu islands, and Chichagof island and the smaller islands to the seaward thereof. The islands have not been surveyed and their exact area is unknown. They contain, according to Lieut. G. T. Emmons, who made an investigation of the forest resources of Alaska, the most valuable timber in Alaska. The reservation of the islands from settlement, entry, or sale by the Government is not to be construed to deprive any *bona fide* inhabitant of any valid right he may possess either under the Russian treaty of 1867 or under any act of Congress relating to Alaska. However, much dissatisfaction has been demonstrated, particularly by the miners of Prince of Wales island, and the Governor, in his report for 1902, urges great care in the administration of this reserve.

Agriculture.—Agricultural experiment stations were maintained during 1901 and 1902 at Sitka, at Kenai, on Cook inlet, and at Rampart, in the Yukon valley. In the investigations spe-

cial attention was paid to the agricultural possibilities of the Yukon valley. At Rampart rye seeded in the autumn of 1900 wintered perfectly and ripened early in August 1901. Barley sown in the spring of 1901 was harvested in August. Vegetables were successfully grown at the Holy Cross Mission and at other points in the Yukon valley. Prof. Georgeson, the agent in charge of the Alaska experiment stations, reported that while he was at the Holy Cross Mission in the second week of August, 1901, "the mission was supplied from its own garden with new potatoes, cauliflower, cabbage, and other vegetables." The following from the annual reports of the Secretary of Agriculture will further show the extent of the work and the success with which it is meeting: "At Sitka the experiments with cereals, forage crops, and vegetables were continued, and several varieties were successfully grown. A log silo was also built there and filled with native grasses in September, 1900, of which Prof. Georgeson says: 'The experiment was an entire success. Our work oxen were fed exclusively on silage from Nov. 10 to May 1, and only when they were worked were they fed grain in addition. They ate the silage with relish throughout and were maintained in good condition. There was no greater loss of silage by waste than always occurs in preserving green forage.' At Kenai experiments with cereals and vegetables have been continued, with considerable success. Fall-seeded wheat survived the winter of 1900-'01 in fair condition. Besides the experimental work at Sitka, Kenai, and Rampart, seeds have been distributed to over 400 persons living in different parts of Alaska. In 1902 the distribution of seed of hardy varieties of vegetables, cereals, and grasses was continued and extended, seed having been sent to 750 addresses. The efforts made by the department to aid the residents of Alaska in their agricultural work by distributing improved varieties of seeds have produced beneficial results. The natives are learning to cultivate gardens."

The season of 1902, according to the Governor's report, was wet in southeastern Alaska and dry in the western and northwestern parts. The rye planted in the fall of 1901 at the experiment farm at Sitka matured well and was harvested in August, 1902, and the yield was good. Flax sown in the spring matured seeds and good fiber. The vegetable gardens for the most part were a success. The yield of potatoes was good and the quality all that could be desired. The crop of wild apples around Sitka was the most abundant known. Many gathered them in quantities for jelly and marmalade. The native berries were plentiful, and those who cultivated the raspberry, currant, and gooseberry have been well rewarded for their labors.

Army, Navy, etc.—Alaska is part of the Department of the Columbia, at present commanded by Brig.-Gen. George M. Randall. The following stations are maintained in the district: Fort Davis, Nome, reservation, 282 acres; Fort Egbert, Eagle, reservation, 25,200 acres; Fort Gibbon, Tanana, reservation, 74,560 acres; Fort Liscum, Valdez, reservation, 650.89 acres; Fort St. Michael, reservation, 40,320 acres; Camp Skagway; and Camp Haines. The force at Fort Liscum under Major W. R. Abercrombie have been engaged during the year in making the trans-Alaskan military road, which is now completed from Port Valdez to the Tanana river, 265 miles. The signal-corps, under the direction of Gen. A. W. Greely, has completed the telegraph-line from St. Michael via Unalaklit, Kaltag, Nulato, Nahcatalin,

Birches, Fort Gibbon, to Rampart. (See Telegraph.)

The navy has a permanent marine post at Sitka and on Japonski island, and the Bureau of Equipment and of Yards and Docks have built a wharf and coal sheds. Here also are a shell house and a powder magazine. The Marine-Hospital Service maintains a hospital at Dutch Harbor. In the fiscal year ended June 30, 1901, 11 patients were treated in the hospital and treatment was furnished 59 out-patients; in the year ended June 30, 1902, 12 patients were treated in the hospital, and there were 62 out-patients.

In 1902 the United States Revenue-Cutter Service had 6 boats in service about Alaska. The Bear was used in the transportation of reindeer from Siberia. The Thetis went to the relief of the Portland and Jeanie, which left Seattle for Cape Nome in the latter part of April and were caught in the ice-pack and carried into the Arctic Ocean. They carried besides several hundred persons, passengers and crews, hundreds of tons of mining machinery and provisions. They were caught in the pack June 4, and June 17 were sighted by the steam-whaler Belvidere, the Thetis lying by, 80 miles north of Cape Prince of Wales in the Arctic Ocean. The 2 boats were locked in the ice, almost within speaking distance of each other, in imminent danger of being crushed. The provisions of both gave out and they were forced to broach their cargoes. They finally succeeded in breaking out, and on July 1 reached Nome with all on board well.

The Manning was on patrol duty at the Seal Islands, and the Perry and the Rush inspected the canneries. The McCulloch surveyed for a harbor on one of the Aleutian chain west of Dutch Harbor. These vessels also provide transportation for the various court officers on their rounds.

The Lighthouse Service has hitherto been very incomplete. Alaska is not a district of itself and is visited but once a year by the tenders Columbine and Manzanita. At present only 2 lighthouses are in operation, both in southeastern Alaska, and 2 others, 1 in Clarence Strait and another in Unimak pass, are nearing completion.

Telegraph.—Gen. Greely, Chief Signal-Officer of the Army, announced the completion of the military telegraph-lines between Fort Egbert, Eagle City, and Fort Liscum, near Valdez. This line brings in direct telegraphic communication with the rest of the world the Copper river country and the Alaskan coast along Prince William Sound. The telegraphic outlet from Fort Egbert is by a signal-corps wire, connecting the Canadian Telegraph line at the international boundary, whence a wire stretches through Dawson to Ashcroft, on the Canadian Pacific Railway. The line from Fort Egbert to Fort Liscum, 425 miles long, was built by almost inconceivable effort and hardship through an uninhabited country, along rough and almost impassable trails. All wire, insulators, and other line material, as well as food for men and forage for animals, were either dragged hundreds of miles by sleds in midwinter or carried by packs on the backs of mules.

Education.—The educational work of Alaska is under the direct supervision of the Rev. Sheldon Jackson, D. D., the United States General Agent of Education for Alaska. The following table shows the location of the public schools, the race under instruction, and the total enrolment and average monthly attendance for the

school year extending from September, 1900, to May, 1901:

SCHOOLS.	Enrolment.	Average attendance—April.
Sitka:		
No. 1 (whites).....	48	25
No. 2 (natives).....	121	12
Juneau No. 2.....	75	11
Douglas:		
No. 1 (whites).....	95	68
No. 2 (natives).....	37	12
Fort Wrangel:		
No. 1 (whites).....	68	28
No. 2 (natives).....	80	11
Jackson.....	88	12
Haines.....	46	..
Hoonah.....	121	7
Saxman.....	66	..
Gravina.....	59	21
Kake.....	88	..
Kadiak.....	107	45
Wood Island.....	68	36
Night-school.....	..	19
Afognak.....	43	17
Unga.....	39	25
Unalaska.....	95	63
Cape Prince of Wales.....	107	46
Nome.....	63	39
St. Lawrence island.....	72	..
Port Clarence.....	18	16
Carmel.....	52	26
Eaton Station.....	30	..
Point Barrow.....	111	46
Sitka Industrial School:		
Schoolroom No. 1.....	70	30
Schoolroom No. 2.....	81	35

The small average attendance was due to two epidemics—pneumonia in arctic Alaska and smallpox in southeastern Alaska—that caused much sickness and a great many deaths, particularly among the natives.

The appropriation for 1900-'01 was \$30,000, and was disbursed as follows: Salaries of officials, \$4,865; salaries of teachers, \$18,392.38; supplies, \$4,542.36; fuel and lighting, \$869.05; repairs, \$521.41; rent, \$180; traveling expenses, \$546.25; freight, \$34.95; balance, \$48.60. The expense per capita of enrolment was \$17.78.

In addition to the schools established by the United States Bureau, most of the missions to Alaska maintain schools teaching general and industrial branches.

The Sitka Training-School reports as follows: "Pupils—boarding, 150; day, 5; teachers, 15; salaries, \$6,949.91; current expenses, \$7,995.89; repairs, etc., \$997.03; total, \$15,939.83. Tuition received, \$805.75." The Sitka Hospital reports as follows: "Physician in charge and 2 nurses. More than 1,500 patients have been treated in the hospital and at the ranches, and a large number of successful operations have been performed. Smallpox was epidemic, and physicians, nurses, and teachers acted heroically in caring for the sufferers." Following is the report upon education in Alaska for the year ending June 30, 1902, from the annual statement of the United States Commissioner of Education, embodying the terms and some of the practical workings of the new provision for educational funds, which superseded the regular annual appropriation for public schools in March, 1901: "This bureau has maintained the past year, outside of incorporated towns, 27 public schools, with 33 teachers and an enrolment of 1,741 pupils. . . . 'An Act making further provision for a civil government for Alaska, and for other purposes,' approved June 6, 1900, section 460, chapter xlv, Part II (31 Stat. L., 330), provides a tax on business and trade in the form of a license. In section 203, chapter xxi, Part V, said act, provision is made whereby 50 per cent. of said license money collected in incor-

porated towns shall be turned over to the treasury of said towns for school purposes. By an amendment to the above section 203, approved March 3, 1901, it was provided that 50 per cent. of all license moneys that may hereafter be paid for business carried on outside incorporated towns in the district of Alaska shall be set aside to be expended, within the discretion and under the direction of the Secretary of the Interior, for school purposes outside incorporated towns in said district."

Under the provision of the license law there has been received from March 3, 1901, to June 30, 1902, for education in Alaska, outside of incorporated towns, \$35,882.41. This fund was disbursed as follows: Salaries of officials, \$5,066.12; salaries of teachers, \$17,192.54; supplies, \$2,420.64; fuel and lighting, \$995.40; repairs, \$204.53; rent, \$369.85; traveling expenses, \$201.40; freight, \$27.24; balance, \$9,404.69.

Reindeer.—The appropriations for the introduction of domestic reindeer into Alaska were in 1901 and 1902 \$25,000 for each year. The expenditures were, in 1901: Salaries, \$10,430.37; supplies for stations, \$2,724.90; coal for revenue-cutter Bear, \$2,202.57; for 428 reindeer, \$5,617.50; other expenses, \$4,017.53; balance, \$7.13. In 1902: Salaries, \$2,810.03; supplies, \$4,498.44; transportation of deer, including transportation charges on 428 deer bought in 1901, \$11,546.55; other expenses, \$2,971.59; balance, \$3,173.39.

The following table shows the annual increase, together with the number of deer imported since 1900:

ANIMALS.	1900.	1901.	1902.
Total from previous year.....	2,538	2,792	4,022
Fawns surviving.....	756	1,130	1,591
Purchased during summer.....	29	500	80
Total, Oct. 1.....	3,323	4,412	5,643
Losses.....	531	390	....
Carried forward.....	2,792	4,022	....

From the first purchase of reindeer, in 1891, when 16 were bought as an experiment, 1,320 reindeer have been procured in Siberia and delivered in Alaska. From these, 4,462 fawns have been born.

The most noteworthy event in 1901, and one of the most important in the history of the reindeer movement, was the securing of deer from the region back of Ola, Siberia, to cross with existing herds.

The reindeer are rapidly becoming a source of profit to their owners. The Cape Prince of Wales herd has become so large as to allow a limited number of the deer to be killed for food. The deer bring from \$60 to \$100 each in the neighboring mining-camps for butchering, the proceeds of the sale supplying the herder families with clothing and household appliance. Trained deer sell to the miners for \$150 each for freighting and driving. Many of the Lapps are also employed as drivers. In the winter of 1900-'01 the herders at Cape Prince of Wales received \$600 in gold for freighting with their reindeer to the mining-camps. This applies in a limited way to all the stations, and in a short time the sale of extra males from the herds will more than pay the annual expenses of the stations. During the winter of 1901-'02 even a larger number of deer were used by the miners to carry provisions and supplies, and the mail was carried regularly from Nome to Kotzebue Sound by reindeer teams. In December, 1900, reindeer teams from the Eaton station relieved 3 construction parties of United

States troops, aggregating 110 officers and men, who had been snowed in at Kaltag, on the Yukon river, and after removing their camp 50 miles to a place of safety, carried a supply of provisions to them from St. Michael. These deer also transported telegraph-poles and supplies and provisions for the men engaged in building the telegraph-line between Norton Sound and the Yukon river. At the same time teams from the Teller station were employed for a military expedition to relieve the destitution of the natives in the neighborhood of Kotzebue Sound.

The rapid increase of the number of deer has necessitated the adoption of a system of branding similar to that used in the Western United States, whereby the owners may distinguish their property. The marks are placed upon the ears of the animals.

Late in 1901 it was reported that the Russian Government had prohibited the further exportation of reindeer from Siberia. Upon the inquiry of the Bureau of Education through official channels permission was granted for the purchase of 300 deer in the summer of 1902, with the condition that the reindeer should be paid for in coin instead of barter goods as formerly. When the revenue-cutter Bear reached Baroness Korfig Bay the natives had large herds to sell; but when they learned that the ship carried no flour, calico, tobacco, or other things for which they were accustomed to trade, never having had any money in circulation and being unacquainted with its value, they refused to sell, and only 30 deer were secured.

The Nome Conspiracy.—Jan. 6, 1902, the United States Circuit Court of Appeals, in San Francisco, fined Judge Arthur H. Noyes, of the Second District of Alaska, \$1,000 for contempt of court, and sentenced District-Attorney Joseph K. Wood and his assistant, C. A. A. Frost, to four months and one year imprisonment respectively. While the case was tried solely on the charge of contempt, the defendants having refused to answer the mandates of the court, it was the outgrowth of the conspiracy entered into by Judge Noyes, Alexander McKenzie (who was convicted in February, 1901), and others in Nome in the summer of 1900, where, by the appointment of McKenzie as receiver, they took over all the most valuable mining-claims in Nome, and refused to restore them or to respect the injunctions of the higher court. Upon the findings of Attorney-General Knox, Feb. 23, 1902, after reviewing the charges, President Roosevelt dismissed Judge Noyes from office Feb. 25, 1902.

ARIZONA, a Territory of the United States, organized Feb. 14, 1863; area, 113,020 square miles. The population, according to each decennial census since the organization, was 9,658 in 1870; 40,440 in 1880; 59,620 in 1890; and 122,931 in 1900. Capital, Phoenix.

Government.—The following were the Territorial officers in 1902: Governor, N. O. Murphy, succeeded in July by Alexander O. Brodie; Secretary, Isaac T. Stoddard; Auditor, William F. Nichols; Treasurer, T. W. Pemberton, resigned and succeeded in August by I. M. Christy; Attorney-General, C. A. Ainsworth, resigned and succeeded in August by E. W. Wells; Adjutant-General, H. F. Robinson; Superintendent of Education, R. L. Long, resigned in July, succeeded by Nelson G. Layton; Geologist, W. P. Blake; Surveyor-General, Hugh H. Price; Veterinarian, J. C. Norton; Chairman of Live-Stock Sanitary Board, A. C. McQueen; Surgeon-General, M. M. Walker; Board of Equalization, R. N. Fredericks, Michael Ohl, M. P. Freeman, resigned and succeeded by

Frank H. Parke; Game Commission, W. L. Pinney, T. S. Bunch, Eugene Allison; Chief Justice of the Supreme Court, Webster Street, succeeded March 21 by Edward Kent; Associate Justices, Richard E. Sloan, Fletcher M. Doan, George R. Davis; Clerk, Lloyd Johnston, succeeded by Shelby M. Collum.

The Territorial Legislature meets biennially in January of the odd-numbered years; the session is limited to sixty days. The Council has 12 members and the House 21.

Finances.—The biennial report of the Auditor for 1901-'02 shows that Territorial warrants have been drawn to the amount of \$585,521.09, and that the floating indebtedness of the Territory is now \$119,839. The total valuation of the taxable property of the Territory is \$39,083,177.57, an increase of \$229,343 over the valuation of 1901. The rate of taxation, which was 1.17 that year, was reduced in 1902 to 13 and a fraction. The counties pay on their indebtedness annual interest aggregating a little more than \$65,000.

Bonds for \$30,000 were issued this year for the purpose of making a Territorial exhibit at the St. Louis Exposition. Territorial bonds were redeemed as follow: Insane asylum 7 per cents., \$20,000; University 7 per cents., \$7,000. The net indebtedness of the Territory is \$1,065,461.90, a decrease of \$5,388.17.

Education.—The census reports show the number of illiterates in the Territory to be 27,307. The percentage of persons between ten and fourteen years of age able to read and write was 79.62 in 1890 and 77.79 in 1900. The number of inhabitants that speak no English is 29,911. Another table shows the monthly wages of male teachers in the Territory to be \$73.23, and of female \$63.17.

There are about 23,000 children of school age; the average expenditure for each is \$15.11.

A class of 18 was graduated at the Tempe Normal School in June. A girl's dormitory is in process of construction, to cost, with its furnishings, \$12,000.

Last winter the State Board of Education of California, upon examination of the quantity and quality of the work at the Tempe Normal School, officially recognized the latter as on a par with their own normal schools.

The university graduated 3 women in the literary course, and 6 men in the department of mining engineering. All the men in the institutions are taking either this course for a degree or the shorter course in mining and assaying.

Banks and Loan Associations.—The report of the Bank Examiner at the close of the year shows that there were 16 incorporated Territorial banks, 6 building-and-loan associations organized under the laws of the Territory, and 7 national banks. Some of the Territorial banks since the matter for the report was gathered have been converted into national banks. Great gains are shown in the business of both the Territorial banks and the building-and-loan associations. The resources of the former have increased within a year from \$3,918,806 to \$4,675,032.33. The operations of the building-and-loan associations have been increased from \$588,369.45 to \$701,472.09. The increase of deposits in banks, both Territorial and national, have been for the last two years as follows: For 1901, \$6,225,480.86; for 1902, \$7,015,087.98. Of the total increase of \$789,607.12, \$632,390.07 has been in Territorial banks and \$157,217.05 in national banks.

Railroads.—In 1901 new tracks aggregating 85.04 miles were laid in the Territory. The Santa

Fé, Prescott and Phoenix has been improved by the construction of what is known as the Hell Cañon Cut-Off. It is shorter than the old line by 3 miles; the maximum north-bound ascending grade is 1½ per cent., against 3 per cent. on the old line. The most notable feature of the Hell Cañon Cut-Off is that of the Hell Cañon viaduct, crossing a deep cañon, which, to the time this improvement was conceived, was considered practically impassable. The viaduct is a fine steel structure, 645 feet in length, and crosses the cañon at an elevation of 165 feet.

The total railroad and Pullman car valuations this year amounted to \$4,998,434.32. This is an increase over the valuation last year of \$175,405.41, which, however, did not include the El Paso and Southwestern.

Corrections.—About 300 convicts are confined in the Territorial prison at Yuma. No satisfactory solution of the convict-labor problem has yet been found.

A reform school for boys and girls has been built near Benson, with grounds comprising 40 acres. It is of tufa, has 30 rooms, and cost \$25,000. It will be ready for occupancy after the next session of the Legislature.

Irrigation.—The greater part of the irrigated land of the Territory is in the Salt river valley. The total expanse of the fully irrigated land in Arizona is 185,396 acres. In the past ten years 545 miles of canals have been constructed, at a cost of \$1,500,000. Artesian water is used to a limited extent in the San Pedro and Gila valleys, near Benson and Safford. A new corporation has acquired the Peoria Canal property, near Gila Bend, on which \$1,000,000 has been spent. The dam is to be rebuilt and about 80,000 acres of good land reclaimed. The Government has spent \$13,000 for new ditches on the Pima Indian reservation.

Around Yuma the main interest concerns the Imperial Canal, which heads near by, on the California side of Colorado river. The new Rockland Canal, north of Yuma, will irrigate 10,000 acres. About 100 horse-power will be developed on the Ludy Canal, west of Yuma, to be used in pumping water to higher line lands.

An organization has been formed to secure the construction of the proposed Tonto creek storage-dam on Salt river, near Phoenix, under the general irrigation act of Congress. The dam was to be 210 feet high, and the cost of the entire enterprise is estimated at \$2,000,000, and it is to impound 840,000 acre feet of water. The engineers are considering plans for building the dam 40 feet higher, impounding 1,400,000 acre feet of water.

The unique feature of the whole enterprise is the scheme for development of electric power. A canal will be dug, heading at the upper end of the reservoir site, capable of carrying the minimum flow of the river. This force will be utilized in generating electric power to be used in making the necessary cement from materials close at hand, for running all the huge construction machinery that will be used in the building of the dam and in the operation of the head-gates, and later, when all is finished, it will be cabled to the valley and employed in raising the underground supply.

Products and Industries.—Arizona has 314 manufacturing establishments, with a capital of \$10,157,000, employing an average of 3,268 wage-earners, and paying per annum in wages \$2,369,065. The value of the annual product is \$21,315,189. This classification includes copper-smelters. The principal wealth of the Territory lies now in

the copper-mines; Arizona stands third in the production of copper, only Michigan and Montana standing above it. Since the great decline in the value of silver and the shutting down of the Tombstone mines the production of the white metal in the Territory has decreased, until now it represents only about 6 per cent. of the total mineral output, even the gold production being three times as great. From a statement by the director of the mint, it appears that the gold product in 1901 amounted to \$4,083,000 in value, and the silver to \$1,687,440. The greatest mining center of the Territory is Bisbee, near the Mexican line.

A scheme has been formed to mine or quarry the ice in the caves near Flagstaff. The main, or best-known ice-cave, lies at the head of Clark's valley, 17 miles southwest of Flagstaff.

The culture of date-palms has been undertaken at the experiment station south of Tempe. Trees imported two years ago are doing well, and another load from Egypt was received at the station this year.

Lands.—The court that had the disposition of private land claims passed upon 18. The total area claimed was 11,326,108.04 acres; the total confirmed, 121,187.50; the total rejected, 11,204,920.54. Among those rejected was the famous Peralta grant, amounting to 10,467,456.18 acres.

The United States Geological Survey is examining the forest reserves. The total area of the San Francisco mountain reserve is 795,360 acres. The Black Mesa reserve comprises 1,658,880 acres.

Political.—The candidates for the office of delegate in Congress at the November election were Robert E. Morrison, Republican, and J. F. Wilson, Democrat. Wilson was elected by a vote of 9,716 to 9,239 for Morrison.

ARKANSAS, a Southern State, admitted to the Union June 15, 1836; area, 53,850 square miles. The population, according to each decennial census since admission, was 97,574 in 1840; 209,897 in 1850; 435,450 in 1860; 484,471 in 1870; 802,525 in 1880; 1,128,179 in 1890; and 1,311,564 in 1900. Capital, Little Rock.

Government.—The following were the State officers in 1902: Governor, Jefferson Davis; Secretary of State, John W. Crockett; Auditor, T. C. Monroe; Treasurer, H. C. Tipton; Attorney-General, George W. Murphy; Commissioner of Lands, J. W. Colquitt; Superintendent of Education, J. J. Doyne, succeeded by J. H. Hinemon; Commissioner of Mines, Manufactures, and Agriculture, Frank Hill, succeeded by H. T. Bradford; Railroad Commissioners, Jeremiah G. Wallace, Felix M. Hanley, Abner Gaines; Adjutant-General, Charles Jacobson; Geologist, John C. Branner; Chief Justice of the Supreme Court, Henry G. Bunn; Associate Justices, Simon P. Hughes, Carroll D. Wood, Burrill B. Battle, James E. Riddick; Clerk, P. D. English. All are Democrats.

State officers are elected on the first Monday in September in the even-numbered years, and serve two years. The Legislature meets biennially the second Monday in January in the odd-numbered years. The session is limited to sixty days.

Finances.—The report of the Auditor for the two years ending Sept. 30, 1902, says: "The public debt of the State has been reduced to a minimum, and will very soon be wiped out entirely, with the exception of the funding bonds held by the permanent school fund, amounting to \$1,118,500. Exclusive of these bonds, the present indebtedness of the State consists of \$137,500 of the funding bonds of 1891, of which sum \$102,500 is in the permanent endowment fund of the University of Arkansas, and the remainder, 35 bonds

of \$1,000 each, is held by private individuals. These bonds are being gradually retired. The act approved May 3, 1901, calling in for redemption the old outstanding bonds, provided that all such bonds not presented within six months from the date of call made by the Treasurer should be forever barred, null and void. Of the 22 bonds shown by the records to be outstanding, only 7 were presented and redeemed. The Auditor estimates the ordinary expenses of the State government for the next two years at about \$1,000,000.

The total value of property in the State, as assessed for taxation, is about \$224,000,000.

Education.—From the census reports on illiteracy in the States it appears that Arkansas has 190,655 illiterates. The percentage of persons from ten to fourteen years of age who were reported able to read and write was 77.89 in 1890 and 83.80 in 1900. Eight of the States and Territories were below Arkansas in the list in 1890, and nine in 1900.

The school population this year was 495,368; the State apportionment of funds was \$539,951.12, giving a per capita of \$1.09. The monthly salary paid to male teachers is given as averaging \$38.50; to female, \$36.50.

The State University graduated a class of 22, June 19. In the medical department 11 were graduated in April. At the opening in September about 500 students were enrolled. The university shops were destroyed by fire in the autumn, at a loss variously estimated at \$20,000 to \$50,000, without insurance.

Charities and Corrections.—A report of the State Lunatic Asylum, submitted in July, covers the period from Dec. 1, 1900, to July 1, 1902. The number Dec. 1, 1900, was 622; admitted, 235; discharged, 213, of whom 68 had recovered, 67 improved, 10 unimproved, 2 eloped, 2 were found not to be insane, and 61 died, leaving 644 remaining. The average cost of maintenance per capita for a month was \$4.49, officers and employees included.

At the School for the Blind there were 169 inmates March 31. The cost of maintenance for one month was \$4.40 per capita, including teachers and employees, 235 in all. Four students were graduated in June.

There were 208 pupils remaining at the Deaf-Mute Institute April 30. The average for sustenance for one month when the whole number, including employees, was 294, was \$4.12. New buildings have been constructed for both the Blind and Deaf-Mute Institutes.

At a meeting of the Penitentiary Board in November it was decided to buy a plantation in Lincoln County for a convict farm. It comprises about 11,000 acres, of which 2,400 are in cultivation. It is 28 miles below Pine Bluff, at a bend of Arkansas river, and has 7 miles of river front. The price was \$140,000. The Governor was the only member of the board opposed to the purchase; he announced that he would send a message to the Legislature advising that it be canceled.

Militia.—In a report to the adjutant-general of the United States army in June it was stated: "1,694 militia have been regularly organized, uniformed, and in actual service of the State during the year ending June 30, 1902; that the average attendance at drills and parades during the year was, to the best of our knowledge and belief, on an average semiweekly for the 25 companies of infantry, monthly for the 2 companies of cavalry." The Government allotment to the State for militia supplies was \$42,000. In Novem-

ber the Guard consisted of 2 regiments and 7 separate companies—31 companies in all—of infantry, a battalion of cavalry, and a battery of light-artillery. In June the adjutant-general demanded the resignation, which was tendered, of Harry H. Myers, nominee of the regular Republicans for Governor as lieutenant-colonel and judge-advocate general of the State Guard. The demand, it is understood, was based upon Myers's speech in accepting the Republican nomination for Governor, when he referred to Gov. Jefferson Davis, the Democratic nominee and commander of the State Guard, as a "human windmill and bombastic dictator."

Railroads.—The number of miles of new railroad-track laid in 1901 was 155.91. The annual report of the Railroad Commission, rendered in September, 1902, says: "Encouraging progress has been made in the construction and extension of railroads running into practically new and undeveloped sections of the State. The White River Railroad, a branch of the Missouri Pacific system, is being built from a point north of Batesville up White river in the direction of the zinc-fields of northeast Arkansas. The St. Louis and North Arkansas Railroad has been extended from Eureka Springs to Harrison, a distance of some 45 miles, and the construction is being pushed, with Marshall as the present objective point. The Ozark and Cherokee Central Railway, the Fort Smith Western Railroad, the Arkansas and Choctaw, and the South Missouri and Arkansas, have also made considerable progress in construction."

The annual meeting of the Association of Southern Railroad Commissioners was held at Hot Springs in October. A resolution was adopted "asking the national Congress to pass an act requiring federal courts to treat all cases arising under and by virtue of laws creating railroad commissioners, whether State or interstate, wherein the public interests are involved, as 'preference cases,' and as such they be entitled to be placed at the head of the docket and to be speedily and promptly heard."

Insurance.—A statement showing the sums paid by life-insurance companies in the cities and towns of the State gives a total of \$949,433. In the same year the fire companies received \$1,258,878 in premiums, and paid losses amounting to \$717,838.

Congressional Appropriations.—For improvement of rivers in the Arkansas district, Congress appropriated as follows: Upper White, \$270,000; Arkansas, \$110,000; lower White, \$22,000; Black, \$21,700; Current, \$6,900; St. Francis and l'Anguille, \$9,000; Cache, \$2,000. The total mileage of the rivers of the Arkansas district is 1,571. For repairing the Government levee near Walnut Bend and extending it to Wheel Ridge \$90,000 was appropriated. Provision was also made for public buildings at Hot Springs, Fort Smith, Batesville, and Harrison.

Products and Industries.—The coal-product of the State in 1901 was valued, according to the bulletin of the United States Geological Survey, at \$2,033,193; the number of tons was 1,784,136.

A great deposit of liquid asphalt is being opened up in Pike County. Beneath it has been discovered a stratum of fullers' earth.

About 3,000 persons are engaged in the pearl industry in the vicinity of Newport. Two steamboats and barges are employed in transporting the mussel-shells on White river.

The amount of capital invested in the lumber industry increased between 1880 and 1900 from \$1,067,840 to \$21,727,710.

The capital in grist and flour mills in 1900 was \$1,183,052; the value of the product, \$3,708,709.

The number of farms in the State in 1900 was 178,694; the value, \$135,182,170; total value of farm property, \$181,416,001; number engaged in agriculture, 340,994; farm-products, \$79,649,490.

The estimate of the average yield of corn to the acre in 1902 was 20.9; in 1901 it was 8.1; the mean of the average of the past ten years was 17.3.

The cotton-crop of 1901-'02, according to Secretary Hester's report, was 820,000 bales, against 762,000 the year next preceding. The consumption in mills of the State was 2,463 bales. The whole number of spindles was 14,588; number of looms, 150; of mills, 4.

The cotton-seed product was 190,015 tons; the cost, \$2,245,710; the products, \$3,188,812.

The number of commercial failures in the State the first half of the year was given as 152, with liabilities of \$795,380. In the corresponding months of 1901 there were 116, with liabilities of \$611,009.

Early in the year measures were taken to collect relief for the sufferers by the drought in the northern part of the State in 1901.

Court Decisions.—The Supreme Court has sustained the act of the Legislature of 1901 authorizing cities of the first class to pass vehicle tax ordinances. The tax was resisted on the ground that it was unconstitutional and void "in this, that it is either an attempt by the Legislature to authorize said cities to impose or levy a direct tax upon wheeled vehicles as property, in excess of the amount limited by the Constitution and in violation of its provisions relating to taxation, or is an attempt to create out of the common right to use vehicles a privilege and thereupon to tax the same."

The act "to suppress the illegal sale of liquors, and to destroy the same when found in prohibited districts" was attacked, but was pronounced constitutional by the Supreme Court.

Hot Springs.—In the annual report of the Secretary of the Interior much attention is given to the Hot Springs reservation. It says in part: "The success of the Hot Springs as a health resort since the assumption of supervisory control by the Government in 1878 has been remarkable. The increase in patronage has been constant year by year. During this period of twenty-four years the superintendent estimates that a total of 650,000 people have visited Hot Springs for health and recreation; the patronage of the year just ended was 65,000.

The reservations, including the mountainous districts known as North mountain, Sugar Loaf mountain, and West mountain, together with Hot Springs mountain, were forever reserved from sale and dedicated to public use as parks. These reservations, with Whittington Avenue reserve, comprise in all 911.63 acres.

Little Rock.—The local chapter of the Daughters of the Confederacy last winter entered an emphatic protest against any presentation of the play Uncle Tom's Cabin in the capital city.

Pardons.—The Governor, having been induced to grant a pardon for remission of a fine by a petition on which, as was afterward found, about 100 names were forged, including those of the sheriff, the clerk, and the prosecuting attorney, issued a proclamation directing that in future "the applicant or his attorney shall deposit petition for pardon with the circuit clerk of his county fifteen days, subject to the inspection of the general public."

The Governor gained considerable notoriety in

May by granting a pardon to a negro convict in the Penitentiary on condition that he should become a resident of Massachusetts within thirty days. The negro had been convicted in 1900 of assault with intent to kill, and sentenced to three years in the prison.

Lawlessness.—Lynchings have been reported this year at or near Foreman, Tomberlin, Magnolia, Stephens, and Forest City. All the negroes lynched were accused of assaults upon women or girls; one, who murdered his victim, was burned at the stake.

In October a company of the State militia was called out to aid the sheriff to keep order at El Dorado, where great excitement had been caused by a tragic affray in which 3 men were killed and 3 wounded, 1 fatally. The fight was the culmination of a feud arising from the shooting of a man by an officer whom he attacked for having arrested him.

Political.—The Democratic primaries for the choice of candidates for United States Senator, members of Congress, and State and local officials were held March 29. The candidates for the office of United States Senator were ex-Gov. James P. Clarke and Senator James K. Jones; for Governor, Jefferson Davis and E. W. Rector. Clarke and Davis were chosen by large majorities. The State convention met at Little Rock, June 11. The resolutions recognized the Kansas City platform "as the declaration of the national Democracy upon national questions until supplanted by action of a succeeding national convention; denounced trusts and the Dingley tariff; favored the building of the Nicaragua Canal by the Government; an appropriation for the Louisiana-Purchase Exposition; laws for protection of labor; a new State-House; enlargement of the powers of the Railroad Commission and of the Interstate Commerce Commission; the establishment of a reform school; and better provision for the insane. Following is the ticket: For United States Senator, James P. Clarke; Governor, Jefferson Davis; Secretary of State, J. W. Crockett; Attorney-General, George W. Murphy; State Treasurer, H. C. Tipton; Superintendent of Public Instruction, J. H. Hinemon; Auditor, T. C. Monroe; Associate Justice Supreme Court, B. B. Battle; Land Commissioner, F. E. Conway; Railroad Commissioners, J. W. Phillips, B. B. Hudgins, J. E. Hampton; Commissioner of Mines, Manufactures, and Agriculture, H. T. Bradford.

The Republicans were divided into two factions, known as the "regulars" and the "insurgents." Both held conventions at Little Rock, June 26. The "regulars" nominated Harry H. Myers for Governor. Other nominations were: For Secretary of State, Charles T. Duke; Auditor, John L. Smith; Treasurer, Joseph Berger; Attorney-General, Charles F. Cole; Land Commissioner, W. H. Conine; Superintendent of Public Instruction, Robert L. Floyd; Commissioner of Mines, Manufactures, and Agriculture, F. S. Baker; Associate Justice of the Supreme Court, Charles C. Waters. The resolutions commended the national policy of the party at some length. On State affairs they favored an exhibit at St. Louis, equal taxation, and salaries for justices of the peace and prosecuting attorneys. The Democratic party was condemned for its failure to suppress trusts, to invite industries into the State by providing for them reasonable exemption from taxation for a limited period; for its abandonment of the work upon the new State-house, after its site had been chosen, the foundation laid, and thousands of dollars of the public moneys laid out thereon; for its partizan man-

agement of the State charitable boards in restricting their membership wholly to the Democratic party; for its partizanship applied even to the public schools, by which none but Democrats need aspire to the responsible position of school director; for its failure to provide a railroad commission which affords any protection to the people of the State; for failure to establish a reform school, to provide for the destitute insane outside the county jails, and to pass an efficient fellow-servant law; for "its vacillating and corrupt management of the State Penitentiary, by which monopolies are fostered, first, by entering into contracts for hiring out convicts at prices totally inadequate, and then seeking to dishonorably repudiate the contracts; and for its repeated refusal to change the law so that the minority party might have one judge and one clerk of its choice at each voting precinct in the State, thereby insuring an honest return of all the votes cast." Payment of the poll-tax was made a prerequisite to voting in the Republican primaries.

The "insurgents" nominated Charles D. Greaves for Governor. No nominations were made for other offices. The following was the most distinctive among the resolutions: "The control of these State organizations has been in the hands of a member of the national Republican Committee for no purpose of success in local or other elections in this State, but for the sole control of federal patronage and the aggrandizement of the few in control. We earnestly request that the President and his Cabinet officers refuse to recognize such organizations, which have so unworthily represented the Republican party of this State."

The Prohibitionists assembled in convention at Little Rock, June 25, nominated George H. Kimball for Governor, and adopted a platform in accordance with their principles. The concluding declaration was: "We declare our belief that existing conditions in other political parties in this State make it impossible that self-respecting citizens, and particularly Christian men, should continue to support them and the men and measures for which they ask the votes of the people."

The Ex-Slaves Association nominated Rev. R. D. Campbell, their president, for Governor; but the nomination did not appear on the official ballot. The State election, held Nov. 1, resulted in the success of the Democratic candidates. The vote for Governor stood: Jefferson Davis, Democrat, 77,354; H. H. Myers, Republican, 29,256; C. D. Greaves, Independent, 8,345; George H. Kimball, Prohibitionist, 4,791.

A proposed amendment to the Constitution empowering the Legislature to place its members on a salary instead of the per diem system now in vogue was carried by a majority of 1,616 votes. The law now in effect gives the members of the Legislature \$6 per day and their railroad mileage. The constitutional limit of the Legislature is sixty days, but for many years past the sessions have been prolonged to double that time.

The question of license was voted upon, about 46 of the 75 counties giving a majority against. The State Senate will be entirely Democratic; the House will have 2 Republicans.

CALIFORNIA, a Pacific Coast State, admitted to the Union Sept. 9, 1850; area, 158,360 square miles. The population, according to each decennial census since admission, was 92,597 in 1850; 379,994 in 1860; 560,247 in 1870; 864,694 in 1880; 1,208,130 in 1890; and 1,485,053 in 1900. Capital, Sacramento.

Government.—The following were the State officers during the year: Governor, Henry T. Gage;

Lieutenant-Governor, Jacob H. Neff; Secretary of State, Charles F. Curry; Comptroller, Edward P. Colgan; Treasurer, Truman Reeves; Attorney-General, Tiley L. Ford; Surveyor-General, Martin J. Wright; Superintendent of Public Instruction, Thomas J. Kirk; Superintendent of State Printing-Office, Alfred J. Johnston; Adjutant-General, W. H. Seaman; Insurance Commissioner, E. Myron Wolf; Commissioner of Labor, F. V. Meyers; Railroad Commissioners, E. B. Edson, C. S. Laumeister, N. Blackstock; Board of Equalization, Alexander Brown, R. H. Beamer, Thomas O. Toland, Lewis H. Brown; Commissioners of the Supreme Court, Wheaton A. Gray, James A. Cooper, N. P. Chipman, George H. Smith, and John Haynes; Building and Loan Commissioner, Frank H. Gould; Bank Commissioners, John Markley, A. W. Barrett, B. D. Murphy; Chief Justice of the Supreme Court, William H. Beatty; Associate Justices, T. B. McFarland, C. H. Garroute, R. C. Harrison, Walter Van Dyke, F. W. Henshaw, Jackson Temple (who died Dec. 25); Clerk, George W. Root.

The State officers hold office four years and are elected in November of the even-numbered years between presidential elections. The Legislature meets biennially in January of odd-numbered years, and the session is limited to sixty days.

Valuations.—The assessed valuations of property in the State, as given in the Comptroller's official report for this year, amount to \$1,290,750,465, made up as follows: Value of real estate, \$690,974,783; improvements, \$284,226,533; personal property, \$200,164,171; money and solvent credits, \$50,572,275; railroads, \$64,812,603. The rate of State taxation is .382 cents on each \$100 of valuation.

The original assessed value of mortgages is \$145,521,044 and the assessed value of university and other State mortgages is \$1,424,513. The total indebtedness of the counties of the State is \$3,175,942.75, of which \$3,088,900 is funded and \$87,042.75 is transient or floating debt.

The aggregate valuation shows a gain of \$49,044,662 over the preceding year and \$18,081,339 of this increase is represented in the enhanced value of real estate and new improvements. The next greatest gain is in the assessed value of railroads, which is \$15,691,118 greater than for 1901. Money and solvent credits show an increase of \$4,614,278, and mortgages are \$3,820,020 less in amount than for the previous year. The indebtedness of the counties was reduced \$157,290.25 during the year, while the total funded debts of the counties was decreased by \$135,500. Of the 57 counties in the State, 16 are free of debt, 11 have debts under \$20,000 and only 11 owe in excess of \$100,000. The largest single county debt is \$410,355, owed by Sacramento County, and the smallest is \$2,000, owed by Del Norte, and the same amount is owing by Ventura. The total outstanding debt of San Francisco city and county is only \$250,000. Although the outstanding financial obligations of the counties show substantial reductions, there has been no backwardness in public improvements.

Education.—The State has two great universities, the Leland Stanford Junior University, at Palo Alto, Santa Clara County, the wealthiest institution of learning on the continent, and the University of California, a State institution, at Berkeley, Alameda County. This year the magnificent memorial chapel at the Stanford University was completed, at an expense of over \$300,000. It is of yellow sandstone, to match the other college buildings in the great quadrangle, and is

considered one of the most ornate pieces of architecture, as well as one of the handsomest houses of worship, on the Pacific coast. It is presided over by the Rev. Richard Heber Newton, formerly of New York city, and the regular Sunday and weekly services are undenominational. The attendance at the university was more than 1,600 during the year, and about twice that number have been in attendance at the University of California at Berkeley. Among the other institutions may be mentioned California College (Baptist), at Highland Park, Oakland; University of the Pacific (Methodist), at San José; Mills Seminary, at Seminary Park, Alameda County; Wilmerding School and the Cogswell Polytechnic School, both at San Francisco; Santa Clara College, at Santa Clara. The elegant country mansion of the late James C. Flood, with extensive grounds and conservatories, at Menlo Park, San Mateo County; the Mark Hopkins Institute of Art, in San Francisco; the recently completed affiliated colleges near Golden Gate Park, San Francisco, and the Lick Observatory on Mount Hamilton, near San José, are all part of the property of and under control of the University of California.

Mining.—Although mining was less prominent in the industrial activities of the State during the last decade, the annual output of precious metals and minerals is still very large. In 1902 the production of gold amounted to \$17,124,941, and since the discovery of the metal at Sutter's Mill in January, 1848, the State has contributed more than \$1,500,000,000 to the golden wealth of the world. For value of output, California stands second among the States of the Union. The commercial value of silver mined in 1902 is stated at \$480,793. Much activity in prospecting for copper is in evidence in Siskiyou, Trinity, Fresno, Santa Clara, San Luis Obispo, San Bernardino, and other counties. A discovery of a large and rich body of copper ore was recently reported from the neighborhood of the Almaden quicksilver-mine in Santa Clara County, and although the development now in progress has not yet been advanced to fully determine the value of the deposit, it is known to be very extensive and of a high grade. The copper-producing era in California began to assume large proportions in 1897 when the output was 13,638,626 pounds, valued at \$1,540,666. No satisfactory estimates can be found at the present writing of the volume and value of the copper production of 1902, for the reason that the operations of the chief producer, the Mountain Copper Company, in Shasta County, have been twice disturbed during the year, once by fire and lately by labor troubles. The output of the Bullyhill mines has been large and has made its mark in helping to swell the production of the year, which those best informed assert to be fully \$7,000,000 in value. California is the only State that produces asphalt, and the output for 1902 is 26,000 tons, valued at \$338,000. There are about 50 varieties of metals and minerals in the State of commercial value, all of which are being profitably worked.

Fuel Oil.—Crude oil is coming rapidly to the front as a leading product of the State, and it is now being utilized for steam generation in every section where transportation facilities permit its being laid down profitably. The record for 1902 shows unprecedented progress. The number of producing wells is 2,152, and the production for the year was 13,692,514 barrels. Owing to lack of transportation facilities, 424 producing wells were capped and not being pumped at the close of the year. The depth of producing wells ranges from 200 feet at Summerland to 2,540 feet at Fullerton. The Southern Pacific Railroad Company has

504 locomotives burning oil for fuel. These locomotives consume 600 barrels each a month. The Santa Fé Railroad Company is also converting its locomotives to oil-burners. In 1902 280 engines operating between San Francisco and Winslow, Arizona, were oil-consumers. Two years ago there was not a steamer burning oil; now there are 112 using it for fuel. The Standard Oil Company has its new pipe-line from the southern oil-fields near Bakersfield to Point Richmond on the eastern shore of San Francisco Bay, nearly completed, and it will be in operation early in 1903.

Banking.—The State has 321 banks, of which 191 are commercial, 61 savings, 49 national, and 20 private. All but the national banks are under the jurisdiction of the State Board of Bank Commissioners, which calls for detailed reports at irregular intervals two or three times each year. The aggregate resources of the banks in the State on Aug. 23, 1902, the date of the last official report, was \$494,678,597.30. This represents a gain of \$65,754,716.21 in twelve months, in comparison with the official statement of Aug. 17, 1901. Classified, the banking resources include the following items: Bank premises, \$8,199,162.96; other real estate, \$15,540,532.12; stocks, bonds, and warrants \$112,122,208.85; loans on real estate, \$116,489,606.06; loans on stocks, bonds, and warrants, \$38,303,603.84; loans on grain and other securities, \$14,512,682.97; loans on personal security, \$88,746,692.52; money on hand, \$33,504,414.34; due from banks and bankers, \$62,416,956.22; other assets, \$4,862,737.42. The paid-up capital of all the banks in the State amounts to \$52,699,044.38, and the total due depositors in all banks is \$368,594,780.09. In San Francisco there are 9 savings-banks, and the deposits aggregate \$138,193,443.38. The current rate of interest for loans on real-estate security is $5\frac{1}{2}$ to 6 per cent. per annum, the banks paying the mortgage taxes. The annual allowance of interest on deposits by the savings-banks is $3\frac{1}{2}$ to $3\frac{3}{4}$ per cent. The resources of the 19 commercial banks in San Francisco amount to \$104,237,334.30, and the total due depositors aggregates \$63,798,854.67. There was a large increase in the business of the State in the last four months of the year. The month of December, 1902, showed the heaviest clearings for any one month in the history of the city, the total being \$136,571,697.04. The deposits in all the banks of the State are \$248.22 per capita of the population.

Agriculture.—The farming interests of the State had a very prosperous year, and remunerative prices ruled almost continuously. The wheat-crop was not up to expectations in quantity, but the quality was excellent and the prices obtained were the highest in four years next preceding. The total yield was 21,072,366 bushels. As during the two previous years, the shortage in production was in the southern portion of the State, the yield in central and northern California being bountiful. The value of the crop, however, was about \$16,500,000. The crop of barley was a little over 19,000,000 bushels, but the higher prices brought the value up to \$10,000,000. The production of corn and oats was light, the yield of the former being about 1,000,000 bushels and of the latter something over 2,000,000 bushels. Rye is grown very sparingly, and 350,000 bushels is a liberal estimate for the total yield. The price of rye was the highest in many years, choice lots selling at \$1.15 a cental. The crop of beans was larger than usual, the total being about 115,000,000 pounds, of which 40,000,000 pounds were Limas.

Hop-growers had one of the best years in the history of the industry. The production was bountiful, the total being 55,000 bales or about

10,500,000 pounds, the price ranging from 20 to 26 cents a pound.

The output of beet-sugar for the year is variously estimated at 80,000 to 85,000 short tons, 3 of the 8 refineries not furnishing statistics of their production. The crop of beets was large, and the yield of sugar ranged from 213 to 258 pounds to each ton of beets. The laboratory percentage of sugar in beets varied from 14.19 to 16.43 per cent., according to locality.

The best estimates on the production of honey place the year's crop at 3,750,000 pounds. This was below expectations, but the scarcity of spring rains in the blooming time throughout southern California caused the deficiency.

The wool-clip was about 18,000,000 pounds. This is a fair average for the past few years, and the prices generally realized by growers have been remunerative.

The rainfall at San Francisco in the season of 1901-'02 was 18.98 inches, a little less than in the preceding season. Northward it was greater, being 51.96 inches at Eureka, in Humboldt County; and southward there was a gradual decrease until at San Diego the total was only 6.16 inches.

Horticulture.—The yield of nearly all fruits was in excess of that of the preceding year, and generally the prices were more satisfactory to growers. Shipments by rail of deciduous fruits to the Eastern States aggregated 7,141 car-loads, of which 2,011 cars were pears, 1,777 peaches, 1,033 grapes, 1,478 plums and prunes, 222 apricots, 245 cherries, and the remainder miscellaneous. New York city took 1,475 car-loads, Chicago 1,301, Boston 745, Minneapolis 419, Philadelphia 295, and Pittsburg 278. These were the leading centers of distribution, although 10 other cities took over 100 car-loads each, and as many more over 50 car-loads each. The shipments of the year were the largest in the history of the business. The shipments of oranges and lemons for the citrus season, which begins Nov. 1, aggregated 19,180 car-loads of 350 boxes each. Of this total, 1,836 car-loads were lemons.

The prune-crop was a fair average, the estimated yield being 150,000,000 pounds. The export demand was steady, but prices were rather low until the end of December, when there was a sharp advance. A feature of the year's trade was heavy shipments to Europe.

Raisin-growers had a large yield and realized good prices. The crop was about 96,000,000 pounds, the largest for any one year since 1894.

The walnut-crop was larger than usual, and the quality was excellent, the total yield being 17,000,000 pounds. The crop of almonds was also large, the total being 5,600,000 pounds.

The viticultural interests had a very favorable season and the yield of wine, 40,000,000 gallons, was the largest for several years. Of this total, 26,000,000 gallons were dry wines and 14,000,000 gallons sweet wine. The wine-grape growers realized the highest prices paid in many years, in some sections as high as \$34 a ton being paid at the wineries for some fine varieties. In the season 350,000 tons of grapes were crushed for wine-making. The best trade estimates place the brandy production at 5,000,000 gallons.

The pack of canned fruits is slightly less than for the previous year, the total being 2,250,000 cases, each case containing 2 dozen 2½-pound cans.

Dairying.—This industry has made rapid improvement during the past few years, and while the annual output is still far short of the requirements, the production of the last year shows a large increase. The coast counties—Humboldt, Marin, Sonoma, and San Mateo—are still in the

lead as producers, but the greatest recent growth is now in Santa Clara, Fresno, Stanislaus, San Joaquin, Kings, Merced, and other of the interior counties. Santa Clara County leads in the production of cheese, the best in the State being produced in the southern part of the county. As in all other States, the business of butter-making is being transferred to creameries. In 1897 California produced 10,866,646 pounds of butter by creamery process and 13,280,549 by dairy methods. In 1902 21,593,021 pounds of creamery butter were produced, while the dairy-product was only 9,935,741 pounds. The dairy-product of the year 1902 was valued at \$18,323,556, classified as follows: Value of 31,528,762 pounds of butter, \$7,541,792; value of 6,503,441 pounds of cheese, \$702,371; value of 146,690 cases of condensed milk and cream, \$564,758; value of milk and cream consumed, \$6,236,555; value of calves from dairy cows, \$1,568,040; value of hogs produced on dairies and creameries, \$1,710,040. A dairy-school is connected with the State University at Berkeley, where instruction is given in modern and scientific methods.

Manufactures.—The natural resources of California are numerous and extensive, but the high cost of fuel has always been a barrier to the development of manufactures. The rapid increase in the production of crude oil and the installation of electric-power plants have so cheapened the generation of power that in the past two years the increased output of manufactured commodities has been enormous. Two years ago the annual output for the State was \$302,874,761, as shown by the census. Statistics based on advices from various parts of the State show that the production of 1902 was more than \$400,000,000, San Francisco's share being \$150,000,000. The output of Los Angeles is about \$30,000,000 a year; Oakland, \$11,000,000; San José, \$8,000,000; Sacramento, \$11,000,000; and Stockton, \$6,000,000. There are a dozen smaller cities which produce about \$1,000,000 worth of commodities each year. San Francisco's factories embrace almost every line of mechanical endeavor, and the bringing of electric power, generated by the rushing streams of the Sierra Nevada mountains, enabled more small factories to begin operations in 1902 than ever in the city's history.

Electric Power.—With the single exception of New York, where electric power generated at Niagara Falls is transmitted to many towns, no State in the Union possesses such extensive electric plants and transmission facilities as California. The principal electric-power plants now in operation in the State are the Bay Counties Power Company, which has absorbed several smaller plants in the north central counties, producing in the aggregate 30,000 horse-power; the Standard Electric, producing 13,333 horse-power; the San Joaquin Electric, producing 2,500 horse-power; the Truckee River Company, producing 2,800 horse-power; the Power Development Company, of Bakersfield, producing 2,500 horse-power; the Mount Whitney Company, producing 1,500 horse-power; and the Butte County Electric Company, producing 1,500 horse-power.

The long-distance record at present for any continuous length of time was made in September, 1902, when the Standard Company's lines from Oakland to Stockton, via Mission San José, were harnessed to the bay counties' lines, making thus a continuous line covering 225 miles. In October, 1902, San José and Redwood City were also connected, and the total distance was made 240 miles. This is the world's record for distance. Electrical engineers who have carefully investigated the wa-

tershed of the Sierra Nevada mountains estimate that on the western slope alone at least 1,000,000 horse-power is available within reach of San Francisco Bay, and this estimate is based on a transmission distance of only 200 miles.

Seven amendments to the Constitution of the State were adopted by vote, Nov. 4, 1902. These amendments, in brief, are described as follow:

1. To permit the Legislature to levy a special tax for the support of high schools and technical schools.

2. To permit the Legislature to divide the State into game districts and make different laws for each district.

3. To exempt from taxation all bonds issued by the State of California or by any city and county, municipality, school district, reclamation or irrigation district.

4. To permit cities to adopt their charters by a majority of the votes cast thereon at any election, to reduce the number of votes necessary to amend a charter from three-fifths of the electors to a majority voting thereon at any election, and to permit voters, by a petition of 15 per cent. of their number, to propose amendments to city charters.

5. Making eight hours a day's work on public work, whether done under public employment or by contract.

6. To permit the use of voting-machines in localities designated by the Legislature and the local authorities.

7. To permit the Legislature to appropriate money for the construction of State highways.

COLORADO, a Western State, admitted to the Union, Aug. 1, 1876; area, 103,969 square miles. The population was 194,327 in 1880; 412,198 in 1890; and 539,700 in 1900. Capital, Denver.

Government.—The following were the State officers in 1902: Governor, James B. Orman, Democrat; Lieutenant-Governor, David C. Coates, Populist; Secretary of State, David A. Mills, Populist; Treasurer, J. N. Chipley, Silver Republican; Auditor, Charles W. Crouter, Democrat; Adjutant-General, G. F. Gardner, Populist; Attorney-General, Charles C. Post, Democrat; Superintendent of Public Instruction, Helen L. Grenfell, Democrat; Chief Justice of the Supreme Court, John Campbell, Republican; Associate Justices, Robert W. Steele and William H. Gabbert; Clerk, H. G. Clark.

The State officers are elected in even-numbered years, the term beginning in January of odd-numbered years. The Legislature holds biennial sessions, beginning in January of odd-numbered years, limited to ninety days.

Agriculture.—Colorado is rapidly developing its agriculture and stock resources. The total value of farm property in 1900, as returned to the Census Bureau, was \$161,000,000. The value of farm machinery was \$4,746,765, and of live stock \$49,954,311. For the year 1899, the last of the decade, the value of the products from ranch and range was \$33,000,000, which exceeded the products of the year 1889 by \$20,000,000, and was a gain of 151.6 per cent. in ten years. The percentage of income upon investment in Colorado farms for 1899 was 16 per cent.

Beet-Sugar Industry.—In the great agricultural contest held in the West in 1901 Colorado led in the beet-sugar industry, winning the first prize in the contest against California and Utah. The results make an impressive showing of Colorado's capacity as a sugar State. No place in the world has produced so large a yield of rich beets to the acre as was raised in Colorado. The largest yield of beets reported was 78,624 pounds,

net weight; of dressed beets grown on one acre, by D. V. Burrell, of Rocky Ford, a little more than 39 tons. The next largest was 74,396 pounds, net weight; of dressed beets from one acre, raised by J. W. Bellew, also at Rocky Ford. This crop yielded nearly 5 tons of refined granulated sugar from one acre. Mr. Bellew received the grand prize of \$200 in gold. The difference between the results obtained by ordinary methods in Colorado and the prize-winning methods is shown by the following comparison:

RESULTS.	Ordinary methods.	Prize-winning methods.
Average (pounds) beets per acre.....	26,000	54,800
Average per cent. of sugar.....	15.0	16.6
Gross sugar (pounds) an acre.....	3,900	8,698
Refined granulated sugar, an acre.....	2,925	6,594
Average purity coefficient.....	81.0	81.7
Average receipts for crop.....	\$28.50	\$125.88
Average cost of production.....	42.50	44.00
Average profit per acre.....	16.00	80.78

The average yield of prize winners in California in 1901 in the contest was 21 tons of beets per acre, in Utah 20 tons, in Nebraska 13 tons. The average yield of sugar-beets for the United States is less than 10 tons per acre.

The State has 4 large factories, which paid more than \$1,250,000 to the beet-growers in 1901.

Government Land.—In July, 1902, the Department of the Interior decided to withdraw from settlement temporarily 432 square miles of Colorado land, pending the decision of the Government officials upon two matters. In Morgan County 44 miles were withdrawn, while a decision is reached about the establishing of a reservoir there; 388 miles of land in Larimer County are withdrawn, while the department considers whether or not to include it within the Medicine Bow forest reserve. It is not the intention of the Government to take this land out of the settlement lands permanently, but to prevent any entries being made upon it until all matters of this kind shall have been settled, thus avoiding confusion and disappointments.

Irrigation.—On March 1, 1902, the United States Senate passed a bill for the irrigation of public lands in Colorado and other Western States, setting aside special funds in the Treasury, derived from the sale of public lands in the States mentioned, to be used in the examination and survey for, and the construction and maintenance of, irrigation works.

In the year important work was done in Colorado in conjunction with the Agricultural College and the State engineer, in order to ascertain by measurements how much water is already used for irrigation in the State, and the value of crops on irrigated lands along the Arkansas river and on the western slope about Grand Junction.

Reservoir building is rivaling canal building in its expenditures and is a great improvement over the latter in the profits received from the investment. In the Poudre valley there are 27 of these reservoirs, and in the Big Thompson 34. In one of these valleys the reservoirs hold enough water to cover all the land irrigated to a depth of 4 inches; in the other to a depth of 6 inches, and furnish two-thirds of the water-supply for the last half of the year. The Windsor reservoir has a surface area of 700 acres and a capacity of 13,744 acre-feet. Its first cost was \$50,000, and it is now valued at \$300,000. The Tom Wood reservoir furnishes water for 600 acres. It cost originally \$2,000, and it now furnishes \$2,000 worth of water to irrigators each year. Lake

Loveland is the largest reservoir in these two valleys. It cost \$125,000. Its ownership is divided into 300 shares, which are now worth \$1,000 each, making the value of the reservoir more than twice its original cost. The largest reservoir in Colorado is at Twin Lakes, on the Arkansas. It has a surface area of 2,600 acres and a capacity of 89,066 acre-feet. The value of this reservoir to the farmers along the Arkansas river is greatly increased because this has proved one of the most favored regions for growing sugar-beets. Another important reservoir on the Arkansas river is the Koen, near Great Bend, Kan. When completed it will have an area of more than 60 square miles and will hold when full 496,875 acre-feet of water, enough to cover 250,000 acres to a depth of 2 feet.

The tenth National Irrigation Congress opened at Colorado Springs Oct. 6, 1902. The matter of a proposed merger of the National Irrigation Congress with the Transmississippi Congress came up early in the session, and it was decided to postpone the vote on the consolidation for one year. Chief-Hydrographer Newell, of the United States Geological Survey, and Elwood Mead, of the Department of Agriculture, addressed the convention. Mr. Newell in a short speech rehearsed the history of the irrigation law and told how the carrying out of its provisions was vested entirely in the hands of the Secretary of the Interior. He then narrated how the provisions could be carried out to the effect that at the beginning one or two extensive schemes of reservoirs and canals would be selected for immediate building. The selection of these would depend largely on how much of the entire cost the settlers under these improvements would be able in time to refund to the treasury.

The bulletin of the Census Bureau for 1902 says that in the last decade Colorado has advanced to the front rank of irrigated States, surpassing California in extent of land under irrigation, but remaining second in number of irrigators and value of irrigated crops. The total number of acres of irrigated crops in Colorado is 1,300,840, and there are 310,431 acres of irrigated pasture land. The present value of irrigated land in the State is estimated at \$28,568,552, an average of \$40.77 per acre.

Development of the Old Ute Reservation.

—The Gurley Investment Company, of Denver, has entered into arrangements with Eastern capitalists for the immediate completing of the large irrigation plant in the southern part of Montrose County, and the northern section of San Miguel County, embracing an area of 120,000 acres. The new project insures the building of 60 miles additional of a canal of large dimensions, with laterals and side ditches 75 miles in extent; the carrying up of the two great reservoir systems, partially completed, which, when finished, will impound more than 22,000,000,000 cubic feet of water; the bridging of the Naturita creek cañon, a fine water plant for domestic purposes; the erection of a beet-sugar factory of 700 tons daily capacity; a large canning factory and other industrial enterprises. The waters of the Seven Beavers will be conducted over the entire area, the present canal system will be greatly enlarged to carry several times its present capacity, and the general work of construction will be carried out on a large scale.

The La Sal Mining Company has shipped more than 3,500 tons of their higher grade silver and copper ores to the Boston and Colorado Reduction Works, the tonnage having netted more than \$250,000 above railroad and smelter charges. Im-

mense bodies of lower grade ores lie in great dumps from these mines, but the wagon transportation of 75 miles to the railroad, with a fixed tariff of \$18 a ton, keeps the owners from placing it in the market.

Coal.—In the year 1902 there was unusual activity in the investigation of Colorado coal-fields, in the known as well as the unknown sections, but more especially in the region soon to be opened in northwestern Colorado by the Denver and Salt Lake Railway, now in process of construction. Experts have made extended surveys in many directions, and have reported the existence of coal in great quantities.

In the federal report for 1900 Colorado is credited with an output of 5,244,364 tons of coal in that year, the average price per ton at the mine being stated at \$1.12, or a total of \$5,858,036 when ready for shipment. At the average selling price, \$4 a ton, the 1900 output would mean \$21,000,000.

According to the census returns for 1900, Colorado contains approximately 18,100 square miles of anthracite, bituminous, and lignite-bituminous coal. A conservative estimate places the workable area in Colorado at about 50 per cent. of the total area occupied by the coal-bearing formations; and the available coal, on the 50-per cent. basis, is estimated by the Government experts at 33,897,800,000 tons. The magnitude of these figures will be appreciated when it is recalled that the total area of Pennsylvania is 45,928 square miles, and that the coal area in that State does not exceed 12,774 square miles, while the coal area of all Great Britain is but 9,000 square miles.

New Industry.—A new packing plant was opened in Denver in the autumn of 1902, which is expected to make that city a distributing point for range cattle and a market for fat stock as well as for feeders. This plant will not only give employment to hundreds of men, but it is likely to stimulate the stock business of the whole State and to provide a convenient market for the stock-raisers of Colorado, Wyoming, Utah, and New Mexico, and all the territory of which Denver is the natural center. The new plant has a capacity of dressing 800 cattle, 1,000 sheep, and 1,000 hogs daily.

A new device for the branding of cattle has been invented by A. A. Phipps, of Denver, Col., and adopted at the Denver Union Stock-Yards. The new branding-iron is a self-heating arrangement. The handle is a hollow tube wherein gasoline is held. On the end of the tube is an air-pump to force the gasoline down and assist in generating a gas to heat the brand on the other end. This brand is made of copper, and is heated from the inside. Tests for speed as compared with the old way have been made, and have resulted in branding at the rate of more than 100 head an hour.

New Mint.—On May 21, 1902, a bill was passed in Congress appropriating \$200,000 to \$300,000 to erect a new mint building in Denver.

Home for Helpless Poor.—Winfield Scott Stratton, the millionaire mine-owner and builder, who died Sept. 14, 1902, at his home in Colorado Springs, left provision in his will for a free home, in some town in El Paso County, Colorado, to be built for the maintenance of worthy poor persons living in Colorado who are without means of support, and who are unable by reason of old age, extreme youth, sickness, or infirmity to earn a livelihood. The building is to be called the Myron Stratton Home, in memory of the father of the deceased millionaire.

Political.—At the State election in November the Republican candidates were elected as follows: Governor, Joseph H. Peabody; Lieutenant-Governor, W. A. Haggatt; Secretary of State, James Cowie; Treasurer, Whitney Newton; Auditor, John A. Holmberg; Adjutant-General, G. F. Gardner; Attorney-General, N. C. Miller; Superintendent of Education, Helen L. Grenfel. The vote on Governor was: Republican, 87,512; Democrat, 80,217. The vote for the other tickets was small.

CONNECTICUT, a New England State, one of the original thirteen, ratified the Constitution Jan. 8, 1788; area, 4,900 square miles. The population, according to each decennial census, was 237,946 in 1790; 251,002 in 1800; 261,942 in 1810; 275,148 in 1820; 297,675 in 1830; 308,978 in 1840; 370,792 in 1850; 460,147 in 1860; 537,454 in 1870; 622,700 in 1880; 746,258 in 1890; and 908,355 in 1900. Capital, Hartford.

Government.—The following were the State officers in 1902: Governor, George P. McLean; Lieutenant-Governor, Edwin O. Keeler; Secretary of State, Charles G. R. Vinal; Treasurer, Henry H. Gallup; Comptroller, Abiram Chamberlain; Attorney-General, Charles Phelps; Adjutant-General, George M. Cole; Insurance Commissioner, Edwin L. Scofield, resigned, and succeeded June 1 by Theron Upson; Railroad Commissioners, Washington F. Wilcox, William O. Seymour, O. R. Fyler; Auditors, W. A. Riley, J. P. Bree; Highway Commissioner, James H. McDonald; Labor Commissioner, Harry E. Back; Fish and Game Commissioners, G. T. Matthewson, E. H. Geer, R. G. Pike; Shell-Fish Commissioners, G. C. Waldo, Christian Schwarz, Seth Sanford; Tax Commissioner, Andrew F. Gates; Forester, Walter Mulford; Fire Marshal, John A. Rusling; Commissioner of the School Fund, Carnot O. Spencer; President of the Board of Charities, Henry H. Bridgman; Commissioners of Banking, C. H. Noble, G. F. Kendall; Commissioner of Building Associations, M. C. Webster; Dairy Commissioner, John B. Noble; Cattle Commissioner, Heman O. Averill; Entomologist, W. E. Britton; Factory Inspector, G. L. McLean; Board of Mediation and Arbitration, F. T. Ives, G. A. Parsons, G. L. Smith, all of whom resigned in October; Chief Justice of the Supreme Court of Errors, David Torrance; Associate Justices, Samuel O. Prentice, Frederic B. Hall, Simeon E. Baldwin, William Hamersley. The last two mentioned are Democrats, the other judges and the elected State officers are Republicans. Clerk of the Court, George A. Conant.

The term of the State officers is two years, except that of the Attorney-General, which is four years. Elections are held in November of the even-numbered years. The Legislature meets biennially in the following January; the session is not limited as to length.

Finances.—Following is the statement of the receipts and expenditures of the State treasury for the year ending Sept. 30, 1902: Military commutation tax, \$55,278.10; mutual fire-insurance companies, \$12,060.01; mutual life-insurance companies, \$310,402.98; railroads, steam, \$984,918.37; railroads, street, \$238,922.50; non-resident stock, \$141,131.35; savings-banks, \$445,721.77; miscellaneous receipts, \$49,338.37; interest of school-fund transferred, \$110,524.21; avails of courts and forfeited bonds, \$52,115.10; national aid to soldiers' homes, \$50,960.38; express companies, \$11,446.98; telegraph and telephone companies, \$19,676.45; insurance commissioner, \$108,666.16; sundry taxes and receipts, \$68,021.96; inheritance tax, \$335,734.96; investment tax (on notes, bonds, etc.), \$147,641.88; interest on deposits in banks, etc.,

\$31,611.70; total yearly receipts, \$3,275,112.23; total yearly expenditures, \$3,113,687.57; funded debt, less civil list funds in the treasury, \$1,091,402.10. The expenditures include \$468,000 paid for State bonds redeemed and canceled.

The grand list of the State for October, 1901, is given as \$649,571,791, a decrease of \$44,628,371 from the amount of the preceding year. This decrease, which is only apparent, is owing to a change in the law regarding the assessment of stock of banks, national banking associations, trusts, insurance, investment, and bridge companies.

The expenses of the Constitutional Convention were \$24,362.81.

Among other items in the general expense account are the following: Salaries and expenses in executive offices, \$39,314; judicial expenses, \$401,324.99; board of prisoners in county jails, \$100,977; State Capitol and grounds, \$64,407; common schools, \$483,623; State normal schools, \$57,864; State Prison, \$55,876; Connecticut School for Boys, \$61,123; Connecticut Industrial School for Girls, \$44,676; State paupers, \$8,388; humane institutions, \$469,490; sick and wounded soldiers, \$94,600; National Guard, \$148,884; Highway Commission, \$129,428; interest on State bonds, \$65,360; State bonds purchased, \$468,000.

Education.—The number of illiterates in the State, according to the census table of 1900, was 42,973.

The number enrolled in the public schools in 1901 was 155,228, an increase of 3,963. The average number of days the schools were in session was 189.01; the number of schools, 1,532; value of school property, \$10,837,695.27; average monthly wages of male teachers, \$88.68; of female, \$44.40. The total revenue for public schools was \$2,969,396.54. The attendance at the New Britain Normal School was 251; at Willimantic, 110.

At the 166 parochial and private schools 31,190 pupils were registered, of whom 3,368 were over sixteen years of age; the average attendance was 23,475, and the number of teachers 867.

The enrolment at Yale in 1902 was 2,725, not including the summer school of forestry or the enrolment in the regular teachers' courses.

Charities and Corrections.—The report of the State Board of Charities for the fiscal year 1902 has the following items: The institutions visited are 90 in number, and include the State Prison, 11 county jails, the reform and industrial schools, 14 institutions for the insane, including private sanitarium, schools for the feeble-minded, the deaf and the blind, 18 hospitals, the 8 county temporary homes for children, and 30 private homes and asylums for children and old people. Besides these there are reports and statistics of the care of the town poor in all the 168 towns in the State, of which 90 maintain almshouses.

The expense to the State for the maintenance and supervision of these institutions was \$660,073; in 1901 it was \$681,034.

The amount expended by the State for building operations was \$193,100, compared with \$142,000 in 1901.

The average number of inmates at the State Hospital for the Insane was 2,192. Twelve private sanatoria for mental and nervous diseases are visited by the board, and a diversity of conditions is found in their equipment and general management. The number of insane persons under restraint in the State is estimated at 3,000, being distributed as follows: State hospital, 2,200; Hartford Retreat, 160; private asylums, 290; in town almshouses, 350.

The School for Imbeciles, at Lakeville, is car-

ing for the largest number of inmates in its history.

At the Industrial School for the Blind increased activity in the working departments is reported, the number of blind residents being 30. The kindergarten for blind children gives evidence of comfort and good order.

The records of the county temporary homes for dependent and neglected children show 348 children committed to their care during the year. The number of children placed in family homes was 306, and the number remaining in the county homes on Sept. 30 was 742.

The report of the directors of the prison gives the average daily census of convicts as 500, against 490 for the year preceding. The mortality rate, 9.94 to the 1,000, was smaller than the ratio for the State at large, and the lowest for a long period.

The earnings from convict labor, surpassing those of any previous year, aggregated \$53,878. During the past eight years the revenues from this source have steadily expanded. Supplementary revenues of \$3,191 from other sources increased the total income of the prison to \$57,069, which was more than 75 per cent. of the total cost of maintenance.

Militia.—The strength of the National Guard is 2,961 officers and men. The net gain in the year is 16. In the past year 2 companies of coast artillery have been organized. The military enrolment of the State, January, 1902, showed 112,761 men enrolled, 108,784 liable to military duty in case of war, 28,662 exempt for legal causes, and 84,099 liable to pay a military commutation tax of \$2 each a year. The disbursements of the several military departments of the State were \$138,114.81.

Railroads.—The gross earnings of the steam railroads in the year ending June 30, 1902, were \$45,125,648.70, compared with \$41,761,906.26 for the previous year. The passenger revenue was \$18,275,183.82 and the freight revenue \$22,088,944.40, the balance being the revenue from other sources. The gross earnings per mile run were \$1.99. The operating expenses of the year were \$32,627,503.35, being an increase of \$3,234,327.70 over that of the previous year, almost equaling the increase in earnings. The operating expenses per mile run were \$1.44.

Of the 421 injuries to passengers, employees, trespassers, and others, 125 were fatal, only 1 to a passenger. The amount of taxes paid was \$2,480,526.12, which is \$15,104.77 in excess of the amount paid for the previous year. The amount of taxes paid to the State was \$984,918.37. The entire amount paid for taxes is about 5½ per cent. of the gross earnings. The length of main line and branches in Connecticut is 1,013.35 miles, the length of the second track 248.55 miles, and the length of the third and fourth tracks 84.88 miles. There are also 489.90 miles of sidings.

When the street-railway companies began to report to the commissioners, seven years ago, there were 317 miles of street tracks; there are now 517. The capital stock was then \$8,604,240, compared with \$23,571,248 now. The earnings were then \$2,232,051.37; they were this year \$3,937,771.46. The amount of taxes paid then was \$76,522.34; the amount paid now is \$244,768.88.

Banks.—The deposits in the 90 savings-banks Oct. 1, 1902, amounted to \$203,522,225.98, an increase in a year of \$10,273,316.75. The whole number of depositors is 444,407, an increase of 18,819. The average amount due each depositor is \$457.96, an increase of \$3.89 for each depositor. The total assets amount to \$214,892,897.49, a gain

over last year of \$10,466,052.81. The State banks had total assets of \$10,862,446.98. The liabilities were \$10,862,446.98, the principal items being: Capital stock, \$2,240,000; surplus, \$439,850; undivided profits, \$547,250.18; and deposits, \$7,484,578.72.

The trust companies had assets of \$15,160,824.10.

The number of State banks reporting was 8. The number of trust companies was 16.

Life-Insurance.—The premiums of all life companies doing business in the State increased from \$309,303,947 in 1900 to \$337,911,766 in 1901. The increase of the Connecticut companies was \$1,180,546; of others, \$18,908,211; of industrial companies, \$8,519,061. Payments for death claims and to endowment policy-holders increased \$14,024,471.

The total of the admitted assets of all companies showed a gain from \$1,701,204,685 to \$1,858,241,350, and the Connecticut companies alone showed an increase from \$164,021,504 to \$171,674,653.

The insurance increased, for the Connecticut companies, from 277,719 to 294,283 policies, and in amount from \$544,067,128 to \$574,590,791.

Highways.—About 133 miles of roadway were improved in one year under the old appropriation of 1899-1900, amounting, with the sums contributed by the towns, to \$466,000. Since 1895 about 500 miles have been improved, with the aid of the State.

Industries and Products.—Of the dairy interests of the State Commissioner Noble says: "We have 26,948 farms in this State, valued at \$97,425,069. The value of our farm-products in 1899 was \$28,276,948. Of this amount \$6,178,000 worth was fed to live stock on the farm. All farm property, including land, buildings, implements, and live stock, was valued, June 1, 1900, at \$113,305,580. The oleomargarine made in the State amounted in 1901 to 10,786,302 pounds.

The pole-rot in 1901 caused a loss to the tobacco farmers of the State estimated at about \$1,000,000. Experiments with the shade-grown Sumatra tobacco have been successful.

The Labor Commissioner's report gives the following items in regard to manufacturing interests in 1901: Eighty-seven concerns erected 92 additions and new factories. This stands in comparison with 245 manufacturing buildings and additions erected the twelve months previous by 173 parties. These expansions have occurred in 36 of the 168 towns, against 59 the year previous. From Jan. 1, 1901, to Oct. 30, 1901, 93 strikes and 3 lockouts were chronicled. Only one-third were failures. The totals show that 11,250 employees were involved in the strikes and that the resulting loss of time was 250,168 working days, which meant a loss of wages to the amount of \$375,252. In 684 establishments 104,256 persons employed received an average of \$441.53 each in earnings, while the daily earnings per person were \$1.50 a day.

The Putnam House.—A deed conveying the historic Putnam cottage to the Israel Putnam House Association was passed at Greenwich Nov. 25, the consideration being \$7,125. The association received a charter from the last Legislature for the purpose of taking possession of this property, which consists of a house and 1 acre at the top of Putnam's Hill on the Boston Post Road. The house will be used as a museum by the local chapter of the Daughters of the American Revolution.

Derby.—A memorial library given to the city by Col. and Mrs. H. H. Wood in memory of their son, Harcourt Wood, was dedicated Dec. 27.

Farmington.—At Farmington, Oct. 28, a building erected as a memorial to Miss Sarah Porter, of the Farmington School, was opened and presented with appropriate exercises.

Simsbury.—A chapel in memory of Adelbert S. Hay was given by his father and mother to the Westminster School at Simsbury and dedicated Nov. 1.

Kensington.—A free library presented to Kensington by Henry Peck, of Waterbury, was dedicated Nov. 5.

Hartford.—A new hospital for consumptives, built on the crest of Newington mountain, an auxiliary to the Hartford Hospital, was opened in May.

Waterbury.—This city was devastated by two fires in February, with the loss of about 100 business buildings, involving from \$4,000,000 to \$5,000,000.

New Milford.—A fire at New Milford, May 5, entailed a loss of \$500,000 to \$700,000.

Constitutional Convention.—This convention, called by a vote of 47,317 for to 26,745 against it, met in Hartford, Jan. 1, with 168 delegates, 1 from each town. It was in session more than four months, adjourning May 15. A special election, held June 16, to decide whether the Constitution framed by the convention should be accepted, resulted in its rejection. The vote was very light; while the vote for President in 1900, the largest ever cast in the State, aggregated 180,118, and the registered vote of the State was 207,762, only 31,374 voters expressed their will in regard to the proposed Constitution—10,250 for its adoption and 21,124 against.

The interest in the work of the convention centered on its action in the matter of representation. The existing Constitution was framed in 1818, and has been modified by 30 or more amendments, which, however, did not materially change the system of town representation. The act providing for the convention provided that delegates should be chosen on the basis of town representation instead of that of population, thus giving the small towns the same control that they have in the Legislature. No radical change in the principle of apportionment was therefore to be expected.

Political.—The Republican State Convention was held in Hartford, Sept. 17. Gov. McLean had declined to be a candidate for another term, and Abiram Chamberlain, the Comptroller, was nominated for Governor. The other nominations were: For Lieutenant-Governor, Henry Roberts; Secretary of State, Charles G. R. Vinal; Treasurer, Henry H. Gallup; Comptroller, William E. Seeley; Attorney-General, William A. King; Congressman at Large, George L. Lilley.

The resolutions approved the policy of the President and favored his renomination; opposed a general revision of the tariff; favored the reelection of Senator Platt; favored also measures in the interests of labor and supervision of trusts; thanked Gov. McLean for his able administration; and said further:

"We pledge the Republican party at the coming session of the General Assembly to a fair and equitable readjustment of the senatorial districts in accordance with the constitutional amendment passed by 2 Republican Legislatures and last year ratified by the people at the polls.

"We declare our faith in the historic town system of Connecticut, but, recognizing the natural desire of the populous towns for increased representation in the house, we believe that changes, which shall preserve the fundamental features of the present system and at the same time satisfy all reasonable demands, should be effected, and

that they can be accomplished by the regular process of constitutional amendment."

The Democrats met in convention in New Haven Sept. 25 and nominated the following: For Governor, Melbert B. Cary; Lieutenant-Governor, E. Kent Hubbard, Jr.; Secretary, Arthur B. Calkins; Treasurer, Philip Hugo; Comptroller, Edward G. Kilduff; Attorney-General, Noble E. Pierce; Representative at Large, Homer S. Cummings. The platform as reported was in part as follows:

"We have no sympathy with the Republican policy of fostering and protecting monopolies by legislation and at the expense of the people. We believe that the prices of beef, coal, and other necessities of life have been raised through illegal combinations and by means of special privileges conceded to monopoly by the party in power, and we therefore demand the immediate repeal of all tariffs on trust-produced articles so as to prevent monopoly under the plea of protection. We also demand the most stringent enforcement of all legislative laws against trusts and the passage of such new laws as are required to supplant and give potency to existing statutes. We demand publicity as to the affairs of corporations engaged in interstate commerce and the enactment of laws requiring all such corporations, before doing business outside of the State of their origin, to show that they have no water in their stock and that they are not designed to monopolize any branch of business or the production of any articles of merchandise."

Reciprocity with Cuba was favored and an immediate reduction of the tariff on Cuban imports urged. Other planks protested against the granting of ship subsidies, favored the election of United States Senators by popular vote and demanded legislation to prevent "government by injunction."

The State Prohibition Convention opened Sept. 9 in New Britain. Nominations were made as follows: For Governor, Robert N. Stanley; Lieutenant-Governor, Myrton T. Smith; Secretary, Leon M. Barnes; Treasurer, Oliver G. Beard; Attorney-General, John J. Copp; Comptroller, William Ingalls; Congressman at Large, Frederick G. Platt.

By the result of the election the Republicans were continued in control of the State government.

The summary of the vote for Governor was: Chamberlain, Republican, 85,338; Cary, Democrat, 69,330; Stanley, Prohibition, 1,436; Wheeler, Socialist, 2,804; Oatley, Social Labor, 777.

The Socialist vote was considerably larger than in former elections.

On joint ballot the Republicans will have 205 in the Legislature and the Democrats 74.

Waterways.—Congress at the last session appropriated the following sums for improving the waters of the State: New London harbor, \$25,000; New Haven harbor breakwater, \$44,000; Milford harbor, \$15,000; certain harbors between the Housatonic and the New York line, \$44,000; Branford harbor, \$5,000; Pawcatuck river, \$9,000; Thames river, \$15,000; Housatonic river, \$10,000; Connecticut river, below Hartford, \$30,000.

DELAWARE, a Middle Atlantic State, one of the original thirteen, ratified the Constitution Dec. 7, 1787; area, 2,120 square miles. The population, according to each decennial census, was 50,096 in 1790; 64,273 in 1800; 72,674 in 1810; 72,749 in 1820; 76,748 in 1830; 78,085 in 1840; 91,532 in 1850; 112,216 in 1860; 125,015 in 1870; 146,608 in 1880; 168,493 in 1890; and 184,735 in 1900. Capital, Dover.

Government.—The following were the State officers in 1902: Governor, John Hunn; Lieuten-

ant-Governor, Philip L. Cannon; Secretary of State, Caleb R. Layton; Treasurer, Martin B. Burris; Auditor, Purnal B. Norman; Attorney-General, Herbert H. Ward; Insurance Commissioner, George W. Marshall; Adjutant-General, I. P. Wickersham; Chemist, T. R. Wolf; President Board of Pilot Commissioners, Alfred D. Poole—all Republicans; Chancellor, John R. Nicholson, Democrat; Chief Justice, Charles B. Lore, Democrat; Associate Justices, Ignatius C. Grubb and William H. Boyce, Democrats, and W. C. Spruance and James Pennewill, Republicans; Clerk, William Virdin, Democrat.

The term of the State officers is four years. They are elected at the time of the presidential elections. The Legislature meets biennially in January of the odd-numbered years; the session is limited to sixty days.

Finances.—The Auditor's estimates of receipts and expenditures in 1901 were respectively \$482,558 and \$341,005. The assets of the State were given as \$1,118,509, and the liabilities as \$769,750.

Education.—By the census of 1900 it is shown that there are 17,531 illiterates in the State. The percentage of persons from ten to fourteen years of age able to read and write was 95.49 in 1900; it was 90.96 in 1890.

The State College, at Newark, which had 114 students in May, graduated a class of 15 in June. As a result of the suspension of 6 students in May for participation in hazing a freshman, about 100 students went out on strike.

The average monthly salaries paid to teachers in 1900 were, for men \$36.60, and for women \$34.08.

Waterways.—The following sums were appropriated by Congress for improvements to the waters of the State: For Delaware river—New Jersey, Pennsylvania, and Delaware—\$600,000; for Appoquinimink, Murderkill, and Mispillion rivers, \$15,000; for Smyrna river, \$15,000; for Wilmington harbor, \$50,000, not more than \$25,000 to be used until arrangements have been made to dispose of the sewage of the city so as to prevent the filling of the channel.

Products and Industries.—Statistics of manufactures of all kinds were given in the Annual Cyclopædia for 1901. Others for special branches of manufacture have been published since. The capital invested in cotton manufactures, exclusive of cotton small wares, in 1901 was \$484,858; the number of looms was 738; the value of products, \$372,089.

Delaware ranked ninth in the list of leather-producing States in 1890, and sixth in 1900. Delaware has 5 establishments for the making of butter and cheese, with a capital of \$19,085 in 1890, and 22 (21 creameries and 1 cheese factory), with a capital of \$85,155, in 1900. The value of the products was \$124,780 in 1890 and \$252,890 in 1900.

The statistics of the ship-building industries are: Establishments, 11 in 1890 and a similar number in 1900; capital, \$1,745,213 in 1890 and \$2,226,811 in 1900; salaried officials, clerks, etc., 43 in 1890 and 97 in 1900; salaries of officials, clerks, etc., \$98,174 in 1890 and \$124,010 in 1900; average number of wage-earners, 1,759 in 1890 and 2,031 in 1900; wages, \$800,977 in 1890 and \$992,449 in 1900; miscellaneous expenses, \$69,819 in 1890 and \$122,267 in 1900; cost of materials used, \$836,979 in 1890 and \$1,594,918 in 1900; value of products, including repairing, \$2,044,313 in 1890 and \$3,004,366 in 1900.

Delaware has 2 iron and steel ship-building establishments. In 1900 they built 13 iron and steel vessels, valued at \$1,908,399.

Following are the figures on the manufacture of flour: Establishments, 56, with a capital of \$1,127,592, in 1890, and 83, with a capital of \$1,017,508, in 1900.

The value of the products was \$1,675,040 in 1890 and \$1,165,800 in 1900.

The reports of the shipments of fruit over the railroads in the summer of 1902 showed estimates of 2,351,460 baskets of peaches and 362,345 baskets of pears.

Political.—The factional contest in the Republican party in the State continued through the year, notwithstanding attempts that were made to bring about a compromise. The regular Republicans proposed to the Union Republicans, the supporters of J. E. Addicks, that each faction should submit to the other the names of 10 men, any one of whom they would be willing to support, the other faction to make their choice, and thus secure 2 Republican Senators. The regulars submitted a list of 10 men of Kent and Sussex Counties, agreeing to support any one of them who should be the choice of the Union Republicans, provided the latter would submit a similar list of men of New Castle County, and agree to support that one of them who should be preferred by the regulars. This proposition was rejected by the Union Republican State Committee, which suggested a caucus of the Republican members of the General Assembly, to be participated in by members of both factions and the selection by each of a candidate of its choice, to be voted for by all the members in open session. It was desired to have a special session of the Legislature called. This proposal was rejected. The one faction was determined on "Addicks or nobody," the other on "nobody rather than Addicks." They held separate State conventions, each naming a candidate for member of Congress, but uniting on the candidates for Treasurer and Auditor, thus causing the election of the Democratic candidate for Congress. William M. Byrne, District Attorney for the State, resigned that office to become the candidate of the Union Republicans for Congress, and after his defeat he was reappointed to the federal office by the President.

The Regular Republican Convention met in Dover, Aug. 19, and selected the following ticket: For Representative in Congress, Dr. L. Heisler Ball; Treasurer, Martin B. Burris; Auditor, Purnal B. Norman. The greater part of the platform was in approval of the national policy of the party. On State affairs the following declarations were made: "We demand State legislation looking to a complete and comprehensive system of auditing the accounts of all State, county, and hundred officials, to the wise and systematic improvement of the public highways under county road engineers, and to identical methods of conducting elections in all the counties."

"We favor a free and untrammelled ballot, and we pledge ourselves to the repeal of the clause of the State Constitution requiring the payment by the voter of any money as a qualification for exercising the right of an elector."

"We favor legislation providing salaries for all State officers. We also favor better facilities and higher efficiency in our schools, and we desire that colored children should enjoy greater educational opportunities."

The ticket of the Union Republicans, whose convention was held in Dover, Sept. 2, was: For Representative in Congress, William Michael Byrne; Treasurer, Martin B. Burris; Auditor, Purnal B. Norman. On State affairs the platform expressed satisfaction with the present ad-

ministration; demanded legislation for good roads, and for protection of workmen operating complicated machinery; declared in favor of permanent registry of voters, and salaries for county officials; and said further: "That the interstate commerce law ought to be rigidly and impartially enforced, so that shippers of goods over a shorter haul should not be discriminated against in favor of a shipper of goods over a longer haul. We demand that the anthracite coal-mines of the country, which are at present closed, shall be opened and operated and coal supplied to the people at a fair and reasonable price therefor, and we believe that the owners of said mines, having devoted them to a public use, have granted to the public an interest in such use, and must, to the extent of the use, submit to be controlled by the public for the common good; that this public interest in said mines demands that they be immediately opened and operated; and that this interest is one that should be protected and conserved by the courts of the country."

The Democratic Convention, which was held in Dover, Sept. 17, nominated the following ticket: For Representative in Congress, Henry A. Houston; Treasurer, Joseph H. Hossinger; Auditor, J. Thomas Lowe. An unsuccessful effort was made to include in the resolutions one reaffirming the principles of the Kansas City platform. Following is a part of those adopted:

"We favor the earliest possible completion of the inland waterway, liberality to our schools, the creation of good roads, the encouragement of competing lines of transportation by legislation favorable to electric railways and steamer lines, and believing the time has come when the condition of our State treasury under the operation of laws enacted by Democrats while in control of our Legislature warrants it, we favor abolishing all State taxes on merchants, manufacturers, and similar licenses."

"We favor a permanent system of registration and abolishing the registration fee of \$1 as a prerequisite to voting."

The Prohibitionists, in convention in May, named George W. Todd for Representative in Congress, John H. H. Kelly for Treasurer, and H. B. Hitch for Auditor.

The Republican candidates for Treasurer and Auditor were elected. The vote for Treasurer was 20,705 for Burris to 16,652 for Hossinger. The Democratic candidate, Houston, was elected to Congress by 16,396 against 8,028 for Ball, Regular Republican, and 12,998 for Byrne, Union Republican. The Prohibition candidate had 569 votes, and the Social-Labor 216.

The Legislature will have 30 Republicans on joint ballot to 21 Democrats.

FLORIDA, a Southern State, admitted to the Union, March 3, 1845; area, 58,680 square miles. The population, according to each decennial census since admission, was 87,445 in 1850; 140,424 in 1860; 187,748 in 1870; 269,493 in 1880; 391,422 in 1890; and 528,542 in 1900. Capital, Tallahassee.

Government.—The following were the State officers during the year: Governor, William S. Jennings; Secretary of State, H. Clay Crawford; Treasurer, James B. Whitfield; Comptroller Alonzo C. Croom; Attorney-General, William B. Lamar; Superintendent of Public Instruction, William N. Sheats; Adjutant-General, J. Clifford R. Foster; Commissioner of Agriculture, Benjamin E. McLin; State Chemist, R. E. Rose; State Auditor, W. V. Knott; Railroad Commissioners, H. E. Day (resigned; R. Hudson Burr appointed), J. L. Morgan, J. M. Bryan; State Health Officer, Dr. Joseph Y. Porter; Board of Health, E. M. Hen-

dry, Horace E. Simpson, M. D., N. B. Broward; Chief Justice of the Supreme Court, R. F. Taylor; Associate Justices, Milton H. Mabry (succeeded by W. A. Hocker), Francis B. Carter; Supreme Court Commission, W. A. Hocker, J. G. Glen, E. C. Maxwell. The Supreme Court Commission was abolished in November by law, and three additional justices of the Supreme Court appointed, as follow: Evelyn C. Maxwell, Thomas M. Shackelford, Robert S. Cockerell. Supervisor of Convicts and Convict Camps, Robert F. Rogers.

The term of the State officers is four years. They are elected in November of the years of the presidential elections. The Legislature meets biennially on the first Tuesday after the first Monday of April of the odd-numbered years. The session is limited to sixty days.

Valuations.—The assessed valuation on property of all kinds for 1901 was \$97,551,192.17, an increase of \$864,238 over the assessed valuation for 1900. The following data are given by the Comptroller in his last report: Number of acres, 25,567,728; number under cultivation or improved, 1,117,697; valuation of improvements (exclusive of town or city lots), \$36,400,470; valuation of town and city lots with improvements thereon, \$23,660,288; aggregate value of real estate, \$60,060,758. Number of horses, asses, and mules, 57,174; number of cattle, 493,941; number of sheep and goats, 114,343; number of swine and dogs, 212,571. Full cash value of all animals, \$5,239,958; value of personal property other than animals, \$12,604,864. Aggregate value of real estate, \$60,060,758; aggregate value of personal property, \$17,844,822; aggregate value of railroads and rolling-stock, \$19,383,481.77; aggregate value of telegraph-lines, \$262,130.40. Taxes for State purposes, \$487,808.96; taxes for county purposes, \$1,265,879.66; school subdistrict taxes, \$70,744.16. State license tax (not included in State tax), \$201,043.77.

Banks.—On Jan. 1, 1902, 25 incorporated banks were doing business under the laws of Florida. At the close of business on December 31, 1901, their assets amounted to \$6,149,852.82, an increase over the assets of Jan. 1, 1901, reported as \$4,773,016.11, of \$1,376,836.75. Five of the State banks are savings-banks or have savings departments. On Jan. 1, 1902, these reported assets of \$2,632,928.31. The following figures indicate the condition of the banks of the State on Jan. 1, 1902: The resources were: Loans and discounts, \$3,590,298.93; overdrafts, \$93,014.51; stocks, securities, judgments, etc., \$382,116.80; due from private banks, \$4,527.44; due from incorporated banks, \$1,069,093.90; banking-house furniture, \$173,780.18; other real estate and mortgages, \$195,949.20; checks and other cash items, \$84,236.56; cash in bank, \$556,835.34; total, \$6,149,852.86. Liabilities: Capital stock paid in, \$832,200; surplus, \$194,095.11; undivided profits, \$143,350.59; dividends unpaid, \$815; individual deposits, \$4,492,741.28; demand certificates of deposit, \$38,091.75; notes and bills rediscounted and other liabilities, \$197,198.44; time certificates of deposit, \$197,724.40; certified checks, \$13,559.20; cashier's checks outstanding, \$2,055.29; due to incorporated banks, State or national, \$38,021.80; total, \$6,149,852.86.

Insurance.—The last statement of the Treasurer gives the number of insurance companies authorized to do business in Florida as 80. Of these 50 were fire-insurance companies, 12 life-insurance companies, and 18 miscellaneous (accident, marine, surety, boiler, plate-glass, etc.). The aggregate losses of the fire-insurance companies in 1901 were \$3,990,080.45, and the receipts for the same

period \$939,080.77, a loss for the year of \$3,050,999.68. Twelve life-insurance companies report losses in 1901 as \$385,383.66; receipts as \$1,040,363.48, a profit for the year of \$654,979.82. Eighteen miscellaneous companies report losses of \$37,948.47, receipts as \$78,138.80, a profit of \$40,190.33. The heavy loss of the fire-insurance companies was owing to the great conflagration at Jacksonville, May 3, 1901, when a large part of the city was destroyed, causing a total loss of from \$12,000,000 to \$15,000,000.

Railroads and Telegraphs.—The last report of the Florida Railroad Commission gives the following figures: Railroad mileage for the year ending Feb. 28, 1902, 3,466.45 miles, divided as follows: Main track, 2,774.35 miles; branches and spurs, 403.19 miles; yard tracks and sidings, 288.91 miles. The valuation of railroad property assessed for taxation was \$18,925,178.16; capital stock and bonds of roads, \$70,330,201.05. Gross earnings for the year ending June 30, 1901, \$9,179,133.85; operating expenses, \$6,915,296.32; income from operation, \$2,263,837.53. Gross earnings for the year ending June 30, 1902 (with the exception of 4 smaller roads that have not reported) are \$10,079,802.23; operating expenses, \$7,481,648.24; net earnings, \$2,598,153.99.

The assessed valuation for the telegraph-lines of the State was \$261,134.20; length of telegraph-lines assessed, 1,566.32 miles, ranging from 3 to 55 wires to each pole.

Education.—The report of the Superintendent of Public Instruction for the school year ending in 1902 gives the following data: Total enrollment of students, 112,384; number of white students, 69,541; negroes, 42,843; white males, 35,374; white females, 34,167; negro males, 20,000; negro females, 22,843; average daily attendance during the year of both races was 76,104; of whites, 46,284; of negroes, 29,881. The average number of days of schooling was: Both races, 49; whites, 55; negroes, 41. The number of teachers employed was 2,799, divided as follows: Whites, 2,129, of whom 623 were men and 1,506 women; negroes, 670, of whom 276 were men and 394 women. The highest monthly salary paid to white men was \$150, to white women \$90; to negro men \$100, and to negro women \$50. The average salary was \$35.57; to white men \$44.49, to white women \$35.44; to negro men \$29.89, to negro women \$28.78. The amount paid to all teachers was \$569,733.33. The value of all property used for school purposes was \$1,066,904; value of buildings owned by county boards, \$646,482; value of grounds owned by county boards, \$783,861.

The Florida School for the Deaf and Blind had enrolled for the school year ending June 30, 1902: Whites, 47; negroes, 26. White deaf boys, 15; white deaf girls, 22; total, 37. White blind boys, 6; white blind girls, 4; total, 10. Negro deaf boys, 13; negro deaf girls, 7; total, 20; negro blind boys, 4; negro blind girls, 2; total, 6.

The Legislature appropriated \$12,000 for its support during the year ending June 30, 1902. Additional appropriations of \$4,700 were made for building and other expenses. The expenditures for the year were \$15,493; the balance in the treasury, June 30, 1902, was \$1,700.

Corporations.—In the first six months of 1902 54 corporations were chartered by the State of Florida. The capital stock represented by these companies aggregates \$4,734,000.

Manufactures.—The United States Government statistics give the following figures: Value of manufactured products in 1890, \$18,222,890; in 1900, \$36,810,243. Number employed in man-

ufacturing in 1890, 13,199; in 1900, 34,230. Wages paid in manufacturing enterprises in 1890, \$5,918,614; in 1900, \$10,683,038. Value of farm-products in 1890, \$12,086,330; in 1900, \$18,309,104.

Phosphate.—According to statistics furnished by the United States Geographical Survey, Florida, since 1894, has been the chief State in the production of phosphate rock. In 1888 the number of tons mined was 2,813; in 1894 it was 589,174; in 1901 it was 751,996.

Claims and Appropriations.—Two events of importance to Florida were the passage by Congress of the Florida Indian War claim against the United States Government, which the Florida delegation to Congress had for forty-four years vainly tried to collect; and the appropriation of nearly \$3,000,000 by Congress for Florida rivers and harbors. The Indian War claim amounted to more than \$1,000,000. The improvements in the principal ports of the State insured by the appropriation made by Congress will greatly increase their commercial importance.

Political.—On July 15, 1902, Florida held its first primary election for the nomination of candidates to be voted for at the regular election in November. A second primary was held on Aug. 12 to determine the nomination where no one candidate received a majority vote. Candidates for the United States Senate, 2 Railroad Commissioners, Supreme Court Justice, State Comptroller, for the First and Second Congressional Districts, for the new Third Congressional District, Secretary of State, candidates to represent all of the counties in the State in the lower house in the Legislature of 1903, and to represent half of the counties in the Senate, as well as a large number of county officials, were voted for by the Democratic party. No negro and no white man other than a Democrat was allowed by law to take part in this Democratic primary election. The entire State ticket nominated by the primary was of course Democratic. All the candidates nominated by the primary were elected in November. One Republican member of the lower house was elected. The Republicans did not nominate any State ticket.

Two constitutional amendments were voted for in November: one providing for three additional Supreme Court justices, and one providing for an additional judicial circuit. Both amendments were carried.

Penitentiary.—On Jan. 1, 1902, Florida had 921 convicts in its care. In 1902 449 were received and 38, who had escaped, were recaptured. In the year 226 convicts were discharged on expiration of their sentences, 40 were pardoned, 78 escaped, 6 were committed to the insane asylum, and 2 were released by order of court. On Dec. 31, 1902, the convicts numbered 1,033. Of the convicts received in 1902, 12 were of foreign birth, and 437 were native-born. Their ages varied from eleven years to sixty years, the largest number being committed between the ages of nineteen and thirty-one. Of these convicts, 36 were white, 35 being males and 1 female; 413 were negroes, 399 being males and 14 females. Forty-nine were committed for murder, 55 for attempt at murder, 65 for grand larceny, and 55 for entering with intent to commit misdemeanor.

Finances.—The Treasurer's report of the general revenue fund for 1902 shows a balance in the treasury on Jan. 1, 1903, of \$228,074.19. The receipts in 1902 amounted to \$809,074.19, the principal sources of revenue being as follow: General license tax, \$202,742.24; insurance-company tax, \$57,546.11; State taxes, \$232,594.52. The debt of the State on Jan. 1, 1903, was \$1,032,500, divided as follows: Bonds in State school fund,

\$650,100; bonds in Agricultural College funds, \$135,800; bonds in seminary funds, \$98,600; bonds in the hands of outsiders, \$148,000. Total funds on hand Dec. 31, 1902, amounted to \$1,092,458.26. Of this \$692,946 was the Indian War claim fund, appropriated and paid by the Congress of the United States in 1902 after pending nearly fifty years. The bonded debt of the State consists of \$764,800 of 6-per-cent. bonds, and \$267,700 of 3-per-cent. manuscript bonds issued to the 3 educational funds of the State. In 1873 \$925,000 of 6-per-cent. State bonds were issued, to mature Jan. 1, 1903. The sinking-fund has taken up \$160,200 of these bonds. This leaves \$764,800 of them outstanding, and of these \$616,800 are held by the 3 educational funds of the State as investments, and \$148,000 are held by individuals and will be paid on presentation. The \$267,000 of 3-per-cent. manuscript bonds held by the educational funds of the State were issued in place of a like amount of 7-per-cent. bonds, which were held by these funds and which matured Jan. 1, 1901.

Charities.—The State Hospital for the Insane reports that in 1902 286 new patients were admitted, the whole number treated in the year being 926. In that year 108 were discharged as cured, 13 as improved, 4 as unimproved, 1 as not insane. One hundred and two died in the year.

GEORGIA, a Southern State, one of the original thirteen, ratified the Constitution Jan. 2, 1788; area, 59,475 square miles. The population, according to each decennial census, was 82,548 in 1790; 162,868 in 1800; 252,433 in 1810; 340,985 in 1820; 516,823 in 1830; 691,392 in 1840; 906,185 in 1850; 1,057,286 in 1860; 1,184,109 in 1870; 1,542,180 in 1880; 1,837,353 in 1890; and 2,216,331 in 1900. Capital, Atlanta.

Government.—The following were the State officers in 1902: Governor, Allen D. Candler; Secretary of State, Philip Cook; Treasurer, Robert E. Park; Comptroller-General, William A. Wright;

Attorney-General, Boykin Wright; Adjutant-General, J. W. Robertson; Commissioner of Education, G. R. Glenn; Commissioner of Agriculture, O. B. Stevens; Geologist, W. S. Yeates; Chemist, J. M. McCandless; Pension Commissioner, John W. Lindsey; Entomologist, W. M. Scott; Librarian, Carlton J. Wellborn; Railroad Commissioners, Spencer R. Atkinson, J. Pope Brown, and G.

Gunby Jordan; Prison Commissioners, J. S. Turner, C. A. Evans, and Thomas Eason; Chief Justice Supreme Court, Thomas J. Simmons; Associate Justices, Samuel Lumpkin, Hal Lewis, Andrew J. Cobb, William A. Little, and William H. Fish; Clerk, Z. D. Harrison; Court Reporters, George W. Stevens and John M. Graham—all of whom are Democrats.

Early in 1902 Joseph M. Terrell resigned as Attorney-General to enter the gubernatorial race. He was elected. Boykin Wright was appointed by Gov. Candler to fill the unexpired term of Attorney-General Terrell, and, at the autumn elec-



JOSEPH M. TERRELL,
GOVERNOR OF GEORGIA.

tion, John C. Hart was elected Attorney-General for the full term of two years. The Legislature in the autumn of 1902 abolished the office of Special Attorney for the Western and Atlantic Railway, which, up to that time, had been held by Edward T. Brown. Mr. Justice Henry T. Lewis resigned from the Supreme Court bench in 1902, and Judge John S. Candler, who was presiding officer of the Stone Mountain Judicial Circuit, was elected to succeed him. Prof. Merritt was elected to succeed W. R. Glenn as State School Commissioner.

The term of the State officers elected by the people is two years. They are elected the first Monday in October of even-numbered years. The Legislature is elected for two years, and, until 1903, met annually on the fourth Wednesday in October for a session of fifty days. In the autumn of 1902 a law was passed changing the time of sessions to the fourth Wednesday in June, and the new Legislature will have 3 sessions, the last 2 occurring in June, 1903, and in June, 1904.

Finances.—The balance in the treasury Oct. 1, 1901, was \$730,722.10, while the receipts for the fiscal year from Oct. 1, 1901, to Sept. 30, 1902, were \$3,886,163.21. The disbursements for the year amounted to \$4,105,705.10, leaving a balance in the treasury Oct. 1, 1902, of \$511,180.21. The Governor was authorized to borrow \$200,000 during the year to cover casual deficiencies, but it was only necessary to secure \$150,000. The money was borrowed in New York at 3 per cent.

The bonded debt of the State on Jan. 1, 1903, amounted to \$7,631,500. On that date \$100,000 of bonds was retired. The law requires that this amount of bonds shall be retired the first of every year, and \$100,000 is raised by special tax levy for this specific purpose. The yearly interest charge against the State is \$325,800. For years there has been in the treasury an amount, which, on Jan. 1, 1903, was \$122,073.65, arising from the sale of public property, which, according to a decision of the Supreme Court of the State, may now be used to pay interest on the bonded debt. The Legislature in December, 1902, took the necessary steps authorizing the Treasurer to use this fund in the manner named.

The State owns the Western and Atlantic Railroad, which runs from Atlanta to Chattanooga, Tenn., 137 miles, and is estimated to be worth about \$12,000,000. This property was leased for twenty-five years by the Nashville, Chattanooga and St. Louis Railroad. As rental for the road the State receives yearly \$420,012. The State also owns 186 shares of stock of the Georgia Railway and Banking Company, valued at \$20,700, and 440 shares of stock of the Southern and Atlantic Telegraph Company, indorsed by the Western Union Telegraph Company, valued at \$10,000.

Valuations.—The value of all the taxable property in Georgia for 1902 was \$467,310,646, which was an increase over 1901 of \$10,755,749. The increase in railroad property amounted to \$3,657,676. To the assessed value of corporate property returned to the Comptroller-General for taxes (\$56,893,466) should be added the estimated value of that portion of this class of property which by law is exempt from an ad valorem tax, which, at a conservative estimate of the Comptroller-General, is worth about \$22,000,000. The increase in assessments for 1902 was not as large as in the previous year.

In 1902 the negroes of Georgia returned \$15,188,069 of property for taxation. This was a decrease of \$441,742 compared with the same returns for the previous year. In 1901, however, there was a large increase in tax returns on property owned

by negroes in the State. In 1902 the value of manufactures amounted to \$23,494,371, which was an increase over 1901 of \$4,499,407. The value of merchandise was \$24,104,341, an increase of \$224,487 over 1901. There was also an increase of \$477,045 in iron works, while the increase in shipping and tonnage was \$203,909.

In the autumn of 1902 the Legislature passed a law making the franchises of all public utility corporations subject to taxation at the same rate as other property owned by those concerns.

Railroads.—In 1902 there were 6,035.32 miles of railroad in Georgia, against 5,816.80 miles in 1901. The gross earnings of the roads for the year ending June 30, 1902, were \$24,952,768.87, an increase of \$1,706,543.35 over 1901. The operating expenses for the same period were \$17,638,014.23, and the net earnings were \$7,314,754.64. In 1901 the net earnings of Georgia railroads were \$6,862,573.19.

Insurance.—From the reports of the insurance companies licensed to do business in Georgia, it appears that the fire companies received in premiums in 1902 \$3,002,651.29, and paid losses amounting to \$1,379,395.60; life companies received \$4,251,762.08, and paid losses amounting to \$1,639,984.28; assessment life companies received in premiums or assessments \$275,370.23, and paid on losses \$54,275.95; and miscellaneous companies received in premiums \$355,940.37, and paid losses amounting to \$183,792.66. These receipts represent gross premiums. The business, as a whole, showed an increase over the business of 1901 of about 12 per cent. The State's revenue from the business done in 1902 amounts to \$107,954.76, against \$95,648 in 1901.

Appropriations.—For 1902 the appropriations were as follow: Academy for the Blind, \$20,000; College for Negro Youth, at Savannah, \$8,000; contingent fund, \$10,075.36; contingent fund for Supreme Court, \$1,280.55; State Insane Asylum, \$290,000; expense fund for trustees of the asylum, \$2,152.73; geological fund, \$7,300; printing fund for Geological Department, \$982.59; Georgia Normal and Industrial School, \$22,900; horticultural fund, \$4,927; insurance on public buildings, \$25,903.91; North Georgia Agricultural and Mechanical College, \$10,009.75; prison fund, \$120,081.60; public printing fund, \$26,551.46; public building fund, \$17,847.80; publishing Supreme Court reports, \$5,475.32; reprinting Supreme Court reports, \$9,954.15; School for the Deaf, \$25,000; public school fund, \$1,574,172.02; Georgia School of Technology, \$40,000; Soldiers' Home fund, \$15,000; for new building for the home, \$19,500; special incidental appropriations, \$1,410.87; State Normal School, \$21,300; State University, \$8,000; expense fund for trustees of the university, \$478.64; disabled soldiers' pensions, \$189,035; indigent soldiers' pensions, \$362,340; indigent widows' pensions, \$78,180; widows' pensions, \$193,260. In addition to the regular appropriations, \$84,952.81 was expended on new buildings for the State Insane Asylum at Milledgeville; \$26,000 was set aside for buildings for the State University at Athens; the civil government cost \$129,898.61; \$500 was spent on an exhibit of Georgia minerals for the Charleston Exposition, and the legislative pay-rolls amounted to \$70,626.

Banks.—The year 1902 was prosperous with the banks in Georgia. In the twelve months 23 new State banks were chartered. The aggregate paid-in capital of State banks for the year was \$9,712,787. In the past few years many small banking concerns have been established in the more prosperous agricultural districts, and all are reported as in excellent condition. Data prepared and on

file in the Treasurer's office shows that the farmers are the heaviest class of depositors. The following is an itemized statement of the condition of the banking institutions of the State in 1902: The resources were: Loans, \$36,687,500.63; overdrafts, \$217,176.01; bonds and stocks, \$2,377,381; real estate, furniture, and fixtures, \$1,857,341.30; due from banks and bankers, \$4,945,350.71; cash on hand, \$2,823,757.86; other items, \$82,569.13; total, \$48,991,076.64. The liabilities were: Capital paid in, \$9,712,787; surplus and net profits, \$4,289,094.49; due banks and bankers, \$2,086,864.27; due unpaid dividends, \$14,991; due depositors, \$27,767,347.52; rediscounts, \$1,336,958; bills payable, \$3,726,402; other items, \$56,632.36; total, \$48,991,076.64.

Education.—The State School Commissioner in his annual report issued in September, 1902, gives the total enrolment in the public schools of the State at 502,887. The State fund for school purposes was \$1,538,955.17, an increase of \$33,828.17 over 1901. The total enrolment in the common schools was 439,645, and that of the local schools was 63,242. This was a total increase of 10,370 for the common schools and 8,132 for the local schools. The average attendance in the common schools was 265,388, and the expenditure per capita of enrolment in those schools was \$3.42, an increase of 36 cents over 1901. The cost per capita in the local school system was \$11.33, a decrease of 31 cents compared with 1901.

The amount of the school fund received by common schools was \$1,265,824.40, an increase of \$12,268.29 over 1901, while the amount of State funds received by local systems was \$239,117.46, an increase of \$40,152.73 over 1901. The amount raised by local taxation for school purposes was \$139,433.89. In 1902 334 new schoolhouses were built in the State at a cost of \$246,380. Nearly all these are in country districts, and most of the money for the schoolhouses was raised by the people of the community in which the houses were located.

The number of children in Georgia of school age according to the last census was 660,870. There are 7,700 schools in the common-school system, an increase of 658 in one year, and 368 in the local-school system, an increase of 60. The number of teachers in the common-school system is 9,180, and those of the local-school system number 1,339. The average yearly salary paid to teachers in the common-school system is \$129.35. Of every 100 children of school age in Georgia, 45 are black and 55 are white, and the blacks now get only about 20 per cent. of the school fund.

It is the general belief that the greatest stumbling-block in the way of the negro's education in the State is the lack of negro teachers capable of doing justice to other members of their race. More than \$5,000 is distributed to negro schools from the Slater educational fund, while the Peabody fund gives \$6,000 to white schools and \$1,500 to negro schools in the State. The amount invested by philanthropic people of the North in institutions for the higher education of the Georgia negro is estimated to be more than \$2,000,000. All the schools of like character for whites in the State are not worth anywhere near that sum.

Manufactures.—In 1902 there was a great increase of manufacturing industries in the State. New cotton-manufacturing plants were established, and the aggregate value of these was \$23,494,371, against \$18,994,964 in 1901. A cement plant was established at Hartwell, and more than \$1,000,000 was expended on it. At Columbus several cotton factories were built, to be operated by power supplied by Chattahoochee river, while

an electric lighting and power plant, upon which about \$1,800,000 was expended, was established on the same river near Atlanta.

The war in China seriously interfered with the cotton factories of the State, which, up to that period, had been sending large quantities of cotton goods to the markets of the East. Since the trade has been resumed much new machinery has been installed, so that the cotton factories of the State are now able to turn out a fine grade of goods. With the markets of the East closed, Georgia goods were forced into competition with the cotton goods of the New England States and suffered by the comparison.

In some of the principal cities of Georgia companies have been organized for the manufacture of almost all kinds of goods. Large furniture factories are in operation in different sections, and the goods are being sent to the Northern and Western markets.

Agriculture.—The farmers are giving more attention to the cultivation of grain and vegetables, while the orchard interests have grown to a remarkable degree. Many thousands of young peach-trees were set out in 1902. The farmers are planting less cotton, and cultivating those crops for which there is an ever-increasing demand. Peaches and other fruits that flourish in the Georgia climate are being grown in large quantities on the very fields that, a short while ago, were white with cotton. In Crawford County alone 10,000 young peach-trees were planted in the autumn of 1902, while in Jones County 15,000 were set out. Farmers in Habersham and Elbert Counties planted between 20,000 and 25,000 young peach-trees in each of those counties.

In certain sections of the State large vineyards are in operation, and the making of domestic wines is fast becoming one of the chief paying industries in Georgia. In 1902 the pecan industry took on new life, and thousands of small trees were planted. A silk-growers' association was formed in the autumn of 1902 in Atlanta, composed of members from a great many districts of the State. A silk-mill, with a capital of more than \$1,000,000, is in course of erection at Tallulah Falls.

Only within the past few years have the farmers of Georgia turned their attention to the raising of tobacco for the market, and in this they have proved very successful. Heretofore nearly all the large farms had tobacco-crops, but it was raised mainly for local consumption. Truck-farming received a new impetus in 1902, and considerable land, especially near the larger cities, was devoted to raising vegetables for the market.

Pensions.—In Georgia there are 4 classes of pensioners, as follow: Indigent Confederate soldiers, widows of Confederate soldiers, disabled and diseased Confederate soldiers, and indigent widows of Confederate soldiers. The number of pensions paid, of all classes, in 1902 was 13,975, an increase of 2,387 over 1901. The amount of money paid out to pensioners was \$822,695, an increase of \$127,310. The State began to pay pensions in 1889, and the first rolls contained the names of 2,994 who received, in the aggregate, \$158,790. The first pensions paid were to disabled and diseased soldiers, and it was not until 1893 that pensions were allowed to widows of soldiers. In 1896 indigent soldiers were added to the rolls, and in 1902 pensions were paid to indigent widows of soldiers. Since the pension system was established in Georgia the State has paid to pensioners \$6,753,820. In his annual report, dated Oct. 2, 1902, the Commissioner of Pensions said: "The pension system established by this State will soon be costing the people \$1,000,000 annually; and

it is impossible to administer that system properly and disburse this large sum of money without some way of ascertaining who those are that are entitled to it. The pension rolls, under existing laws, are being burdened with men who never saw the enemy, and, in many instances, deserters. Another great need is to provide by law for the appointment of official examiners of all applicants for pensions not local in character, and pay them for their work."

Prisons.—The prison system in force in the State is that of leasing out the convicts to mine-owners, lumber-mills, turpentine-farms, and, in fact, to any persons who offer bids for their hire. From the hire of the convicts in 1902 the State received \$202,329.25. On Oct. 1, 1902, the number of convicts in the Georgia Penitentiary was 2,351, consisting of 252 white men and 5 white women, 1,978 negro men and 80 negro women, an increase of 70 during the year. There were 1,074 convicts who could read and write, 184 who could read only, and 1,057 wholly illiterate. The number of deaths in the year was 67, against 75 in 1901, the rate being 2.3 per cent. A farm is operated by the Prison Commission near Milledgeville, where the women, children, and old, infirm, and diseased male convicts are sent. The cash income from the farm was \$19,331.93, while the actual money paid out for farm purposes was \$32,719.48. In February, 1902, the Prison Commission purchased 314 acres adjoining the farm.

There were 2,221 misdemeanor convicts undergoing punishment in county chain-gangs, of which 103 were white men, 5 white women, 2,010 negro men, and 103 negro women. Thirty-two of these chain-gangs, with an aggregate of 965 convicts, were worked for private individuals, says the Prison Commission, in most instances contrary to the law. Thirty-three chain-gangs, with an aggregate of 1,256 convicts, were worked on public works.

The State leases its convicts for a term of five years, receiving about \$100 a year per capita. The contractors, in many instances, have sublet these convicts, receiving as high as \$250 per capita.

Military.—The State troops consist of about 5,000 men, organized into 5 regiments of infantry of 12 companies each, 1 regiment of cavalry of 10 troops, 1 battalion of heavy artillery of 4 companies, 2 battalions of light artillery, 1 naval battalion of 2 companies, 1 battalion of negro troops composed of 7 companies of infantry, and 1 light battery of artillery. Each company's minimum strength is 40 men, and the average is about 60 men. The infantry are armed with the Springfield rifle, caliber 0.45; the cavalry with 0.45-caliber carbines; the negro troops with 0.50-caliber Springfield rifles. The naval militia is equipped with 0.45-caliber Lee rifles. The heavy artillery is armed and equipped as infantry. One light battery is armed with 2 3.2-inch-caliber breech-loading cannon. The other light batteries are armed with the muzzle-loading cannon. No camp has been held under State auspices since 1897, owing to lack of funds.

The new military law, which became effective in the latter part of December, 1902, provides that in case of call for troops by the State the Governor shall order out the militia regiments as they are now organized. In the event of war the State can furnish, organized, trained, and fairly equipped, not fewer than 4,000 men in one week. The term of enlistment is now one year; the change from the two-year term was made by the Legislature in December, 1902.

Confederate Soldiers' Home.—A comparatively short time after the home for helpless Confederate veterans was opened, it was burned. In

the latter part of 1902 it was rebuilt and furnished at a cost of \$29,612.70, of which amount \$19,500 was from the insurance on the old building. The rest was contributed by private citizens. The home stands in a beautifully wooded tract of 119 acres near Atlanta. It now has 63 inmates, and 8 will return when their leave expires. The cost of maintenance has been about \$10 a month per capita. In 1901 the Legislature appropriated \$15,000 for a maintenance fund for the home, and in 1902 the State authorities set aside a like amount.

Political.—The Democratic party held its State convention in Atlanta on July 2, 1902. The distinctive portion of the platform adopted was this: "We favor the enactment of such laws as will afford equal and exact justice to labor and capital alike, and the administration of those laws in such a spirit of fairness as will protect and foster the interests which are already in the State and encourage the establishment of new enterprises, thereby affording larger and more extended fields of industry for our citizens. We do not believe the cause of temperance should be made a political issue in this State. The best interests of the people, as well as the furtherance of that cause, demand the complete separation of this question from personal and party politics. We approve the wisdom and safety of the non-partizan policy which characterizes our present legislation upon this subject, and commend the same to the people of the State."

The following ticket was nominated: For Governor, Joseph M. Terrell; Attorney-General, John C. Hart; Comptroller-General, W. A. Wright; Secretary of State, Philip Cook; Commissioner of Agriculture, O. B. Stevens; Prison Commissioner, Thomas Eason; Treasurer, Robert E. Park; State School Commissioner, W. B. Merritt; Justices of Supreme Court, Samuel Lumpkin and A. J. Cobb.

The Populist party held its State convention in Atlanta on Aug. 12, 1902. No platform was announced. James K. Hines was nominated for Governor, but he declined the nomination. The other men on the ticket nominated were: For Secretary of State, B. F. Lee; Treasurer, J. H. Taylor; Comptroller-General, W. W. Wilson; Attorney-General, P. H. Larey; Commissioner of Agriculture, W. L. Peek; State School Commissioner, S. H. Zellner.

At the election in October the Democratic ticket was successful. The Populist vote was small.

HAWAII, a Territory of the United States, formerly an independent kingdom, proclaimed a republic in 1894, and on Aug. 12, 1898, annexed to the United States in accordance with the annexation treaty signed at Washington on June 16, 1897. On June 14, 1900, the islands were organized as a Territory in accordance with an act of Congress, approved April 30, 1900, which admitted to United States citizenship all persons who at the date of the proclamation of annexation were citizens of the Hawaiian Republic. Sanford B. Dole, President of the Hawaiian Republic, was appointed Governor of the Territory.

Area and Population.—The area and population of the islands according to the census of 1900 are given in the following table:

ISLANDS.	Square miles.	Population.
Oahu.....	600	58,504
Hawaii.....	4,210	46,848
Kauai.....	590	20,784
Nihoa.....	97	
Maua.....	760	25,416
Molokai.....	270	
Lanai.....	150	2,504
Total.....	6,677	154,001

The increase in population since 1896 was 44,981, or 41.2 per cent. The number of Hawaiians in 1900 was 29,834, a decrease of 1,185 in four years; part-Hawaiians, 7,835, a decrease of 650; whites, 28,533, an increase of 6,105; Japanese, 62,122, an increase of 39,793; Chinese, 25,742, an increase of 6,360. Honolulu, the capital and chief port, situated on the island of Oahu, had 39,305 inhabitants in 1900.

There were 189 schools in 1899, having 15,490 pupils, of whom 5,043 were Hawaiian, 2,721 part-Hawaiian, 3,822 Portuguese, 2,455 Asiatics, 601 American, 213 British, and 337 German, and having 544 teachers, of whom 282 were American, 130 Hawaiian and part-Hawaiian, and 66 British.

Commerce and Production.—From Jan. 1 to June 14, 1900, the value of the imports was \$11,988,000, compared with \$19,059,000 for the entire year 1899. The value of exports of Hawaiian products for the year 1900 was \$25,461,000, compared with \$22,628,000 for the previous year. Sugar was exported in 1900 of the value of \$23,771,344; coffee, \$176,749; hides and tallow, \$82,192; bananas and pineapples, \$48,039; rice, \$24,077. Of the imports for the part of the year 1900 reported \$1,159,554 came from Great Britain, \$453,727 from Australia and New Zealand, \$136,585 from Canada, and the rest almost exclusively from the United States. The chief imports were provisions, groceries, cereals, clothing, lumber, machinery, hardware, and cotton cloth. Of the exports of 1900 the United States received 99.6 per cent. In the year ending June 30, 1902, the exports were \$3,000,000 less in value than in the previous year, owing mainly to lower prices for sugar, though most of the exports fell off.

Navigation.—Steamship lines run between Honolulu and San Francisco and the ports of Australasia, Japan, and China. The number of vessels entered during 1900 was 665, of 867,905 tons, having increased from 386, of 447,997 tons, in 1896.

Railroads and Telegraphs.—There are railroads in Hawaii, Maui, and Oahu islands having a total length of 100 miles.

Telegraph-lines connect different points in Oahu, Hawaii, and Maui, and a cable is laid between the two former islands. The Marconi wireless telegraph was installed in the spring of 1901 for communication with the other islands. The total length of telegraph-lines is 250 miles. The telephone was introduced early into Honolulu and is used by all.

IDAHO, a Northwestern State, admitted to the Union July 3, 1890; area, 84,000 square miles; population in 1890, 84,385; in 1900, 161,772. Capital, Boise City.

Government.—The following were the State officers during the year: Governor, Frank W. Hunt; Lieutenant-Governor, Thomas F. Terrell; Secretary of State, Charles J. Bassett; Auditor, Egbert W. Jones; Treasurer, John J. Plumer; Attorney-General, Frank Martin; Adjutant-General, J. L. Weaver; Superintendent of Public Instruction, Permeal French; Mine Inspector, Martin H. Jacobs; State Engineer, D. W. Ross; Chief Justice of the Supreme Court, Ralph P. Quarles; Associate Justices, I. N. Sullivan and Charles O. Stockslager; Clerk, Solomon Hasbrouck.

The State officers are elected in even-numbered years, the term beginning in January of odd-numbered years. The Legislature holds biennial sessions, beginning in January of odd-numbered years. Sessions are not limited, but members draw pay for only sixty days.

Valuation.—The State Auditor completed in September the computations of the assessed valua-

tion of the State as finally fixed after the changes made by the State board. The grand total of the State was \$61,291,896.36, an increase of \$9,851,138.17 over the preceding year. The greatest increase was in Shoshone County—\$4,247,470.99. Cassia and Elmore both showed decrease. In 1900 Cassia was ahead of the other counties in percentage of increase, but it has been sliding back ever since. Fremont County, which has developed very rapidly, did not show the gain in its assessment, having made an increase of only \$92,566.45. The total of the assessments by counties reported to the State Board of Equalization was \$50,283,704.60. The assessment as equalized by the State board was \$51,648,827.76. The figures for railroads were \$9,392,184.85; for telephones, \$148,132.50; for telegraphs, \$102,751.30; total as equalized, \$61,291,896.36; assessment in 1901, \$51,440,758.19; increase, \$9,851,138.17.

The value of merchandise in the State, as equalized by the State board, was \$3,041,980.25. The valuation of patented lands was given by the State board as \$14,142,787.15; by the assessors as \$14,443,086.96. The acreage was 2,981,268. The number of acres taken up under the homestead act in the first five months of the year was 34,699, the fees paid being \$2,240. The entries for timber and stone land for the same period were about the same.

The Pacific and Northern Railroad was assessed at \$3,500 a mile, a reduction of \$250 a mile from last year's valuation. The Clearwater branch was assessed at \$4,000 a mile, the same as last year. The Western Union Company's telegraph-lines were valued and assessed at \$60 a mile for pole and first wire, and \$15 for each additional wire, the valuation last year being \$55 and \$12 a mile respectively. The telephone-lines of the Rocky Mountain Bell Company and of the Independent Company, except the branch lines already assessed, were valued and assessed at \$65 a mile for pole and first wire, and \$15 a mile for each additional wire. The valuation of the Salmon river branch of the Oregon Short Line was fixed at \$2,500 a mile. The Boise, Nampa and Owyhee and Idaho Northern roads were valued at \$2,250 a mile, a reduction in the case of the first line of \$500 a mile. The assessments on all main lines of railroad and branches not heretofore fixed were fixed at the same rate as in 1901, except the main lines of the Northern companies, which were assessed at \$8,500 a mile, an increase of \$250 a mile on the Great Northern for a distance of 80 miles, and of \$235 on the Northern Pacific for 84 miles.

The tax levy was fixed at 46 mills. The rate in 1901 was 52 mills. The amount to be raised to run the State government was \$245,000.

Education.—The semiannual apportionment of the public-school fund was made by the State Superintendent in July. The apportionment was made by counties, the total amount being \$36,576.97. This sum exceeded the apportionment for the same period in 1901 by \$4,996.

Penitentiary.—According to the report of the warden of the State Penitentiary, the number of convicts on Nov. 1 was 120. Four convicts were received and 3 were discharged in October, during which month the bills presented and allowed on the maintenance fund amounted to \$2,013.88, and on the improvement fund \$50.

Mining.—A great mining revival set in this year, largely owing to the discoveries in Thunder mountain, which is expected to make the State one of the chief gold-producing regions of the world. Idaho has a greater area of gold-bearing territory than any other State in the Union, one

section of which, as large as the State of Pennsylvania, was very little prospected until this year, during which there has been an immense influx of prospectors. The Thunder mountain district has been now extended until it covers half a dozen important mineral sections, in which fine ledges in great number have been opened. The same work is going on beyond the Thunder range. Important discoveries have been made in Custer and Lemhi Counties. In Elmore County gold was developed in sections not before prospected, especially at Skeleton creek. Blaine County was invaded by an army of prospectors, who met with great success about the head waters of Boise and Wood rivers. Valuable gold properties were also opened in Neal, Pearl, Boise, Owyhee, Washington, and Warren Counties, some of the discoveries in Boise County being phenomenal. Several towns have sprung up in the Thunder mountain district. A postmaster was appointed at Roosevelt in February, and another at the Dewey mine in March. In April the mail-route from Idaho City to Roosevelt and Thunder mountain was selected by the Post-Office Department. The great ore bodies in the Thunder mountain district are all porphyritic. One of them, the Dewey mine, has been explored to a depth of 150 feet. It is several hundred feet wide, and the grade of the ore is such that all the stamps the company can put up can be kept in operation. Nearly two miles eastward the same belt of ore is found on the Sunny-side group, and it has been traced more than two miles westward.

Wool.—The reports of the deputy inspectors to the State inspector in January show that there were 2,700,000 sheep in the State at the beginning of 1901, which number had increased to more than 3,000,000 in January, 1902. The wool clipped was 17,745,000 pounds; the amount received for it by the growers was \$1,865,000; the number of sheep and lambs shipped was 796,991; the amount received for them was \$1,595,000; the total amount received by Idaho sheep men for wool, sheep, and lambs was \$3,460,000. As in the markets of the East the wool and mutton realized \$1,315,000 more than was paid to the growers, the total value at the point of consumption was \$4,775,000.

A proclamation was issued by the Governor in March, establishing quarantine against sheep from neighboring States where scab was prevalent. The proclamation differed in some respects from those issued in former years, as it included one county in Nevada and one in Wyoming, and made provision under which all sheep approaching the line should be dipped and held twelve days before being permitted to cross, their admission then being optional with the Idaho deputy, who should determine whether there was danger of infection from any band.

Oil.—The Fossil Consolidated Land Company, Limited, was organized in March with a capital of \$1,000,000 to operate in the Fossil oil-fields. It controls 1,010 acres in the district, and intends to purchase other oil-well lands in the neighborhood, for which purpose it has set aside a portion of its stock. The Idaho-Wyoming Oil Company increased its capital stock from \$1,000,000 to \$2,000,000. Oil was found in 11 assessment holes in November, in some at a depth of 25 feet. In the Spring valley district several wells had become daily producers; one of them was producing 45 barrels a day of a very high grade. This well is 300 feet deeper than any in the Fossil district.

Irrigation.—The Irrigation Department of the Census Bureau published the compilation for Idaho on June 15. For irrigation purposes the de-

partment has divided the State into 2 agricultural regions, the arid and the humid—the dividing lines beginning at the southern and eastern boundaries of Idaho County. The humid division contains vast areas of forest, and the rainfall is usually sufficient for the raising of general farm crops and fruits. The great Camas prairie of Idaho County, the high plateaus of Nez Percé, and the rolling hills of Latah produce more than half the cereals raised in the State, and yield better crops than are grown in the southern irrigated counties. There were 6,603 farms in the State in 1890, covering 1,362,256 acres. Of other farms, 1,820 were in the humid section and 4,783 in the arid section. In 1900 there were 17,471 farms in the State—6,737 in the humid region, and 10,734 in the arid section. Of the 53,945,600 acres of land surface, 5 per cent. were included in farms, and only 2.6 per cent. were improved. Of the improved land 1,385,596 acres were outside the Indian reservations. The irrigated land constitutes 42.6 per cent. of the improved land. The investment in irrigation canals increased in ten years from \$1,029,000 to \$4,168,352. There are 36 canals, involving a constructive expense of \$947,975, which distributed no water in 1899. Three canals, costing \$440,000, were failures on account of mismanagement. But the acreage under these ditches, which will be brought soon under cultivation, will undoubtedly be larger than the area now irrigated by all the ditches constructed since 1899. In 1890 the acres irrigated, outside the reservations, numbered 217,005; in 1900, 602,568. At a low estimate, the farm wealth of the State has been increased by \$12,000,000 by irrigation. The number of acres of irrigated land for each mile of ditch is 121, while the number of acres under ditch for each mile is 270. The average cost of constructing the ditches was about \$1,028 a mile, \$3.79 an acre of land under ditch, and \$8.46 an acre of land actually irrigated in 1899.

The State Land Board passed in April on the application of the Washington Irrigation Company, which asked for the segregation of 100,000 acres of land under the Carey act. The land lies along Snake river, between Minnidoka and the river. The company proposes to expend \$730,000 in reclaiming the tract, which it asked the land board to withdraw from settlement. The board granted the application.

New Companies.—The report of the Secretary of State for the quarter ending Sept. 30 shows that the total amount received as fees for the quarter was \$1,782.25, compared with the receipts for the same quarter in 1900, \$704.70. The business of the office had more than doubled as a result of the growth and general business activity all over the State. The report shows that 33 notarial commissions were issued in the quarter, quadrupling the filings of 1900. The receipts for the present year will be more than \$6,000. The increase in corporations is apparently the beginning of a vast development of the mineral wealth of the State. Among the more important incorporations during the year were the Vindicator Mining Company, of Mullan, with a capital of \$1,000,000; the Golden Eagle Mining Company, of Meadows, with a capital of \$3,000,000; the Flagstaff Mining Company, of Wallace, with a capital of \$1,000,000; the Idaho Mining and Development Company, with a capital of \$1,000,000; the Blackfoot Gold-Mining and Development Company, of Boise, capital \$1,500,000; the Greyhound Mining and Milling Company, of Boise, capital \$1,500,000; the Stewart Mining Company, of Kellogg, capital \$1,000,000; the Bullion Mining Company, limited, of Wallace, capital \$1,000,000; the Maryland

Gold-Mining and Development Company, at Hailley, capital \$2,500,000; the Alice Mining Company, of Wallace, capital \$1,000,000; the South Sinker Gold-Mining Company, of Silver City, capital \$1,000,000; the Basin Mining Company, of Wallace, capital, \$1,500,000; the Ajax Mining Company, capital \$1,600,000; the Idaho-Iowa Lateral and Reservoir Company for reclaiming the desert lands of the Boise and Snake river valleys of Idaho, capital \$100,000; the Idaho Prospectors' Finance Company, of Boise, capital \$2,000,000; the Wake-Up-Jim Gold-Mining Company, capital \$1,200,000; the Idaho Exploration and Development Company, of Weiser, capital \$1,000,000.

Geological Maps.—The United States Geological Survey issued in September reprints of the Bear valley and Idaho basin map sheets, which cover portions of the mountainous country of western Idaho. Portions of Idaho, Custer, Boise, Elmore, and Alturas Counties are included in the maps, as are also the Idaho City region and the rugged crest of the Sawtooth range for much of its length. By the use of contour lines the mountainous topography of the district is admirably represented. The maps are drawn on a scale of about half an inch to the mile, and are uniform with those issued of other parts of the State.

Intermountain Fair.—The Idaho Intermountain Fair was opened at Boise, Oct. 22, and was thronged with visitors. The mining exhibit was particularly fine, embracing ores and precious stones from every part of the globe. The agricultural and horticultural exhibits, which occupied the whole right-hand side of the building, contained chiefly the products of the State in these lines, and displayed many splendid specimens of Idaho fruits and vegetables. The quality of the entries in the dairy department was also exceptionally fine. The stock exhibit attracted much attention, the exhibit of sheep excelling anything of a similar sort that had previously been shown in the State. The main building has four wings, each 50 feet wide and 150 feet long. The grand stand is an immense structure, capable of holding 2,000 persons. There are several other fine structures on the grounds, which are almost encircled by box-stalls and pens for cattle.

Land Office.—The report of the Land Office for January showed that it turned into the State Treasury \$219,620.82 in 1901. Of this, \$137,189 was proceeds of sale of timber lands, the remainder representing sale of school and other State lands. The number of acres of school, normal-school, university, and school of science lands sold was 15,997. In addition to the amount turned into the general fund of the State, there was turned into the common-school fund, interest earned upon the general school fund, the sum of \$45,609.77.

Legal Decisions.—In March the United States Circuit Court handed down a decision that is considered of great interest to the mining interests of the State. In *The Empire State-Idaho Mining and Development Company vs. The Bunker Hill and Sullivan Mining and Concentrating Company*, Idaho, judgment was reversed and cause remanded with directions to enter judgment for the defendant. This was what is called the King case. It turned upon the extralateral rights of two claims located side by side upon the same ledge, each covering a portion of a very wide outcrop, the end lines of the claims not being parallel. Judge Beatty held that the lines of the older location must govern. The older location was the Viola, on the great Bunker Hill vein. The adjoining claim was the San Carlos. The point in controversy was the ownership of ore bodies far below

the surface. As it seems difficult to cleave a vein in two, permitting one owner to follow the hanging-wall portion between lines in one direction and giving the foot-wall owner the right to follow it between lines laid in a greatly different course, there was great interest in the decision of this case.

In December the Supreme Court reversed the decision of the lower court in the case of *Kindall vs. The Lincoln Hardware and Implement Company*. An interesting question of the mortgaging of community property by the husband and the status of such mortgage after the death of the wife was involved. Kindall and two others purchased certain agricultural implements from the Hardware and Implement Company and gave chattel mortgages to secure their notes given in payment. One of these mortgages covered the crops then growing and to be grown on a certain piece of land that was the community property of Kindall and his wife, this mortgage being executed without his wife joining in it. The Hardware and Implement Company foreclosed the mortgage. Kindall and his wife then began this action to enjoin the company from foreclosing the mortgage. While this action was pending Mrs. Kindall died. The court then permitted Kindall to prosecute the injunction proceedings alone. The defense held that, though the mortgage on the community property might not have been good while Mrs. Kindall lived, it was valid against him after her death, a view held by the lower court and reversed by the Supreme Court.

Fort Hall Indian Reservation.—The Fort Hall Indian Reservation was opened to settlers June 17. It consists of 418,000 acres, about 100,000 being fine farming land, and the rest known to contain abundance of copper and other minerals. Nearly 3,000 prospective settlers and miners rushed into the reservation when the sun reached the meridian, raced madly for favored locations, and then ran back to Blackfoot to register their claims at the Land Office. Although the lands within the 5-mile limit of Pocatello had not been thrown open to settlement, they were open to location, under the mineral-land laws, and the hills east of the city swarmed with prospectors. About 1,000 claims were staked on the first day within 6 miles of Pocatello. The Fort Hall treaty provided that the Indians should be allotted such lands as they occupied at its ratification. The Indian agent allotted 320 acres to heads of families, and 80 acres to each child, some Indian families receiving in this way from 600 to 800 acres of their own selection of the lands ceded. This excited much dissatisfaction among the white settlers, who asserted that allotments had been made to half-breeds and to Indians not belonging to the reservation.

Political.—The Republican State Convention met in Boise, Aug. 20, and nominated this ticket: For Governor, John T. Morrison; Lieutenant-Governor, James N. Stevens; Secretary of State, Will H. Gibson; State Auditor, Theodore Turner; State Treasurer, H. N. Coffin; Attorney-General, John A. Bagley; Superintendent of Public Instruction, Miss Mae L. Scott; Inspector of Mines, Robert Bell; Justice Supreme Court, J. F. Ailshie; Congress, Burton L. French.

The platform approved the foreign policy of the administration; denounced "the unpatriotic attitude of the Democratic party" toward the army and navy; declared that "the wisdom of the protective policy of the Republican party is made manifest by its results," but favored a revision of the tariff "which will place upon the free list every article and product controlled by any mon-

opoly, and such other articles and products as are beyond the need of protection"; declared that trusts are a great and growing evil, and favored an amendment to the Constitution enabling Congress "to effectually regulate and suppress" all injurious combinations and aggregations of capital; condemned the present administration of the State for the manner of its disposal of the timber lands, its wasteful extravagance, appointment of unauthorized commissions, expenditure of public funds for unauthorized purposes, the creation of unnecessary offices, and the introduction of partisan politics into the management of educational establishments; and it inveighed against the apportionment for legislative representation made by the last Democratic Legislature.

The State Democratic Convention met in Pocatello, Sept. 4, and nominated the following candidates: For Governor, Frank W. Hunt; Lieutenant-Governor, W. E. Adams; Supreme Judge, F. E. Fogg; Secretary of State, C. Y. Bassett; State Auditor, J. C. Callinan; State Treasurer, E. P. Coltman; Attorney-General, F. D. Culver; Superintendent of Public Instruction, Miss Permeal French; Mine Inspector, J. H. Nordquist; Congress, Joseph H. Hutchinson. The platform reaffirmed the principles of the national platform at Kansas City; opposed imperialism, colonialism, trusts and trust-fostering tariffs, financial monopoly and other legalized monopolies and privileges; demanded a revision of the tariff laws "which will place on the free list every article and product controlled by a trust"; opposed the Fowler currency banking bill and government by injunction; favored Government ownership of railway, telegraph, and telephone lines; demanded an amendment to the Constitution providing for the election of United States Senators by the people; commended the wise and economical administration of the present State Government, shown by the fact that the State has been brought to a condition according to which it is managed on a cash basis; invited voters to compare the conduct of the business of the State Land Board under Republican and Democratic administration; favored an amendment to the State Constitution providing for initiative and referendum; favored an eight-hour day for all underground employees, an employers' liability law, and a law giving married women equal property rights with men.

The Socialist, Populist, and Prohibition parties also nominated tickets. The candidates on the Republican ticket were chosen at the November election. The Republican candidate for Governor had 31,936 votes; the Democratic, 26,019. The election returns gave the Republicans majorities in both branches of the Legislature.

ILLINOIS, a Western State, admitted to the Union Dec. 3, 1818; area, 56,650 square miles. The population, according to each decennial census, was 55,162 in 1820; 157,445 in 1830; 476,183 in 1840; 851,470 in 1850; 1,711,951 in 1860; 2,539,891 in 1870; 3,077,871 in 1880; 3,826,351 in 1890; and 4,821,550 in 1900. Capital, Springfield.

Government.—The following were the State officers during the year: Governor, Richard Yates; Lieutenant-Governor, William A. Northcott; Secretary of State, James A. Rose; Auditor, James S. McCullough; Treasurer, Fred A. Busse; Attorney-General, H. J. Hamlin; Adjutant-General, James B. Smith; Superintendent of Insurance, Henry Yates; Printer Expert, Charles P. Burton—all Republicans. Justices of the Supreme Court, Carroll C. Boggs, James B. Ricks, Jacob C. Wilkins, Joseph N. Carter, John P. Hand, James H. Cartwright, Benjamin D. Magruder.

The presidents of the State boards were as follow: Agriculture, Martin Conrad; Railroad and Warehouse Commission, James S. Neville; Pharmacy, William C. Simpson; Labor, George L. Pittenger; Mining, Richard Newsam; Equalization, J. S. McCullough; Charities, William Jayne; Education, J. Stanley Browne.

The Governor, Lieutenant-Governor, Secretary of State, Auditor of Public Accounts, and Attorney-General are elected in November of presidential years and hold office four years. The State Treasurer is elected biennially, in November of even-numbered years, and may not serve two terms in succession. The State Superintendent of Public Instruction is elected for four years in November of even-numbered years other than "presidential years." The Legislature meets biennially in January of odd-numbered years. The length of the session is unlimited.

Valuations.—The total assessment of the counties for 1902 was \$1,030,292,435. This was the valuation as given by the Board of Equalization; that given by the local assessors was only \$921,817,117. The equalized value of capital stock of corporations other than railroad stock was \$22,705,627. The equalized value of all railroad property, including rolling-stock, improvements, and right of way, was \$88,270,104.

Finances.—The financial statement of the Illinois treasury is issued in biennial periods. The recent statement includes the period from Oct. 1, 1900, to Sept. 30, 1902. The total receipts for the revenue fund were \$12,151,242, and the disbursements were \$11,310,688, leaving a balance of \$840,554. The State school receipts were \$2,083,619, and the disbursements \$2,066,456. The balance of all funds in the treasury on Oct. 30, 1902, was as follows: Local bond funds, \$296,216; unknown and minor funds, \$8,879; State game protection, \$4,902; total, \$309,897. The aggregate taxes, local and State, was \$53,012,935.

Banks.—The following statement of earnings and dividends is tabulated from reports of 158 State banks of Illinois that were doing business for the twelve months ending June 30, 1902: Capital, July 29, 1901, \$19,025,000; surplus, \$10,251,725; undivided profits, \$4,329,539; total investments, consisting of loans, bonds, stocks, and realty, \$189,062,028; investments, consisting of part of reserve due from banks, \$36,043,800; gross earnings for the twelve months, \$10,981,978; net earnings, \$3,864,862. Of these banks, 127 report dividends having been paid in the twelve months amounting to \$2,037,044, on capital, surplus, and undivided profits of \$30,568,636, this being a percentage of 6.6. The percentage of dividend per capital was 12.

In October, 1902, the Auditor's statement showed the total resources and liabilities of 200 banks as \$314,793,437. This report includes the following items: Resources—loans and discounts, \$187,144,782; United States bonds, including premiums, \$283,378; other bonds, including premiums, \$47,344,392; other real estate, \$1,183,926; due from State banks and bankers, \$13,807,241; gold coin, \$7,268,950; gold certificates, \$9,197,900; silver coin, \$403,498; silver certificates, \$4,326,484; national bank currency, \$299,656; legal tender and treasury notes, \$3,609,390. Liabilities, capital stock paid in, \$30,655,000; surplus fund, \$13,289,018; undivided profits, \$5,353,418; bills payable, \$360,115.

Insurance.—The statement of the Insurance Superintendent for 1901, issued in February, 1902, contains the following figures: The companies doing a general fire, marine, and inland navigation insurance business in this State at this date

may be classified as follows: Illinois joint-stock fire and marine companies, 6; Illinois mutual fire-insurance companies, 9; joint-stock fire and marine insurance companies of other States, 112; foreign fire and marine insurance companies, 42; mutual fire-insurance companies of other States, 12; total, 181. This shows a net loss of 17 companies as compared with the number authorized to transact business in this State at the date of the last report.

The aggregate capital stock and deposit capital of the stock and foreign companies doing business in the State at this date is \$3,786,500 less than the aggregate capital at the date of the last report. The total assets of the companies are \$314,615,880, an increase over the previous year of \$5,417,339. The total surplus was \$94,870,553, a decrease of \$3,151,660. The total amount of capital of these companies is given as \$64,230,060, a decrease from the year previous of \$3,786,500. The amount of risks written was \$1,472,902,923, a decrease of \$15,212,163. The net excess of receipts over disbursements for 1901 was \$15,633,974. The risks in force at the close of the year were \$23,670,282,818, an increase of \$395,467,156.

The business done by the 49 legal reserve life-insurance companies shows an increase of 8,339 policies, and \$7,178,998 more insurance, exclusive of industrial business, over the previous year. The net increase of insurance in force on new insurance written was 49 per cent., as against 44 per cent. in 1900. The total premiums received, apart from industrial business, amounted to \$18,441,158, and the total losses paid to \$6,150,789. The entire industrial business written shows an increase of 6,869 policies and \$435,885 of insurance. The total business of all life-insurance companies shows an increase in income of \$48,200,310, in expenditures of \$27,558,083, in assets of \$155,409,412, in liabilities of \$110,869,786, and an increase in surplus of \$44,539,626.

The 44 fidelity, surety, and casualty companies show the following aggregate results: Capital, \$20,334,400; admitted assets, \$128,335,984; liabilities, \$106,463,423; net surplus, \$21,872,561; risks in force, \$5,440,889,761.

There were at the date of this report 22 assessment life and 6 assessment accident companies doing business in the State, with total admitted assets as follow: Life, \$17,304,221; accident, \$263,231.

The total admitted assets of 105 fraternal beneficiaries in the State are \$21,706,875.

Railroads.—The report of the Railroad and Warehouse Commission for the year ending June 30, 1901, shows the total mileage of steam-railroads in the State to be 17,351 miles, an increase over 1900 of 571 miles. The mileage of surface and elevated electric lines is 218 miles, which is an increase over last year of 69 miles. The total capital of all steam-railroads in Illinois is \$3,140,822,020, an increase of \$72,122,991. The increase was not so great as during the previous year, but is considered remarkable. The capital stock of elevated and surface lines was \$88,595,450, an increase during the year of \$5,528,150. Proportionately this is a far greater increase than is shown by the steam-railroads. The total amount of taxes paid by the steam-railways was 4,725,332, an increase of \$345,721. The taxes paid by surface and elevated electric roads was \$153,169, an increase of \$61,929.

For the first time the State Department has been able to secure definite information concerning wages paid by the railroads. The highest average salary is paid to general officers, and amounts to \$16 a day, and the lowest average

salary is paid to trackmen, and is \$1.28. The highest average salary paid by surface and elevated electric roads is \$8.40, and the lowest is \$1.43 a day.

The number of passengers carried on the steam-roads was 40,638,781, and the passenger earnings per mile were \$2,402, an increase per mile of \$215. The number of tons of freight handled was 116,117,821. The number of persons employed on steam-railroads in the State of Illinois was 88,230, to whom was paid in salaries \$51,999,868, an increase of \$639,178 over the year 1900.

Agricultural.—The State Board of Agriculture issued a report, Aug. 1, 1902, showing the condition of the crops and the number of bushels of those already harvested. The area of wheat harvested this season, 1,774,329 acres, is 85,000 acres less than that of 1901; nevertheless the 1902 wheat-crop exceeds that of 1901 by 5,475,985 bushels. The total crop, 36,588,783 bushels, is the largest harvested in the State since 1894, when the area was very much larger. The average yield per acre, 21 bushels, is the highest average ever reported. The ruling price of the grain Aug. 1 was 63 cents a bushel, making the value of the entire crop on that date \$22,906,930.

The oats area amounted to 3,747,956 acres, not quite so large as that of last year. The total yield amounted to 141,434,585 bushels; total value of crop, \$47,377,905—the most valuable oat-crop ever harvested in Illinois. The average yield per acre was 38 bushels. The 113,836 acres devoted to rye yielded 2,295,601 bushels, the price per bushel on Aug. 1 being 50 cents, and the total value of the crop \$1,153,274.

A larger area was devoted to corn this year than last by 123,691 acres, the area reported being 8,201,412 acres. The condition of the crop at the time of this report was excellent, being 96 per cent. of a seasonable average.

Education.—The report of the State Superintendent of Public Instruction for 1902 exhibits the following facts relating to the public schools: The last school census found 1,601,175 persons between the ages of six and twenty-one years. There were 22,273 more boys than girls. The average daily attendance in all grades was 765,057. There are 11,734 school districts in the State, and 12,865 schoolhouses, 169 of them built within the year. But 17 of the pioneer log schoolhouses remain in the State. There were 27,186 teachers employed, at wages averaging \$64.55 for men and \$54.18 for women. The total expenditures for teaching amounted to \$12,132,075.

In the year \$2,063,969 was paid for new schoolhouses. The total expenditures for public-school purposes amounted to nearly \$20,000,000.

There are 1,008 private schools reported in the State, and 350 high schools. The high schools cost for maintenance \$1,531,552, and the total number of pupils in them was 41,951; the number of teachers employed was 1,606, the pay-roll amounting to \$1,314,600.

The whole number of persons between the ages of six and twenty-one years reported as unable to read and write was 614.

Mining.—There are 54 coal-producing counties in Illinois. In the year ending July 1, 1902, the total output of 915 mines was 30,021,300 tons. The aggregate value of this coal at the mines was \$28,272,050. The total number of employees was 46,005.

Charities.—The bulletin of the State charitable institutions for the quarter ending Sept. 30, 1902, shows the following facts:

The number of inmates present in all the institutions, Sept. 30, was 11,055, the average num-

ber present during the quarter being 10,265. The per capita cost of maintenance was \$41.11. A comparison of the liabilities and available resources of the institutions shows that the surplus for all on ordinary expense accounts was \$191,996. The amount of appropriations in the State treasury undrawn Oct. 1, 1902, was \$1,588,678.

The number of inmates present in the insane hospitals at the end of the quarter was as follows: Northern, Elgin, 526 males and 607 females, total 1,133; cost to State for quarter, \$42,419. Eastern, Kankakee, 1,053 males, 1,040 females, total 2,093; cost to State, \$72,150. Central, Jacksonville, 580 males, 618 females, total 1,198; cost, \$37,870. Southern, Anna, males 576, females 472, total 1,048; cost, \$37,245. Western, Watertown, males 355, females 312, total 667; cost, \$21,773. Asylum for Incurable Insane, Peoria, males 380, females 320, total 700; cost, \$23,346. Asylum for Insane Criminals, 162 males, cost \$9,904.

The Illinois Soldiers' and Sailors' Home, at Quincy, had enrolled 1,519 inmates. The average per capita cost for the quarter was \$34.28. The increase in the cost of living is illustrated by the fact that the average per capita cost last year for the same institution for one quarter was only \$29.91.

The Asylum for Feeble-Minded Children, at Lincoln, had 1,094 inmates, 595 males and 499 females. The total cost for the quarter was \$39,606, or \$37 per capita net. The balance of cash on hand and cash due Sept. 30, 1902, was \$58,898.

The Institution for the Deaf and Dumb, at Jacksonville, had 478 inmates, 292 males and 186 females. Cost per quarter \$14,271, or \$30 per capita. Surplus, \$15,729.

The Institute for the Blind, Jacksonville, had 207 inmates, 124 males and 83 females. The cost to the State was \$10,928, or \$50 per capita.

The Home for Female Juvenile Offenders, at Geneva, had 200 inmates, maintained at an expense of \$44 per capita.

The Soldiers' Orphans' Home, at Normal, had 352 inmates. The Soldiers' Widows' Home, at Bloomington, was maintaining 62 inmates at a cost of \$58 per capita.

Free Employment Offices.—The free employment offices of Illinois were created in 1899, and the report of work done in the three Chicago offices and the Peoria office in the year 1902 indicates their value, especially to the working people. The total number of male applicants was 30,157, of whom 26,661 secured employment. The number of female applicants was 14,763, of whom 13,520 were successful. A glance at the detailed list of places secured shows the following figures: Female—nurses, 300; chambermaids, 970; general housework, 414; factory girls, 812; waitresses, 770. Male—farm-hands, 1,005; laborers, 11,506; factory hands, 997; cooks, 463; housemen, 820; janitors, 362.

It is seen that the offices are of greatest benefit to the laboring classes, large numbers of whom sought and found employment, and also that increasing numbers of skilled laborers are coming to understand the benefits of the system.

Militia.—The militia consists of 8 regiments of infantry, 2 battalions of colored infantry, 1 regiment of cavalry, 3 batteries of artillery, 1 engineer company, 1 signal-corps, and 1 hospital-corps.

Food Commission.—This board was created in 1899, and consists of a commissioner, an assistant, and 6 inspectors, to enforce the laws in regard to the purity of foods. The report for 1902 shows a total of 927 food samples analyzed, of which 527 were found to be pure and 397 were

adulterated. It is the duty of the commission to prosecute dealers or manufacturers found guilty of handling adulterated goods, and, as a result of these analyses, 358 suits were instituted in various courts, and 242 convictions were secured.

Chicago.—Business conditions in Illinois are best indicated by the situation in Chicago, where the business of the State, as well as that of the Mississippi valley, centers. The three business features that come nearest the life of a city—real estate, building, and fire and life insurance—show unparalleled prosperity. Building operations in the last year exceeded by a considerable margin those of any year for eleven years. There has been an average advance of about 15 per cent. in office space, and from 15 to 20 per cent. in store space. The building permits for the year amounted to \$48,445,850, compared with \$35,432,450 for 1901, the rate of increase being 36.75 per cent.

Insurance has closed a year of notable prosperity. Fire-insurance made an underwriting profit of about 10 per cent. While the premiums have been increased, the losses are still close to 60 per cent. of the premium income. The expenses on Chicago business are about 40 per cent. There has been a gain of more than \$1,000,000 in life premiums, Chicago paying more than \$11,000,000 in life-insurance. In the aggregate, the citizens of Illinois paid out \$55,000,000 for insurance of all kinds. The total fire losses for the year in Chicago were \$4,812,000. Because of heavy losses, rates have been advanced 25 per cent. on mercantile stock, 10 per cent. on mercantile buildings, and 25 per cent. at the stock-yards.

The real-estate market has improved, but not in a ratio to correspond with other things. There has been a sharp demand for central, business, and manufacturing property. The notable feature of the market is the demand for factory property, which has advanced from 15 to 20 per cent. The best idea of Chicago's industrial growth is afforded by the value of the permits taken out for factory and warehouse construction, amounting to more than \$8,100,000, an increase of 60 per cent. over the year before. The real-estate transfers filed for record aggregate \$126,536,745, compared with \$114,556,952 for 1901.

Progress on the Chicago river improvement has been steady. Wharfage has followed closely upon the acquisition of property, and the season's work shows 2,158 linear feet added to the previous amount of 3,757 feet, of the most substantial wharfage ever constructed on the river. Three new bascule bridges have been built, and 2 others are nearly completed.

A total of \$3,000,000 was spent in track elevation and construction of subways. The number of miles of main track elevated was 7.77, and of other track 30.75 miles.

The year was the busiest in the history of the Chicago Bureau of Charities. The total amount of \$43,239 was expended in relief work, distributed among 11,760 families. Of these families 8,450 were not previously registered. Of 15,442 applications for relief investigated by the Chicago Relief and Aid Society, 3,470 were found to be unworthy, and disapproved.

The financial operations in Chicago were large. Deposits in the national and State banks showed a gain of 7 per cent. over 1901. At one time in the year the total deposits were \$500,000,000. The Board of Trade closed the year with a surplus of \$21,000, compared with \$10,805 last year. The clearings for the year were \$83,590,507, compared to \$74,476,955 for the previous year.

The wholesale dry-goods business surpassed all previous records. An increase of 10 per cent. in the volume of business brought the receipts of the wholesale establishments up to \$173,030,000, exceeding the figures of 1901 by more than \$15,000,000. The volume of lumber shipments from Chicago was 900,000,000 feet. The local consumption for the year is estimated at \$1,175,000.

Arbitration.—The year 1902 marked a distinct advance in arbitration and conciliation in the adjustment of differences between employers and employees. The State Board of Arbitration was created in 1895; but it was hampered in its earlier years by a defective law and did not approach the highest degree of usefulness until within a recent period. With its enlarged powers and efficient membership the board has become an important factor in the industrial world. Its work in 1902 affected nearly all of the more important cities of the State. The most conspicuous results, however, were accomplished in Chicago, where, through the mediation of the board, the most serious labor disturbances of the year were adjusted. These included the strike of the department-store drivers, the strike of the stock-yards teamsters, and the strike of the freight-handlers. The latter was the more far-reaching in its effects, completely tying up the railroad freight business into and out of Chicago, and affecting the commercial interests of all the cities in the vast territory tributary to that city. The cost of the strike was estimated to be at least \$1,000,000 a day, and there was wide-spread commendation of the success of the State Board of Arbitration in hastening its end. The strike was declared off July 16, having been in effect ten days.

INDIANA, a Western State, admitted to the Union Dec. 11, 1816; area, 36,350 square miles. The population, according to each decennial census since admission, was 147,178 in 1820; 343,031 in 1830; 685,866 in 1840; 988,416 in 1850; 1,350,428 in 1860; 1,680,637 in 1870; 1,978,301 in 1880; 2,192,404 in 1890; and 2,516,462 in 1900. Capital, Indianapolis.

Government.—The following were the State officers in 1902: Governor, Winfield T. Durbin; Lieutenant-Governor, Newton W. Gilbert; Secretary of State, Union B. Hunt; Auditor, William H. Hart; Treasurer, Leopold Levy; Attorney-General, William L. Taylor; Superintendent of Public Instruction, Frank L. Jones; Adjutant-General, John R. Ward; Commissioner of Insurance, Cyrus W. Neal; Commissioner of Public Lands, L. G. Rothschild; Statistician, Benjamin F. Johnson; Geologist, Willis S. Blatchley; Tax Commissioners, J. C. Wingate, Parks M. Martin; Supervisor of Natural Gas, J. C. Leach; Secretary of the Board of Forestry, W. H. Freeman; President of the Board of Health, J. H. Forrest; Factory Inspector, D. F. McAbee; Fish and Game Commissioner, Z. T. McSweeney; Secretary of the Board of Charities, Amos W. Butler; Chief Justice of the Supreme Court, James H. Jordan; Associate Justices, John V. Hadley, Alexander Dowling, Leander J. Monks, Francis E. Baker, succeeded in January by John H. Gillett; Clerk, Robert A. Brown. All the State officials are Republicans.

A Governor is elected once in four years at the time of the presidential election. Other State officers are elected once in two years, in November of the even-numbered years. The Legislature meets biennially in January of the odd-numbered years, and consists of 50 Senators and 100 Representatives.

Finances.—The State received from the General Government in July \$635,859.20, the civil

war claim. The State debt was reduced this year by \$1,817,000, and is now \$2,887,615.12, on which the annual interest is \$101,565.

The tax duplicate of corporation property assessments in the State this year amounted to \$191,078,389.53, an increase of \$7,769,778.27.

On account of the failure of the gas supply and the consequent diminution of the value of gas property, the board reduced the assessment of pipeline companies \$688,028.26. Telegraph companies' assessments were decreased \$36,628.50. Transportation companies, including sleeping-car and refrigerating-car companies, were decreased \$26,762.77. The board increased the assessment on steam-railroad property \$5,824,836. On the property of electric and street railways it increased assessments \$1,892,860. On telephone companies the increase was \$638,660. On express companies it was \$174,841.50.

The figures on the property of the various classes of corporations were: Telephone companies, \$5,065,323.30; telegraph companies, \$2,478,183.50; steam-railroads, \$162,797,987; electric railways, \$9,639,312; transportation companies, \$846,048.23; express companies, \$2,055,981.50; pipe-line companies, \$8,195,554.

The assessed value of all property in 1902 was \$1,436,305,524. The Auditor estimates that this, together with other sources of revenue, will bring into the treasury \$2,704,350.

Decisions.—By a decision of the Supreme Court in a suit brought by the Auditor to collect taxes on the good-will of the property of a newspaper, the good-will of a business can not be taxed.

By a decision in May the Supreme Court declared the mortgage-deduction law valid. Two of the judges concurred in a minority report. They insist that the mortgage-deduction law is unconstitutional in four particulars. About 80,000 taxpayers in Indiana are affected by the court's decision. Mortgage deductions are claimed on property amounting to \$40,000,000 in value, and the benefit to the taxpayers in deductions under the law will not fall far short of \$800,000.

A suit begun by the State in 1872 against the Vandalia Railroad was won in the Supreme Court in November. The Legislature, in an act in 1847, provided that after the stockholders should receive as dividends an amount equal to the sum invested and 10 per cent. per annum, the Legislature might then regulate the tolls, and all net profits thereafter, above a sum sufficient to pay an annual dividend to the stockholders of 15 per cent., should go to the school fund. The Vandalia must pay a judgment of \$913,905 with interest at 6 per cent. Principal and interest, the judgment amounts to \$1,028,143.

The bonded debts of the 5 largest cities of the State are: Indianapolis, \$2,446,600; Evansville, \$2,155,000; Fort Wayne, \$624,800; Terre Haute, \$345,000; South Bend, \$289,500.

Education.—The number of illiterates in the State in 1900 was 90,539. The percentage of persons between the ages of ten and fourteen years able to read and write was 99.45, Indiana standing sixth in the list of States and Territories in this respect. In 1890 it stood thirteenth, with 98 per cent.

The report of the Superintendent of Education for the year ending July 31 shows that the total school fund was \$10,443,885.32, of which the schools received 6 per cent., distributed semi-annually. There was an addition of \$53,558.99 to this fund, principally from fines. Of the fund \$821,822.96 is in the hands of county auditors.

The total expenses of maintaining the schools of Indiana, including all forms of expenditure,

was \$8,585,354.98. The increase in the school attendance over the preceding year was 2,802 pupils. The total number of pupils admitted to schools was 560,224. There are 9,987 schoolhouses in the State, only 3 of which are log buildings.

The average daily wages of teachers in all common and high schools was \$2.51. The average in cities was \$2.99 and in country districts \$2.33. The average length of terms was one hundred and forty-six days—one hundred and seventy-nine in cities and one hundred and twenty-six in country.

A report on the operation of the compulsory education law shows that the 108 truant officers brought into school 25,025 children at a cost of \$27,885.50. The cost of assistance rendered poor children was \$19,801.48. The average total expenditure for each child was \$2.23.

The enrolment at the State Normal School at Terre Haute in the year ending Oct. 31, 1901, was 1,864, the largest number, 1,200, attending during the spring term. The summer-school attendance was 673. The fiscal year began with a balance of \$13,072.65 in the general fund and ended with a balance of \$16,123.78. From the State tax of $\frac{1}{10}$ th of 1 mill, \$65,910 was received. There were 475 students during the fall term, and 95 students were graduated in 1902.

The building of the former normal school at Muncie is to be opened as the Palmer University in September, having received an endowment of \$100,000 from Francis A. Palmer, of New York, another \$100,000 to be raised by the Christian Church of the country.

A class of 55 was graduated at the Indiana Law School in June. From the Medical College of Indiana 72 were graduated in April, of whom 4 were women.

A department of commerce has been added at the State University; the course requires two years and is to furnish training for business careers.

Charities and Corrections.—The number in the insane hospitals Oct. 31, 1901, was 3,961; there were 464 insane in county poor asylums, and 31 in county jails. Of those in the 4 State asylums, 2,098 were women.

The enrolment at the Institution for the Deaf and Dumb was 384, of whom 218 were boys.

From reports received by the Board of State Charities the population of the poor asylums of Indiana on Aug. 31, 1901, was 3,091—2,115 men and 1,076 women. In a Charities Board bulletin the following information is given:

"A few years ago there was spent in outdoor poor relief, including medical aid, in Indiana over \$630,000. This has been reduced in six years to less than \$210,000 a year. Ten years ago 14.8 persons in each 10,000 of the State's population were inmates of the poor asylums. Now there are 12.2 persons in each 10,000."

During the year ending May 31 the number of teachers in the Girls' Industrial School was 137; number of pupils, 927; average attendance of pupils, 507; yards of material used, 3,118; number of garments made, 1,287; amount expended, \$614.95.

Reports made to the Board of Charities for the year ending Oct. 31, 1901, indicate that during the year there were confined in the 92 county jails of Indiana 26,115 males and 1,899 females, an increase of 550 over 1900. The report says: "A synopsis of the reports shows that of the total number of prisoners 15,922 were serving sentence, 733 were confined as insane, and 5,209 were tramps." Attention is called to the number of tramps received. Some counties maintain jails as boarding-houses for tramps at public expense. In one county the books showed that the regular

in-and-out fee and full board were charged for every tramp received. Those who came in one evening and were let out the next morning were paid for by the county for two days' board at 40 cents and an in-and-out fee of 50 cents, a total of \$1.30, and the tramp received a night's lodging and 1 or 2 meals. Figures taken from the monthly reports show that for the first six months of this year 3,232 tramps were harbored in Indiana jails at a cost of \$4,483.99, of which \$1,497.05 was for sheriff's fees and \$2,987.94 for board.

There were 9,111 inmates in the 13 State institutions May 1. The cost of maintenance per capita for the quarter then ending was: Central Hospital for Insane, \$42.77; Northern Hospital for Insane, \$37.11; Eastern Hospital for Insane, \$44.67; Southern Hospital for Insane, \$44.52; Soldiers' Home, \$39.05; Soldiers' and Sailors' Orphans' Home, \$42.11; Institution for Deaf, \$69.97; School for Feeble-Minded Youth, \$37.59; State Prison, \$39.85; Reformatory, \$36.28; Industrial School for Girls and Woman's Prison, \$49.96; Reform School for Boys, \$35.74; Institution for Blind, \$95.48.

Banks.—There are 114 State banks, all in excellent condition. This year 13 new banks were organized, 1 retired from business. There are 5 savings-banks. The trust companies are coming into general use as depositories for savings.

The latest available report on State banks answers the call made Nov. 25, 1902. A comparison with the report made Sept. 15 shows that deposits have increased more than \$800,000, loans and discounts more than \$700,000, while overdrafts have decreased \$40,000 over the last call. On a combined capital of \$4,770,550 the surplus and profits amount to \$1,530,619.62.

The annual report of the savings-banks, issued in February, shows an increase in assets over the report of a year ago of \$750,597.40.

Building Associations.—The State has 403 associations, with a membership of 112,822, and assets amounting to \$29,292,665. Their assets have increased \$725,739.14. This is the first year since 1896 that there has not been a falling off in the volume of business. In addition to this there has been an increase in loans of \$1,100,748.04 and a decrease in real estate held of \$256,198.59. The increase in dues, prepaid and paid-up stock and deposits has been \$662,960.94.

Life-Insurance.—The result of the enactment of 1899 is that the credit of Indiana life-insurance companies has been raised, and now these companies find ready admission into other States, where, previous to the enactment of the law, they were debarred.

Statistics of all the companies for 1901, standard life and approved assessment and fraternal organizations, show a total paid in the State of \$4,202,863.

The Antitrust Law.—This law, passed in 1901, was in effect declared unconstitutional by the decision of the United States Supreme Court in regard to the similar statute of Illinois. Both laws are invalidated by an exemption in favor of live stock and agricultural products in the hands of the raiser or producer, or of labor organizations. Under the rulings of the court, an antitrust law, to be constitutional, must apply indiscriminately to all combinations, with no exemptions or exceptions whatever.

Agriculture.—A census bulletin issued in June shows that the farms of Indiana June 1, 1900, numbered 221,897, and were valued at \$841,735,340. Of this amount \$154,101,880, or 18.3 per cent., represents the value of buildings.

On the same date the value of farm implements and machinery was \$27,330,370 and that of live

stock \$109,550,761. These values added to that of farms make the total value of farm property \$978,616,471.

The total value of farm-products for 1899 exceeds that for 1889 by \$109,690,936.

The average area of farms has declined from 136.3 acres in 1850 to 97.4 acres in 1900. Considerably more than two-thirds of the area in farms is tilled by the owners or part-owners.

The value of live stock in 1900 was \$109,550,761, of which horses represent 37.1 per cent.; cattle, except cows, 20.7 per cent.; and dairy cows, 16.7 per cent. The value of the products of the dairy in 1900 was \$15,739,594, while the value of the poultry and eggs was \$15,614,937.

Manufactures.—In manufactures great progress is shown during the decade. The report of 1900 shows 18,015 manufacturing establishments. The aggregate capital invested in 1900 was \$234,481,528, an increase of 78 per cent. over 1890. The number of persons employed in 1900 was 155,956, an increase of 31,607 since 1890, the aggregate of wages paid was \$66,847,317, against \$51,749,976 in 1890, and the value of the products was \$378,238,100, an increase of almost 67 per cent. since 1890. This remarkable growth of manufacturing industries was largely due to natural gas.

By the factory inspector's report for 1902, a further increase of employees is shown, the total being 178,019, of whom 26,200 were women; there were 2,622 boys and 1,196 girls under sixteen.

Later figures than those of the census are shown also in a report of the State Statistician, giving a comparison of 10 representative industries, which have a total of \$38,714,977 capital invested in 1901, against a total of \$24,286,833 in 1898. Each of the 10 industries shows a large increase in the value of the product for 1901 over that of 1898. In 1898 the value of the product was \$86,283,795, and in 1901 it was \$121,434,106. The greatest increase is in the beef and pork packing industry, being \$18,103,273. The total amount paid for wages in 1898 was \$16,386,807, and in 1901 \$21,973,820.

The coal product in 1901 was given as 6,962,940 short tons, valued at \$7,078,842.

Valuable deposits of iron ore have been found along the line of the projected Indiana Southern Railroad, according to reports by experts who have recently made an examination there. In addition to the coal deposits beds of limestone have also been found. The samples of the iron ore that have been assayed show that there is practically no admixture of sulfur, and the same condition of freeness from sulfur is found in the coal veins in the immediate neighborhood.

Lawlessness.—A strike on the street-railway in Terre Haute in January was the occasion of an outbreak of mob violence, in which one man, a miner, lost his life.

A negro, guilty of assault upon 2 women, was hanged by a mob near Sullivan, Nov. 20. The sheriff, from whom he was taken by the mob, was deposed from office by the Governor, in accordance with a law passed in 1901. He was, however, entitled by the same law to a hearing before the Governor, and may be reinstated if he can show that he did all in his power to protect his prisoner.

A national federation of negroes was incorporated at Indianapolis, Aug. 23, the object of which was declared to be "to protect the colored race from mob violence, to aid a general advancement of the race, to arrest and punish lynchers of colored people, secure equal rights for colored people in all States, and to secure legislation to

pay compensation to widows of colored men deprived of their lives by other than process of law."

In September great excitement was caused by the discovery of wholesale grave robberies in the vicinity of Indianapolis. The bodies were sold to medical colleges. Several indictments were found in November against alleged grave-robbers, most of whom are negroes.

Soldiers' Memorial.—The dedication of a monument to the memory of the soldiers and sailors of Indiana who took part in the civil war was witnessed by an immense concourse at Indianapolis in May. The corner-stone of the monument was laid in 1889. Among those who took part in the dedication exercises were the Governor, Major G. V. Menzies, Gen. J. W. Foster, Gen. Lew Wallace, James Whitcomb Riley, and Commander Starr, of the Grand Army.

Political.—An election for State officers, excepting Governor, was held in November. There were 6 tickets in the field—Republican, Democratic, Prohibitionist, Populist, Socialist, and Social Labor.

The Republican State Convention met in Indianapolis, April 23, and named the following candidates: For Secretary of State, Daniel E. Storms; Auditor of State, David E. Sherrick; Treasurer of State, Nat U. Hill; Attorney-General, Charles W. Miller; Clerk of Supreme Court, R. A. Brown; Superintendent of Public Instruction, Fassett A. Cotton; Judge of Supreme Court, John H. Gillett; Judges of Appellate Court, Ulric Z. Wiley, Woodfin D. Robinson, Frank S. Roby, Daniel W. Comstock, William J. Henley, James B. Black; State Geologist, Willis S. Blatchley; State Statistician, Benjamin F. Johnson.

The resolutions, which were very long, were largely devoted to approval of the national policy and of the leaders of the party. The present State administration was commended. Other declarations were:

"We pledge the people that the Republican party will not confer special privileges on railway or other combinations, but will maintain and preserve the right of lawful competition and the supremacy of the laws over all corporations and monopolies.

"The laws touching the garnishment of wages should be revised; and the laws for the protection of miners must be observed and enforced.

"The Republican party demands the adoption and enforcement of proper laws regulating nominations, securing to every man the right to express his choice for the candidate of the party to which he belongs, whether the nominations are made by a direct primary or a delegate or mass convention."

The Democrats met in State convention in Indianapolis June 4 and made nominations as follows: For Secretary of State, Albert Schoonover; Attorney-General, W. E. Stilwell; Auditor, James R. Riggs; Treasurer, Jerome Herff; Clerk of Supreme Court, Adam Heimberger; Superintendent of Public Instruction, Samuel L. Scott; State Statistician, Myron D. King; State Geologist, Edward Barrett; Judge of Supreme Court, Fifth District, Timothy E. Howard; 3 Judges of the Appellate Court from the Southern District, John R. East, W. H. Bracken, and John D. Megee; 3 Judges of the Appellate Court from the Northern District, R. H. Hartford, James T. Saunderson, and H. G. Zimmerman.

The platform denounced trusts, the Dingley tariff law, the Philippine policy of the Government, and the Fowler bank bill; and condemned "the Republican party for refusing to give the Interstate Commerce Commission power to enforce

its decisions against discriminations in railroad rates." On the currency it said: "We recognize as an economic fact the increase of standard money arising from the vast increased production of gold from our own and foreign mines, and the prodigious influx of foreign gold into this country, as a result of an exceptional demand for our products arising from foreign wars and other causes, and we point to the results consequent upon this increase of the circulating medium as a demonstration of the truth of the quantitative theory of money."

On State affairs the following declarations were made:

"We oppose granting to corporations of any other State or States the power to acquire any railroad organized and operating under the laws of this State.

"We are in favor of restoring to citizens of the State the right to appeal to the Supreme and Appellate Courts in any civil case within jurisdiction of a justice of the peace, where the amount in controversy, exclusive of interest and costs, exceeds \$50.

"We condemn the Republican Governor of Indiana for his violation of the Constitutions and laws of the United States and the State of Indiana in his refusal to honor the requisition of the Governor of Kentucky upon regularly returned indictments for murder against fugitives from justice, and denounce this flagrant violation of his oath to support the Constitution of the United States and the State of Indiana as a species of official lawlessness, vicious in itself and subversive of that comity among the States which is an essential element of the Union of the States."

In convention, April 16, the Prohibitionists named the following candidates: For Secretary of State, James M. Dungan; Auditor of State, Dr. J. Levi Lord; Treasurer of State, Preston Rider; Attorney-General, Sumner W. Haynes; Clerk of Supreme Court, Charles F. Holler; Superintendent of Public Instruction, Andrew F. Mitchell; State Geologist, Earl Stinespring; State Statistician, J. Lewis Speicher.

The People's party made nominations as follows in convention at Indianapolis, June 4: For Secretary of State, William B. Gill; Auditor, Joseph B. Cline; Treasurer, Henry Brocksmith; Attorney-General, David F. Boger; Clerk Supreme Court, Parker T. Brown; Superintendent Public Instruction, Louis Patterson; State Statistician, E. S. Pope; State Geologist, Albert Shook.

Extracts from the platform follow:

"We declare in favor of municipal ownership of street-cars, water, light and heating plants in Indiana, and against the granting of further franchises to private corporations for such purposes.

"We favor the election of county school superintendents by a direct vote of the people.

"We condemn the practise of farming out on contract the men confined in our State prisons as vicious.

"We adhere most positively to our former position on the finance question, which has been, is, and will be the paramount question in American politics.

"We condemn in unmeasured terms the bill now before Congress, known as the Fowler bill, which seeks to give banks and corporations the power to issue currency on cash assets."

In State convention at Terre Haute, July 5, the Socialists placed in nomination a State ticket as follows: For Secretary of State, E. H. Meyer; Auditor, James Hutchinson; Treasurer, Samuel

D. Straw; Attorney-General, William McGregor; Statistician, George B. Strum; Geologist, John H. Adams; Judges of Appellate Court, William Raugh, F. J. Macomber, David Young, William J. Crake, H. B. Keppler; Superintendent of Public Instruction, Miss Martha Biegler.

The Republican ticket was successful at the polls, having a larger plurality than in the last presidential year. Following are the official figures of the vote for Secretary of State: Storms, Republican, 298,819; Schoonover, Democrat, 263,555; Dungan, Prohibition, 17,765; Gill, People's, 1,350; Meyer, Socialist, 7,111; Dreyer, Social Labor, 1,756.

IOWA, a Western State, admitted to the Union Dec. 28, 1846; area, 56,025 square miles. The population, according to each decennial census since admission, was 192,214 in 1850; 674,193 in 1860; 1,194,020 in 1870; 1,624,615 in 1880; 1,911,896 in 1890; and 2,251,829 in 1900. Capital, Des Moines.

Government.—The following were the State officers in 1902: Governor, Albert B. Cummins; Lieutenant-Governor, John Herriott; Secretary of State, William B. Martin; Treasurer, Gilbert S. Gilbertson; Auditor, Frank F. Merriam; Attorney-General, Charles W. Mullan; Superintendent of Instruction, Richard C. Barrett; Adjutant-General, Melvin H. Byers; Labor Commissioner, C. F. Wennerstrum, succeeded April 1 by E. D. Brigham; Dairy Commissioner, B. P. Norton, succeeded April 1 by H. R. Wright; Custodian, J. D. McGarraugh, succeeded April 1 by T. P. McCurdy; Veterinarian, J. I. Gibson, succeeded by P. O. Koto; Railroad Commissioners, E. A. Dawson, D. J. Palmer, Edward C. Brown; Geologist, Samuel Calvin; Fish and Game Commissioner, George A. Lincoln; Librarian, Johnson Brigham; Secretary of the Board of Health, J. F. Kennedy; Secretary of the Board of Agriculture, G. H. Van Houten; Secretary of the Executive Council, A. H. Davidson; Mine Inspectors, John Verner, J. W. Miller, E. Sweeney; Chief Justice of the Supreme Court, Scott M. Ladd; Associate Justices, Emlin McClain, H. E. Deemer, J. C. Sherwin, and C. M. Waterman, resigned, and succeeded July 1 by Charles A. Bishop; Clerk, C. T. Jones. All are Republicans.

A State election is held every November, but the term of State officers is two years, the Governor, Lieutenant-Governor, Superintendent of Instruction, one Justice of the Supreme Court, and one Railroad Commissioner being chosen in the odd-numbered years, and the Secretary, Auditor, Treasurer, Attorney-General, a Justice, and a Railroad Commissioner in the alternate years. The Legislature meets in January of the even-numbered years.

Finances.—A summary of the financial report of the biennium 1900-'01, made to the Legislature this year, was given in the Annual Cyclopaedia for 1901.

The collections made by the so-called "tax-ferrets" in 1901 amounted to \$993,699, about 10 per cent. of which was due to the State.

The railroad assessment was raised this year to \$51,112,814, an increase of \$4,041,556 over that of 1901. The aggregate taxable valuation of the express companies in Iowa for 1902 is \$366,273; last year it was \$261,587. The increase in the actual valuation would be four times the increase in the taxable valuation, or \$418,784.

The actual valuation of the telegraph and telephone property of the State is placed at \$6,512,496. The taxable valuation is \$1,628,124, or one-fourth the actual valuation.

Last year the telephone and telegraph com-

panies had actual valuation of \$5,200,996, and the taxable valuation was \$1,300,248.

The war claim of \$456,417.89 of Iowa against the General Government was allowed, and an appropriation was made by Congress this year for its payment.

Education.—By the census report Iowa stood second among the States and Territories in 1900 in respect of the percentage of persons from ten to fourteen years of age able to read and write, with 99.63 per cent., Nebraska standing higher with 99.66. In 1890 Iowa stood first, with 99.23 per cent. The number of illiterates of ten years and over in 1900 was 40,172.

The school report for 1902 shows a decrease in the number of children of school age, 728,810 in 1902 and 735,159 in 1901. The enrolment in 1902 was 560,173; in 1901 it was 562,662. The attendance was a little larger in the later year. The total amount expended in 1902 was \$9,556,890; in 1901 it was \$9,321,652. The attendance in private schools rose from 43,715 to 49,169; the enrolment in high schools was 21,692 in October, with 3,083 in the graduating classes.

Fire destroyed a wing of the main building of the Agricultural College at Ames, Aug. 14, with a loss of \$10,000. The Legislature authorized a tax of one-fifth mill for building, and a central and an agricultural building are to be erected the coming year. A "corn-judging school" is to be held at the college Jan. 5-17, 1903. Every farmer in the State is invited to be present, bringing samples of corn and other seeds.

On June 11 took place the forty-second annual commencement of the College of Liberal Arts of the State University, the thirty-seventh of the Law College, and the twentieth of the College of Dentistry, at which time ground was broken for the new medical buildings.

A new university, the Memorial, established by the Sons of Veterans, was opened at Mason City in September with an enrolment of 50. At present the course is that of a military academy, occupying three years and preparing for the college course hereafter to be established.

Coe College, at Cedar Rapids, graduated 24 in June, and Des Moines College 15. Upper Iowa University, at Fayette, has received a new library from Andrew Carnegie.

Charities and Corrections.—Following is the report for one month, May, of the number of inmates at each of the State institutions and the expenses of each: Anamosa, convicts, 417, \$7,014; Fort Madison, convicts, 451, \$7,151; Clarinda, insane, 1,001, \$17,806; Independence, insane, 1,088, \$23,999; Mount Pleasant, insane, 1,067, \$19,744; Council Bluffs, deaf, 196, \$4,407; Vinton, blind, 142, \$2,526; Davenport, orphans, 500, \$6,126; Marshalltown, veterans, 563, \$7,729; Glenwood, feeble-minded, 916, \$11,725; Eldora, reformatory, 518; \$5,397; Mitchellville, reformatory, 202, \$2,726; Cherokee building, \$25,232; totals, 7,061, \$141,588.

The main building and the chapel of the School for the Deaf, at Council Bluffs, were burned May 9. The loss was estimated at \$225,000. The State does not insure its buildings. There was also a loss of \$20,000 by fire at the Anamosa Penitentiary.

The Board of Control has prepared figures showing a large increase in the number of insane in the State, county, and private institutions in the past year. There has been a net increase of 136, not including paroles and dismissals.

The Board of Control has established departments for dipsomaniacs, inebriates, and persons addicted to the excessive use of narcotics in two

of the State hospitals, as provided for in the law on that subject passed by the last General Assembly. In November 139 inebriates were confined in two of the hospitals.

A home for ex-convicts has been built on the outskirts of Fort Dodge by Hon. L. S. Coffin on his own farm. Its purpose is to receive the most deserving prisoners as they are discharged from the penitentiaries of the State, to place them in quiet, homelike surroundings, where they can regain their self-respect and efface the prison taint, and finally to find for them situations where they may begin life anew.

Banks.—Deposits in the 310 savings and 235 State banks increased almost \$1,000,000 between June 15 and Sept. 15. On June 18 they had deposits amounting to \$133,692,464. On Sept. 15 they had \$134,513,583 of deposits. In a period of two years the deposits increased \$43,400,000.

Insurance.—The number of life companies transacting business in the State Jan. 1 was 128; the policies in force, 382,664; the amount of insurance in force, \$534,394,495. The joint-stock and mutual fire-insurance companies wrote \$311,695,076 in risks and paid \$2,652,707 in losses. The State and county mutual insurance assessment associations wrote \$91,253,782 in risks and paid \$458,362 in losses. All kinds of companies paid \$4,111,069 in losses.

Railroads.—The railroad mileage in 1901 was 9,353.90; in 1902 it was 9,614.06. Other items in the two years were: Earnings, 1901, \$54,764,635.95; in 1902, \$59,106,191.41; expenses, 1901, \$31,449,871.10; in 1902, \$39,839,794.83; net earnings per mile, 1901, \$1,851.06; in 1902, \$2,003.98. There were 193 fatal accidents in 1902, of which 9 were to passengers.

The report shows a decrease in the compensation to employees, considering the daily average. In 1901 the average daily compensation was \$1.88. In 1902 this dropped to \$1.82. At the same time there was an increase in the aggregate of wages paid and in the number of employees.

Industries and Products.—The amount of coal produced in the State in 1901 was 5,578,522 short tons, valued at \$8,016,274.

The number of farms in the census year was 228,622, valued at \$1,497,554,790. Of these farm lands, 86 per cent. was improved, the highest percentage among the States. The value of the live stock was \$271,844,000. In 1900 the number of farms operated by owners was 148,886.

The Dairy Commissioner's report of butter shipments shows that there were 4,425,930 more pounds shipped out in 1901 than in 1900, a total of 89,806,645 going out.

The rains of 1902 were more damaging to crops than the drought of 1901. The value of the corn, wheat, oats, barley, rye, flax, potatoes, and hay was estimated in December as worth \$215,722,339. In 1901 the estimate was \$274,000,000.

The number of creameries fell from 994 in 1900, with 91,417 patrons, to 920 in 1902, with 81,532 patrons.

The number of manufacturing establishments in the census year was 14,819, with capital amounting to \$102,733,102; the value of the products was \$165,000,000.

The wooded area of the State, according to the estimate of the topographer of the national Geological Survey, is 7,000 square miles.

The Prohibitory Law.—The Legislature of 1900 enacted a law which provided that section 2382 should be amended by adding to the prohibition that no one should sell the following:

"Or solicit, take, or accept any order for the purchase, sale, shipment, or delivery of any such

liquor, or aid in the delivery and distribution of any intoxicating liquor so ordered or shipped; provided that nothing herein shall prohibit traveling salesmen soliciting orders for the purchase, sale, and shipment of intoxicating liquors from persons legally authorized to sell or dispense the same."

The Supreme Court decides that the law is unconstitutional in that it interferes with interstate commerce.

Legislative Session.—The General Assembly was in session from Jan. 13 to April 11. W. L. Eaton was chosen Speaker of the House, N. E. Kendall, Speaker *pro tem.*, and W. F. Harriman, President *pro tem.* of the Senate.

In the Senate were 11 Democrats and 39 Republicans; in the House, 16 Democrats and 84 Republicans.

The constitutional amendments proposed were to provide for biennial instead of annual elections, and to give to each county one member of the House of Representatives and to such larger counties as have the fixed ratio of population an additional member, the number of members of the House, however, to be limited to 108.

Among the larger appropriations were these: To the Board of Control of State institutions, \$716,557; to the State educational institutions, \$434,269; the Capital Improvement Commission, \$250,000; St. Louis Exposition, \$125,000; National Guard, \$104,000; for erection of Vicksburg monuments, \$150,000; to finish Cherokee Insane Hospital, \$138,000; additional support for State institutions, \$75,222; pavilion at State fair grounds, \$37,500; monuments at Chattanooga, \$35,000; State Library Commission, \$12,000; State Historical Society, \$9,500; for transferring patients to Cherokee, \$21,600.

The levy of taxes for buildings at the State educational institutions was authorized—one-fifth mill for the university, and the same for five years for each of the others—the Agricultural College and the Normal School. Other acts relating to taxation were:

Making taxes on assets of any corporation, partnership, or person which are placed in the hands of a receiver a prior lien, and providing that they shall be first paid in full by the receiver.

Authorizing the levy of a 4-mill road tax.

Providing that property not to exceed \$800 in actual value of any honorably discharged Union soldier or sailor of the Mexican War or of the war of the rebellion, or of the widow remaining unmarried of such soldier or sailor, shall be exempt from taxation.

Permitting communities to vote 5 per cent. taxes in aid of railroads once in ten years.

Reducing the taxes upon foreign insurance companies from $3\frac{1}{2}$ to $2\frac{1}{2}$ per cent. upon gross premiums.

Fixing the amount to be raised during the year 1902 by taxation at \$2,300,000; during the year 1903, at \$2,000,000. On the present valuation this will make a levy of about 4 mills for the two years.

Repealing the section requiring boards of library trustees to fix a levy for the maintenance of libraries and permitting a levy of 1 mill in cities having 22,000 population and 2 mills in cities having more than 22,000 for maintenance, and a levy of 3 mills in cities of more than 25,000 for building.

Acts affecting railroads provided that railroads shall report in the aggregate to the Executive Council the following: Net income derived from business originating in Iowa and terminating in other States, from business originating in other

States and terminating in this State, from business neither originating nor terminating in Iowa, but carried across a part of this State. All of these items are to be included in one sum.

The State mine examiners are required to examine every mine having an average output of 50 tons or more as often as once in six months; and a board of 5 examiners is to be appointed to examine candidates for appointment as mine inspectors, mine-hoisting engineers, and mine foremen. Members of this board must hold certificates of competency and have had at least five years' actual experience immediately preceding appointment.

The Board of Medical Examiners is required to issue certificates to practise to qualified osteopaths.

The age to which girls may be detained at the Industrial School was raised from eighteen to twenty-one.

The Support fund of the State institutions was fixed as follows: The Institution for the Deaf and Dumb, at Council Bluffs, \$22 a month per capita for all purposes; \$22 a month per capita for all salaries and supplies at the College for the Blind, at Vinton, for each resident scholar in that institution, for nine months in each year; the Soldiers' Home, at Marshalltown, \$10 a month, for officers and others; the insane hospitals at Clarinda, Independence, and Mount Pleasant shall not exceed \$12 a month per capita; at Cherokee, \$15 when the population is under 600, \$14 when the population does not exceed 750, \$13 when the population is in excess of 900, and \$12 thereafter, provided, however, that all in excess of \$12 shall be paid out of the treasury of the State.

The allowance at the Eldora Industrial School was increased from \$9 to \$10 a month.

Other measures were:

Reorganizing the Supreme Court and increasing the salaries of the members from \$4,000 to \$6,000 per annum.

Increasing the salary of the Governor from \$3,000 to \$5,000. The Governor receives house rent amounting to \$600 a year and \$500 for services on the Executive Council, so that the increase is really from \$4,100 to \$6,100.

To punish kidnapping by imprisonment in the penitentiary by any term between ten years and life.

To provide that any person convicted of the murder of another person shall not receive any interest in the estate of the decedent as surviving spouse.

Punishing by imprisonment for not more than twenty years persons who advise, counsel, encourage, advocate, or incite murder, although no such killing takes place.

Providing for a department in one of the State hospitals for the treatment of inebriates, dipsomaniacs, etc.

Requiring children between seven and fourteen years to attend school at least twelve school weeks in each year.

Recognizing corporations organized for the care and placement of abandoned children.

Making the laws of Iowa with reference to negotiable instruments uniform with the laws of other States upon this subject; among other things this law practically abolishes the three days of grace.

Providing that savings-banks may loan not to exceed one-half of their capital stock to any person upon farm land worth twice the amount loaned.

Giving farmers' institutes \$100 a year State aid instead of \$50.

Permitting savings-banks to take deposits to twenty times their capital stock, instead of ten times, as at present.

Validating conveyances of real estate in which the husband or wife conveyed the inchoate right of dower of the other spouse.

Providing that the inheritance between parent and child by adoption shall be the same as between parent and children born in lawful wedlock.

Relieving the State Game and Fish Warden of liability for destroying illegal fishing and gaming apparatus; promoting catfish to be game-fish, placing pickerel in the class of game-fish with reference to the closed season; prohibiting the killing of fish by drugs or dynamite, etc.; making the open season for squirrels to begin with September instead of June; making rail, plover, and sandpiper and marsh birds game.

Authorizing the organization of naval militia.

Political.—For the offices to be filled at the November election the Republican State Convention, at Des Moines, July 30, named the following candidates: For Secretary of State, W. R. Martin; Auditor of State, B. F. Carroll; Treasurer of State, Gilbert S. Gilbertson; Attorney-General, C. W. Mullin; Judge of Supreme Court, Scott M. Ladd; Judge of Supreme Court, Charles A. Bishop; Clerk of Supreme Court, John C. Crockett; Supreme Court Reporter, W. W. Cornwall; Railroad Commissioner, E. A. Dawson.

The more significant declarations of the platform were those relating to tariff revision and control of trusts, and there was some controversy over these, which was settled in the Committee on Resolutions in favor of a reiteration of last year's utterances, with an addition to the trust plank, congratulating President Roosevelt on the inauguration of judicial proceedings to enforce the antitrust laws.

Last year's platform, which is reaffirmed, contained the following paragraph concerning the tariff: "We favor any modification of the tariff schedules that may be required to prevent their affording shelter to monopoly."

"We assert the sovereignty of the people over all corporations and aggregations of capital and the right residing in the people to enforce such regulations, restrictions, or prohibitions upon corporate management as will protect the individual and society from abuse of the power which great combinations of capital wield."

Attention was drawn all over the country to these declarations of the platform by the action of Hon. D. B. Henderson, Speaker of the House of Representatives, who declined to be a candidate for reelection in the Third District because he was not in accord with his constituents, not believing that the evil of trusts could be effected by revision of the tariff in the direction of free trade.

The Democratic Convention, at Des Moines, Sept. 3, made nominations as follow: For Secretary of State, Richard Burke; Auditor of State, J. S. McLuin; Treasurer of State, Dr. R. U. Chapman; Attorney-General, John D. Denison; Judge of Supreme Court (long term), Thomas Stapleton; Judge of Supreme Court (short term), J. H. Quick; Railroad Commissioner, Thomas Benson; Supreme Court Clerk, Jesse Tripp; Supreme Court Reporter, John Dalton.

Besides condemning the policy of the administration in regard to the Philippines, the permitting of shipments of war supplies from our ports for the use of the British in the Boer War, denouncing the pending Fowler banking bill, and demanding election of United States Senators by

direct vote of the people, the platform made the following declarations:

"The tariff policy, originally adopted for the avowed purpose of raising revenue to meet the enormous burdens of the civil war, has been turned to the use of individual and class interests until it has become the creator of countless unearned fortunes and the shelter of huge combinations of capital, organized in the form of trusts, which are strangling competition in many of our industries, destroying individual effort, crushing ambition largely in every line of industry, and already acquiring a power which enables them to dictate in their own interest the prices of labor and raw material and the cost of transportation of finished products.

"We charge that discrimination in freights by common carriers is the handmaid of an exorbitant protective tariff in fostering the gigantic trusts that have become a menace to the welfare of the masses, and we demand such changes in our interstate commerce act as may be necessary to secure the speedy punishment by imprisonment of any officer or agent of a corporation engaged in interstate commerce, who is guilty of such discrimination, and the enactment of further provisions that shall make such discrimination a ground for prohibiting the offending corporation from transacting the business of a common carrier in the business of interstate commerce."

A minority report from the Committee on Resolutions proposed a reaffirmation of the Kansas City platform in regard to silver coinage, but it was rejected by a vote of 344 to 384.

The ticket of the Prohibition party, whose convention was held at Waterloo, Aug. 21, was: For Secretary of State, W. W. Howard; Auditor of State, John W. Leedy; Treasurer of State, F. P. Fetter; Railroad Commissioner, E. H. Albright; Attorney-General, J. B. Ferguson; Judge of Supreme Court, J. A. Harvey; Clerk of Supreme Court, E. A. Graves; Reporter of Supreme Court, W. P. Briggs.

The platform declared that the convention "reverentially acknowledged God as the author of civil government and Jesus Christ as the ruler of the nations of the earth, and that his law is the *magna charta* of human liberty, to which all legislation should conform."

The Socialistic party met in State convention at Davenport, Sept. 2, and adopted a platform which declared the purpose of the party to acquire for society the control of Government and the ownership of capital represented by mines, machinery, and all means of production and distribution. The following State ticket was nominated: Secretary of State, W. A. Jacobs; Auditor of State, T. J. Grant; Treasurer of State, S. R. McDowell; Attorney-General, I. S. McCrelis; Judge of Supreme Court, A. D. Pugh; Clerk of the Supreme Court, A. M. Larson; Railroad Commissioner, James Lorimer.

The Republican candidates were elected by a plurality of 79,214.

Republicans were elected to Congress in all the districts except the second, where M. J. Wade, Democrat, was elected by 1,158 plurality.

Louisiana Purchase Flag-Day.—Dec. 20 was set apart, by proclamation of the Governor, as Louisiana Purchase Flag-Day. This day was the ninety-ninth anniversary of the acquisition of the territory of Louisiana by the United States, and it was proposed to observe it by a display of the flag on public buildings and business houses and dwellings if practicable.

KANSAS, a Western State, admitted to the Union Jan. 29, 1861; area, 82,080 square miles.

The population, according to each decennial census, was 107,206 in 1860; 364,399 in 1870; 996,096 in 1880; 1,427,096 in 1890; and 1,470,495 in 1900.

Government.—The following were the State officers in 1902: Governor, William E. Stanley; Lieutenant-Governor, Harry E. Richter; Secretary of State, George A. Clark; Treasurer, Frank Grimes; Auditor, George E. Cole; Attorney-General, A. A. Godard; Superintendent of Public Instruction, Frank Nelson; Secretary State Board of Agriculture, F. D. Coburn; Adjutant-General, S. M. Fox; Superintendent of Insurance, W. V. Church; Oil Inspector, S. O. Spencer; Grain Inspector, B. J. Northrup; State Printer, W. Y. Morgan; Bank Commissioner, Morton Albaugh; Labor Commissioner, W. L. A. Johnson; Members State Board of Charities, Henry J. Allen (president), Edwin Snyder (secretary) (Snyder served until Aug. 1, 1902, when he was superseded by Charles Yoe), G. W. Kanavel (treasurer), Reuben Vincent, and John Hannon. All the elected officers are Republicans. Supreme Court—Frank Doster, Chief Justice; William A. Johnston, William R. Smith, Edwin W. Cunningham, Adrian L. Greene, Abram H. Ellis, and John C. Pollock, Justices (Justice Ellis died in September, and the Governor appointed R. A. Burch in his stead). Prior to 1901 the Supreme Court consisted of the Chief Justice and two associate justices. The court was so far behind with its work that in 1895 provision was made for a Court of Appeals, of 6 members, to relieve the Superior Court of a portion of its work. The Court of Appeals expired by limitation of the law Jan. 14, 1901. At the general election of 1900 a judicial amendment to the Constitution, providing for the increase of the membership of the Supreme Court to 7, was adopted, and the 4 additional members—Cunningham, Greene, Ellis, and Pollock—were appointed by Gov. Stanley. With the exception of the Populist Chief Justice, all are Republicans.

The State officers are elected in November of the years of even number. The Legislature meets biennially in January of the odd-numbered years. The session is limited to fifty days.

Finances.—The State Treasurer's report shows the financial affairs of Kansas to be in good shape, the payment of taxes, fees, bonds, and interest being prompt and regular. The total delinquent taxes due the State (dating from 1861) are only \$62,814.94, compared with \$74,748.77 two years ago, and \$164,838.58 four years ago. The total assessed valuation of property for 1902 was \$363,163,630; the total State tax, \$1,997,354. The State tax levy for the year was 5½ mills, the same as for the three preceding years. Property in Kansas is customarily assessed at from one-third to one-tenth of its actual value. This year a State Tax Commission, created by the last Legislature, drew up for presentation before the next Legislature a tax law designed to correct the inequalities of the present method of assessing property. The total appropriations made by the Legislature for the fiscal year ending June 30, 1902, amounted to \$2,624,905.96. Of this amount, \$2,258,493.61 was drawn, leaving unexpended \$366,412.35. The entire bonded indebtedness of the State, amounting to \$632,000, is held by the State school funds. On July 1, 1903, \$220,000 of the State bonds will fall due, and on Jan. 1, 1904, \$159,000. The Treasurer this year says that with reasonable prudence it will not be necessary to refund them, and recommends payment when due. The entire receipts for the fiscal year ending June 30 amounted to \$3,595,350.19; disbursements, \$3,545,609.33; leaving a balance of \$627,366.85.

The semiannual examination of the treasury, held Dec. 20, 1902, showed cash on hand to the amount of \$241,283.59, distributed as follows: General revenue, \$81,935.10; State-House, \$251.07; State-House (completion), \$408.01; live stock sanitary inspection, \$2,295.65; permanent school, \$11,385.82; annual school, \$16,802.34; University permanent, \$9.47; University interest, \$132.50; Normal School permanent, \$687.68; Normal School interest, \$52.95; Agricultural College permanent, \$365.49; Agricultural College interest, \$1,281.74; insurance examination, \$80; Stormont Library interest, \$1,474.25; municipal interest, \$2,672.84; State twine plant revolving fund, \$121,448.68.

The bonded indebtedness of all municipalities in Kansas, comprising all securities outstanding issued by counties, cities, townships, boards of education, and school district boards, amounted, on June 30, to \$32,614,909. Adding the indebtedness of the State, \$632,000, the total is \$33,246,909.

State Property.—The Auditor's estimate shows the property owned by the State to be worth \$11,168,303. In this amount is included endowment funds of State institutions of learning to the amount of \$901,180. The Capitol building is valued at \$3,000,000; the Executive Mansion at \$35,000 (what it cost); and the new State-House heating plant at \$50,000. All told, the State owns 12,249 acres of land and 39 city lots.

Following is a statement of the property belonging to the various State institutions: State University, \$1,225,000; Emporia Normal, \$570,000; Manhattan Agricultural College, \$1,083,000; Quindaro Industrial School, \$21,500; Penitentiary, \$1,594,500; Hutchinson Reformatory, \$510,595; Dodge City Soldiers' Home, \$108,000; Ellsworth Biekerdyke Home, \$17,250; forestry stations at Dodge City and Ogallah, \$5,415; Peabody silk station (unused), \$2,500; Osawatimie Insane Asylum, \$800,300; Topeka Asylum, \$791,100; Parsons Asylum, \$118,000; Topeka Reform School, \$186,050; Winfield Imbecile Asylum, \$158,900; Beloit Industrial School for Girls, \$115,500; Atchison Orphans' Home, \$183,000; Kansas City Blind School, \$156,250; Olathe Deaf and Dumb School, \$272,965; Fort Hays Experiment Station and Normal School, \$163,688.

The fees from the various departments collected for the fiscal year ending June 30, 1902, were: Oil Inspector, \$19,544; Grain Inspector, \$34,205; Auditor, \$1,464; Secretary of State, \$12,895; Clerk of Supreme Court, \$14,133; Bank Commissioner, \$8,688; stenographers, \$2,715; Live Stock Sanitary Commission, \$4,260; Normal School, \$5,469; charter fees, \$40,390; fees for examining insurance companies, \$2,263; 2-per-cent. tax collected by State Superintendent of Insurance from insurance companies for distribution among the fire departments of the State, \$123,625.

For the expenses of 1902 the last Legislature appropriated \$2,624,905.96. The expenditures were \$2,258,593.61, leaving a balance of \$366,312.35.

There was turned back into the general fund \$88,559.38 of the appropriation made for the completion of the State-House. The Adjutant-General turned back \$21,292.40. The Agricultural College had a balance of \$17,569.39 and the Penitentiary \$38,000.

Banks.—The statement called for at the close of business on Nov. 25, 1902, showed that there were doing business in Kansas 130 national and 477 State and private banks. The total deposits in all banks were \$82,480,515.61; total loans and discounts, \$67,709,842.05; total overdrafts, \$1,045,-

033.45. The individual deposits in the national banks aggregate \$36,557,008.01; in the State banks, \$39,541,407.80. While there are more than three times as many State as national banks, the capital stock of the former aggregates but \$7,751,000, compared with \$9,235,500 for the latter. As to surplus funds the State banks have \$1,769,701.86; the national, \$1,675,958.56. It was expected that the November statement would show a decrease in deposits over the statement of the preceding September, but there was an increase in the State banks amounting to \$75,885.61, and in the national banks \$186,576.99. In the year 65 State banks were incorporated, and 10 national banks began business. The report of the Bank Commissioner shows that 85 State and 13 private banks have an unimpaired surplus equal to or greater than 50 per cent. of their capital. With but few exceptions these are in small towns, with good agricultural surroundings, their capital ranging from \$5,000 to \$50,000. There were no bank failures in 1902.

Insurance.—On Dec. 20, 1902, there were authorized to do business in Kansas 209 insurance companies: 70 life, 42 fire, 21 casualty, 20 mutual, 56 fraternal beneficiary. Four companies retired in the year: 2 fire, 1 mutual, 1 fraternal. Sixteen new ones were admitted: 4 life, 11 fraternal, 1 mutual. The department issued to agents 10,265 licenses. Up to Dec. 20, 1902, the fees collected amounted to \$255,461.95, of which \$132,900 went to the general fund and \$22,561.95 to the fund for distribution among the fire departments of the State, this fund being raised by a tax on the companies doing business in the State. The Insurance Department nets the treasury more than any other department of State work.

Education.—Kansas has a school population of 506,820 between the ages of five and twenty-one; total enrolment, 389,272. There are 9,106 schoolhouses and 11,709 teachers. The value of all school property is \$18,603,324. The amount expended for education in 1902 was \$6,171,205. Of this amount, \$4,804,562.55 represents the total expense of the public schools. There was collected for the public schools for the year \$5,505,240.11, leaving a balance of \$700,677.56. The permanent school fund amounts to \$7,500,000, and the interest of this amount is distributed semi-annually. The permanent fund of the State University is about \$145,000, and the yearly interest amounts to \$7,500. The State Normal school has a fund of \$200,000, the yearly interest amounting to \$10,000. The fund of the State Agricultural College aggregates \$500,000, and the interest is \$26,500. These funds are increasing yearly as the result of the sale of land held in trust by the State for the schools. More than 500,000 acres of school land remain unsold. Compromises were effected with four of the far western counties whose delinquent bonds are held in the permanent school fund. A portion of the interest was remitted, and the rate lowered. The demand for school land is increasing. The Auditor's records show that in 1902 the land sales aggregated \$178,427, and most of it was for the permanent school fund. The rentals for unsold school land for the year amounted to \$20,790. A detailed statement of money paid out for education for the past year shows: Public schools, \$4,804,562; county high schools, \$60,763; business colleges, \$50,975; shorthand and schools of telegraphy, \$10,685; manual training-schools, \$6,155; medical schools, \$8,000; Soldiers' Orphans' Home, \$4,000; Industrial School for Boys, \$25,732; Swedish Orphans' Home, \$2,000; denominational schools

(academies and colleges), \$495,219; private normals, \$6,500; State educational institutions, \$314,432; federal educational institutions, \$319,000; Young Men's Christian Associations (doing educational work), \$19,645; total, \$6,171,205. A statement of the value of all school property is: Public schools, \$11,669,470; county high schools, \$214,799; business colleges, \$52,000; shorthand and schools of telegraphy, \$25,000; manual training-schools, \$19,296; medical schools, \$60,000; Industrial School for Boys, \$175,800; Industrial School for Girls, \$116,300; denominational schools (academies and colleges), \$2,768,100; private normals, \$50,000; elocution and oratorical, \$2,500; State educational institutions, \$3,176,959; federal institutions, \$282,100; total, \$18,603,324.

There are but \$3,101,899 in school bonds outstanding, of which \$249,740 were issued in the past two years. During the same period 137 new schoolhouses were erected at a cost of \$263,319. There are 8,323 women teachers and 3,386 men. The men receive an average monthly salary of \$44.24; the women, \$36.55. The average length of the school term is 25.15 weeks. The average levy of taxes for school purposes is 11.05 mills. Wyandotte ranks first in value of school property, \$685,000. Haskell is the other extreme, \$2,150. One county (Gove) has no bonded school indebtedness whatever. In proportion to school population Kansas has a school enrolment larger than that of any other State in the Union. There are 25 counties in which women are superintendents of public instruction. Kansas ranks fifth among the States in percentage of persons who can read and write—99.48. Ten years ago it ranked fourth. Seventeen per cent. of the school-children enter high schools; only 6 per cent. go to college.

Kansas has 5 manual training-schools; 12 county high schools; 106 city high schools that prepare students for entrance to the State University; schools of telegraphy, 2; oratory and elocution, 2; music, 10; business colleges, 23 (in addition, some denominational and private schools also support business departments); medical colleges, 2; private normals, 3; denominational schools, 30; colleges and universities, 26; State educational institutions, 5; federal institutions (Indian), 2; Young Men's Christian Association schools, 7.

The State University, at Lawrence, has 80 instructors; enrolment, 1,233; graduates last commencement, 199; value of buildings and apparatus, \$1,000,000; endowment, about \$145,000; total expenditures for current year, \$165,000; tuition, per annum, \$10; for non-residents, \$25; average total annual expense per student, \$133; volumes in library, 37,764. The State Normal School, at Emporia, has 44 instructors; enrolment, 2,034; value of buildings and apparatus, \$248,000; volumes in library, 15,000; expenditures for current year, \$65,965.37. The Western Branch of the State Normal School, at Hays City, founded in 1902, has 3 instructors; enrolment, 70; land owned, 4,100 acres, valued at \$80,000; value of buildings and apparatus, \$6,990.78. The State Agricultural College, at Manhattan, has 63 instructors; enrolment, 1,396; land owned, 323 acres; value of buildings and apparatus, \$484,708; endowment, \$491,181.36; volumes in library, 23,168; pamphlets, 20,000; value, \$53,625; total receipts for year, \$73,747.35; total expenditures, \$73,467.10; the Fort Hays branch experiment station of the Agricultural College, founded in 1901, has 3,700 acres; value of buildings, \$2,000; apparatus, \$500; expenditures for the current year, \$3,000. The first steps in experimental work have been entered upon at this station. Arrange-

ments have been made by the Government to cooperate with the State in experimental irrigation. The Normal School, at Emporia, and the Agricultural College at Manhattan are the largest institutions of their kind in the world.

The Kansas Medical College, in Topeka, has 33 instructors; enrolment, 98; value of buildings and apparatus, \$25,000; expenditures for year, \$4,000.

Washburn College, Topeka, has 25 instructors; enrolment, 238; value of buildings and apparatus, \$198,000; endowment, \$75,000; volumes in library, 10,000; expenditures for year, \$30,107.60. A well-equipped observatory, which will cost about \$75,000, is in process of construction at Washburn.

Western University (industrial school for negro youth), at Kansas City, has 10 instructors; 4 lecturers; enrolment, 103; value of buildings and apparatus, \$40,000; expenditures for year, \$7,000.

Topeka Industrial and Educational Institute (for negro youth) has 9 instructors; 2 lecturers; enrolment, 134; value of buildings and apparatus, \$10,325; expenditures for year, \$3,655.36; supported by donations.

Haskell Indian School, at Lawrence (federal), has 66 instructors; enrolment, 891; land owned, 1,000 acres; value of buildings, \$250,000; expenditures for year, \$152,000.

Traveling Libraries.—The traveling-library department of the State Library contains more than 10,000 books, having doubled the number in the past two years. Libraries to the number of 225 are in actual use. Each library contains 50 books, made up in any manner to conform to the orders sent in. The majority of them are sent out to schools, both in cities and rural districts. In many instances these traveling libraries lead to the establishment of permanent ones in the communities that use them. The heartiest reports in their favor come from country districts and small towns. The State appropriation is \$4,000 annually, \$3,000 of which is to be used in the purchase of new books. Frequent calls are made for these libraries from study clubs.

Charitable Institutions.—Besides the 8 institutions directly under the control of the Board of Trustees of State Charities and Corrections, there are 28 independent charities that receive State aid, the appropriations ranging from \$300 to \$2,000 a year. One, the Kansas Children's Home Society, receives \$2,000; another, the Kansas Industrial and Educational Institute for Colored Youth, receives \$1,500; 15 receive \$700, and the others from \$300 to \$2,000 per year. Reports made by 25 of these concerns show 1,138 inmates and patients, and buildings and property valued at \$498,300.

The Topeka State (insane) Hospital has 1,258 inmates; expenditures for fiscal year ending June 30, 1902, \$169,717.04.

The Osawatomie State (insane) Hospital has inmates, 1,094; officers and employees, 172; expenditures for the fiscal year, \$150,217.99.

The School for the Deaf, at Olathe, has inmates, 250; officers and employees, 42; expenditures for the fiscal year, \$47,790.31.

The School for the Blind, at Kansas City, has inmates, 105; officers and employees, 21; expenditure for the fiscal year, \$22,086.59.

The Soldiers' Orphans' Home, at Atchison, has inmates, 257; officers and employees, 41; expenditures for the fiscal year, \$32,429.20.

The Boys' Industrial (reform) School, at Topeka, has inmates, 198; officers and employees, 35; expenditures for the fiscal year, \$41,887.20.

The Girls' Industrial (reform) School, at Beloit, has inmates, 123; officers and employees, 20; expenditures for the fiscal year, \$25,730.

The School for Feeble-Minded Youth, at Winfield, has inmates, 288; expenditures for the fiscal year, \$48,503.54.

The School for the Feeble-Minded and the asylums at Topeka and Osawatomie are sadly overcrowded, unable to receive patients that are held in private asylums. At Parsons a third asylum is in course of construction. It is being built with especial reference to the care of epileptics. All patients of this kind will be assembled there. Provision was made by the last Legislature for inspection of the poorhouses, jails, and lock-ups of the State by members of the Board of Charities and Corrections. Reports made by the inspectors show that in nearly all instances the inmates of the poorhouses are comfortably clothed and well fed, but in many instances the quarters are poor and the conditions unsanitary in the extreme. Many buildings were found unfit for use, but the law gives the inspectors no power to condemn. Some of the oldest and wealthiest counties in the State have the meanest and worst-kept poorhouses. In a general way, the inspectors report, the jails of the State "are a disgrace to civilization," many of them being both unsanitary and unsafe.

The State Industrial Reformatory (for boys), at Hutchinson, has 301 inmates; 43 officers and employees; total value of all property, \$503,491.22; total expense for the fiscal year, \$90,379.93.

The State Penitentiary has 1,089 inmates; 85 officers and employees; the appropriation for the last fiscal year was \$179,300; balance of appropriation unexpended, \$10.91; total cash earnings, \$50,949.76; cash expenditures over cash receipts, \$128,350.24. Against this excess of cash expended over cash received are set earnings to the amount of \$110,280.11, for which no cash was remitted, leaving a debit balance against the Penitentiary of \$17,070.13. In 1902 the Penitentiary mine furnished the various State institutions with \$70,315.05 worth of coal and \$13,231.84 worth of brick. The Penitentiary plant is furnishing all the brick that will be needed for the new Parsons asylum at a cost of a trifle more than \$2 a thousand. In the warden's judgment it has been demonstrated that the prison binding-twine plant has been successful. In the year the plant turned out 1,101,660 pounds of twine; cash sales amounting to \$106,521.58. In September the plant paid the State the \$112,000 due on the revolving fund, the \$150,000 which was appropriated to start the plant, making said fund whole, the balance then on hand being \$22,713.41, in cash and raw material. Aside from the financial success, the plant is considered as of special value in keeping the price of twine made by the trust below an exorbitant figure.

Less than 6 per cent. of the prisoners released under the terms of the parole law violated the conditions under which they received liberty.

Products.—In 1902 Kansas, in common with other States of the West, suffered considerably from long-continued dry weather. In 1902 the farmers' principal trouble was caused by floods in Kansas streams that were greater than any that had occurred in many years. One result was that the yield of wheat was cut down materially, and the quality of what was raised was injured in great degree, but the yield of corn was the greatest in the State's history.

The yield of winter wheat was 54,323,839 bushels. Its home value is given as \$28,983,943.60.

The area sown, as returned by township assessors in March, was 6,254,474 acres. The area reported sown for next year's crop is 6,020,103 acres, being a decrease of 234,644 acres, or 3.7 per cent. below last year's sowing, which was much the largest ever reported. The shrinkage in spring-wheat sowing, so conspicuous annually of late years, is again strikingly in evidence this year with but 46,293 acres, and a yield of 325,397 bushels, worth \$155,546.57.

The corn area was 6,990,764 acres (which includes the 5,919,590 acres reported by assessors, plus 1,071,174 acres of the plowed-up wheat-land first planted to corn) and yielded 201,367,102 bushels, worth \$78,321,653.26.

The yield of oats was nearly 60 per cent. greater than last year, or 32,966,114 bushels, the largest yield since 1892.

The yield of potatoes, on a conspicuously diminished area, 60,618 acres, was 8,193,632 bushels, the largest and best crop by far since 1899, with a value of \$3,136,856.71.

The net increase in value of this year's agricultural productions over that of 1901 is \$20,614,343; and of live stock \$2,069,680. In two years the increase in value of agricultural productions has been \$28,072,589, and of live stock \$11,649,659. The total increase over the values of three years before amounts to \$68,071,029.

The quantity of old corn in the hands of farmers on March 1 was 7,724,942 bushels. The year before it was 35,121,339 bushels, and two years before 48,252,667 bushels. The quantity of old wheat in farmers' hands March 1 was 9,664,595 bushels. The year previous 7,996,555 bushels, and two years previously 4,824,828 bushels.

Other products of 1902 are: Rye, 3,728,296 bushels, valued at \$1,584,321.31; barley, 2,188,973 bushels, valued at \$801,381.69; buckwheat, 2,770 bushels, valued at \$2,216; castor-beans, 4,400 bushels, valued at \$5,500; cotton, 136,005 pounds, valued at \$9,520.35; flax, 1,427,975 bushels, valued at \$1,713,570; hemp, 10,200 pounds, valued at \$610; tobacco, 15,150 pounds, valued at \$1,515; broom-corn, 16,584,205 pounds, valued at \$495,640.15; millet and Hungarian millet, 400,160 tons, valued at \$1,445,415; sorghum for sirup, 1,792,200 gallons, valued at \$663,114; value of sorghum, Kafir corn, milo maize, and Jerusalem corn for forage, \$12,738,694; tame hay, 803,934 tons, valued at \$4,823,604; prairie hay, 820,637 tons, valued at \$3,282,548; wool-clip, 647,427 pounds, valued at \$97,114.05; cheese, butter, and milk, \$8,412,217.65; poultry and eggs sold, \$5,706,352; animals slaughtered or sold for slaughter, \$51,346,589; horticultural and garden products and wine, \$1,995,550.50; honey and beeswax, 403,155 pounds, valued at \$60,631.20; wood marketed, \$186,150; total value of products, \$215,868,995.

Railroads.—Kansas has 8,753.55 miles of main track, and 1,636.25 miles of sidings. The assessed valuation of all railroad property is \$60,276,206. In 1902 two branches were constructed by the Missouri, Kansas and Texas in the southeastern portion of the State; one from Moran to Iola, the other from Mineral Junction to Joplin, their aggregate length being about 37 miles. The Kansas-Southwestern, a line 59.35 miles long, from Cale Junction to Anthony, became the property of the Santa Fé. The Kansas and Southern, an 8-mile road in Pottawatomie County, connecting Westmoreland with Blaine, on the Leavenworth, Kansas and Western, operated independently, went into the hands of receivers in the fall. The Kansas City, Mexico and Orient, chartered in May, 1900, to build from Kansas City to Port

Stilwell, on the west coast of old Mexico, has in operation a portion of its line, south from Anthony, in Harper County, into Texas. Grading has been done for a portion of its road-bed in Lyon County. In November preparations were begun on an electric line to connect Wichita with McPherson. Surveys had also been completed for an electric line up the valley of the Kaw, connecting Kansas City, Mo., and Topeka. Only 5 of the 105 Kansas counties, and but 7 county seats, are without railroad communications.

National Guard.—The Legislature of 1901 passed a militia law, and the organization of the National Guard of the State is made to conform as closely as possible to the organization of the regular army. The membership of the National Guard is: Officers, 126; enlisted men, 1,232. There are 2 regiments of infantry, and an artillery battalion. All equipment required by the organized militia of the State is supplied by the United States to the amount of \$21,241.82 annually. This equipment remains the property of the United States, the State being held to close accountability. The value of the property for which the State of Kansas is responsible at the close of the fiscal year ending June 30, 1902, is: Ordnance and ordnance stores, \$42,020.72; quartermaster's supplies, \$55,795.61; aggregate, \$97,816.33. The old Napoleon smooth-bore, muzzle-loading field-guns have been discarded, and the artillery is now equipped with 4 3.2-inch breech-loading steel guns. The infantry is still equipped with the Springfield rifle. The militia took part in the military maneuvers conducted by the regular army at Fort Riley in September, the Legislature having made an appropriation for an annual muster, and on being invited to do so, the militia men participated with the regulars in their mimic war. For the maintenance of the National Guard for the fiscal years ending June 30, 1904, and June 30, 1905, the Adjutant-General recommends that the Legislature make an appropriation of \$60,040.

Free Employment Agency.—December closed the twentieth month for the State Free Employment Bureau established by the last Legislature (1901). In that time 4,694 applications for work were received, of which 3,971 were supplied. It is believed by the director that a large number of those reported as not finding places had simply failed to notify the agents, and hence were marked as unprovided for. In the same period there were 1,993 applications for help, of which 966 were furnished. The director assigns as the reason for the failure to provide the help sought the general prosperity that prevailed, making it next to impossible to find, in this or other States, unemployed men or women. Of the 1,027 unsupplied, two-thirds represent applications for farmhands received in September and October, 1902. The wages offered were largely in excess of the ruling rates during previous years, yet men could not be obtained from any source. The total figures, as shown by the director's consolidated report, are: Work and help desired, 6,687; furnished, 4,937; not secured, 1,750. The State employment agent works in connection with the clerks of cities of the first and second class, the clerks receiving no additional remuneration for this work. All books and blanks are furnished by the State, the city furnishing a room in which to do the business. No charges are made to those seeking employment or those in quest of help. For the most part, housemaids and common laborers have benefited in greatest degree by the new law, although it is planned for all classes.

Labor.—Eight hours constitute a day's service in State, county, city, town, and other municipal

work. The matter of seeing that the law is obeyed is in the hands of the State Labor Commissioner. In 1902 he enforced recognition of the law by taking 9 cases into court—the same number as last year. In 55 cases the law was enforced without litigation; about one-fourth of the number that were settled in this manner in the previous year; but the number of men affected by the decisions was about 5,000, against one-fifth that number in the previous year. Several cases this year involved large numbers of men. In several instances the State Labor Commissioner acted as a mediator in disputes arising between workmen and employers, and affected amicable settlements. The year was marked by a great increase in the strength and extension of labor-unions, the number growing from 337 to 398, the new unions and the increases in the old ones making the total number of members greater by 17,000.

Antiliqor Work.—Mrs. Carrie Nation, the erratic Kansas woman who in 1901 began a spectacular campaign against saloons in Kansas, smashing several bars herself, after being released from jail in Topeka in the early part of the year, set out on a lecturing tour, and appeared in the Eastern States. She returned to Topeka in November, and the day after her arrival created a disturbance on the street and was promptly placed in jail, in default of payment of the fine imposed, whereupon she returned to her old plan of writing letters to newspapers, denouncing officials, from President Roosevelt down to the police judge of Topeka, for what she termed their complicity in the liquor traffic. After eleven days in jail she was released, whereupon she immediately began to hold meetings again, and to work on the organization of a new political party, its object being the suppression of the liquor traffic.

An investigation following the November elections, made by the State Temperance Union, revealed that in 36 out of 82 counties reporting the enforcement of the prohibitory law was an issue in the campaign, while in 46 it was not. Announcement was made by the union that an aggressive campaign would be entered into for the purpose of winning the spring municipal elections.

More than ordinary interest was manifested in the situation with regard to the prohibitory law during the year, partly because of the fact that in Topeka, always the head and center of the work for prohibition, a Democrat was seated as mayor after a contest case had been carried to the Supreme Court, and open saloons were allowed to run in the capital city on payment of a monthly "fine"—a plan followed in practically all the larger towns of the State and in many of the smaller ones, but which was new to Topeka.

Legal Decisions.—In the case of *The Atchison, Topeka and Santa Fé Railway Company vs. The Kansas City, Mexico and Orient Railway Company* (not yet reported) the Supreme Court held that "one railway corporation may, under the general statutes of eminent domain, condemn for its right of way real estate belonging to another corporation not in actual and necessary use for railway purposes."

In the *Consolidated Electric Light and Power Company vs. Daniel Healy* (not yet reported) the court said in its syllabus: "It is the law of this State that one who maintains on his premises what is called an 'attractive nuisance,' that is, a place which, though patently dangerous to those of ordinary knowledge and prudence, is so enticing to others excusably lacking in intelli-

gence and caution as to induce them to venture to it, is liable for resulting injuries to the latter; and the same rule applies to one who maintains on his own premises a dangerous instrumentality not in itself attractive, but placed in such immediate proximity to an attractive situation on the premises of another as to form with it a dangerous whole, notwithstanding the attractive situation on the other premises may not be of itself dangerous."

Rural Free Delivery.—At the beginning of the year, 359 rural free-delivery routes were in operation in the State, the carriers' monthly wages amounting to \$15,387.66. By the end of the year there were in operation 652 routes, the December payment of carriers' wages being \$33,000. There were pending 417 applications for new routes, and 84 reports were awaiting the action of the department in December.

Political.—State elections are held in Kansas in the even-numbered years. Six tickets were placed in the field in 1902: Republican, Democratic, Prohibition, Socialist, and Populist. The Democratic forces represented the old-line Democrats and the great majority of the old Populist party. For the first time in Kansas these two organizations went into the campaign under a single ticket heading on the Australian ballot. This was made necessary by the passage of a law by the Legislature of 1901 prohibiting the name of any candidate from appearing under more than one ticket heading on the ballot. It had been the practise for the Democrats and Populists to nominate the same candidates, running them under both "Populist" and "Democratic" headings. Both parties held their conventions as usual, but by agreement there was a division of offices, and it was decided to call the fusion forces "Democrats." This action marked the death of the once dominant Populist party in Kansas. The original Democrats met in convention at Wichita, on May 22, and nominated their portion of the ticket as follows: For Justice of the Supreme Court, two-year term, John C. Cannon; six-year term, J. D. McCleverty; Governor, W. H. Craddock; Secretary of State, Claude Duval; Auditor, J. M. Lewis; Superintendent of Instruction, William Sense. Mr. Sense withdrew and his place was taken by William Stryker. The Democrats passed resolutions in which they reaffirmed faith in the national platform of 1900; denounced trusts, and declared the Republican party was responsible for them; denounced the Republican Legislature for passing the ballot law making it impossible for a candidate to have his name in more than one place on the ballot; favored reform in the tax laws of the State, and such changes in the law as would reach trusts and monopolies and give to municipalities the right to determine as to methods of taxation respecting local matters; declared for the ownership and operation of all public-service functions by and in the control of the people; declared in favor of electing a Legislature free from "railroad domination"; declared in favor of legislation prohibiting railroad passes; approved the position taken by the Democratic members of Congress with respect to the duty of the United States toward the Philippines; condemned the "official action and hypocrisy" of the Republican administration for "cowardly dodging" on the Kansas prohibitory question; declared in favor of resubmitting the prohibitory amendment to a vote of the people.

On June 24 the Populist wing of the party met in Topeka and completed the ticket by nomina-

ting: For Justices of the Supreme Court, six-year terms, Edwin S. Waterbury and Benjamin F. Milton; four-year term, Frank Doster; Lieutenant-Governor, Fred J. Close; Treasurer, David H. Hefebower; Superintendent of Insurance, Dan Hart; Congressmen at Large, Jeremiah D. Botkin. Resolutions were passed in which they reaffirmed the principles of the last national platform; demanded initiative and referendum as necessary to secure needed legislation in the interests of producer and laborer and to correct abuses; demanded the enactment of a primary election law by means of which fair expression of opinion in selecting candidates might be secured; approved the declaration of the Democratic State platform in regard to trusts, taxation of corporations, public ownership, and passes; denounced the Republican party for "subserviency to trusts and combines," and its maintenance of an "unnecessary and burdensome tariff on trust-made goods"; and for its refusal to give promised relief to Cuba by reducing sugar tariff; denounced the ballot law passed by the Republicans; criticized the Republicans for failure to provide a railroad commission elected by popular vote; denounced the extravagance and partizanship of the last Republican Legislature (1901); demanded that railroad property be assessed at as high rate as the property of "natural citizens"; favored graduated taxation, State insurance, and reduction of the extravagant expenditures for public printing by the installation of a plant owned by the State; demanded, on the part of the next Legislature, a rigid examination of the methods followed by the American Book Company in introducing its publications into the schools; deplored the death of President McKinley, and demanded legislation to stamp out the "whole viperous brood of murderous anarchists" in the United States.

On May 28 the Republicans met in State convention in Wichita, and nominated: For Justices, six-year terms, H. F. Mason, J. C. Pollock, A. L. Greene; four-year term, A. H. Ellis (Justice Ellis died on Sept. 25, and his place on the bench was filled by the appointment of R. A. Burch, whose name was also placed on the ticket instead of that of Justice Ellis); two-year term, E. W. Cunningham; Governor, W. J. Bailey; Lieutenant-Governor, D. J. Hanna; Secretary of State, J. R. Burrow; Treasurer, T. T. Kelly; Auditor, Seth G. Wells; Attorney-General, C. C. Coleman; Superintendent of Instruction, Insley L. Dayhoff; Superintendent of Insurance, Charles H. Luling; Congressman at Large, Charles F. Scott. The Republicans passed resolutions in which they reaffirmed adherence to the national platform of 1900; mourned the death of President McKinley and demanded early passage of law for protection of Presidents from similar assaults; heartily approved the administration of President Roosevelt, and pledged him support for nomination in 1904; declared in favor of liberal pensions for soldiers of the civil war, their widows and orphans; condemned the attacks made on the army in the Philippines; approved the efforts of the administration to enforce the Sherman antitrust law; reaffirmed faith in a protective tariff, and recommended such reciprocal relations as would open new markets without interfering with home industries; approved legislation barring Chinese immigration; approved abrogation of the Clayton-Bulwer treaty; and commended Gov. Stanley's administration.

The Prohibitionists nominated: For Governor, F. W. Emerson; Lieutenant-Governor, W. Buffing-

ton; Secretary of State, George Holsinger; Treasurer, E. A. Kennedy; Auditor, S. P. Gould; Attorney-General, F. M. McHale; Superintendent of Insurance, Sena H. Wallace; Superintendent of Instruction, William L. Coryell; Congressman at Large, W. H. Ransom.

The Socialists nominated: For Justices of the Supreme Court, six-year terms, F. L. McDermott, C. R. Mitchell, F. J. Arnold; four-year term, H. H. Benson; two-year term, Charles Gorsuch; Governor, A. S. McAllister; Lieutenant-Governor, John M. Parr; Secretary of State, J. T. Barnes; Treasurer, J. E. Taylor; Auditor, W. J. McMillan; Attorney-General, G. C. Clemens; Superintendent of Instruction, Luella R. Kraybill; Superintendent of Insurance, C. G. Warrington; Congressman at Large, Louis Matignon.

The Populists nominated: For Justice, six-year term, J. C. Tillotson; two-year term, J. Y. Robbins; Governor, James H. Lathrop; Lieutenant-Governor, T. B. Wolfe; Secretary of State, Edward F. Green; Treasurer, P. B. Maxson; Auditor, R. C. Bradshaw; Attorney-General, Maxwell Thorp; Superintendent of Public Instruction, W. G. Riste; Superintendent of Insurance, A. E. Munch. This ticket was placed on the ballot by a few of the old-line Populists who objected to the fusion of their party with Democracy. The head of the ticket received but 635 votes.

The Republicans elected their entire State ticket and all the 8 Congressmen, securing more than two-thirds of the county officers and 95 of the 125 members of the House of Representatives. The Republicans also have 34 of the 40 members of the Senate, which held over. The vote on the heads of the tickets was: For Governor, W. J. Bailey, Republican, 159,242; W. H. Craddock, Democrat, 117,148; F. W. Emerson, Prohibitionist, 6,065; A. S. McAllister, Socialist, 4,078; J. H. Lathrop, Populist, 635. Bailey's plurality, 42,094. Bailey's majority was 31,316, the largest ever given to a candidate for Governor in Kansas.

Compared with the vote for Governor in 1900, these figures show a decrease in the Republican vote of 22,651; a decrease for the Democrats of 47,645; a gain for the Socialists of 2,820; a gain for the Prohibitionists of 3,403. Thousands of ballots were thrown out because of defective markings.

An amendment in the Constitution providing for an increase in the pay of members of the Legislature from \$3 a day for a fifty-day session to \$500 for the session, was voted down.

An amendment making a change in the method of holding elections was carried. By previous action the old system of electing half a set of county officials every autumn was changed, and provision was made for the election of a full set once in two years. By the new amendment county commissioners and township officers are to be elected at the same time with other officials, so that hereafter Kansas will elect all her officers, from Governor down, in November of the even-numbered years.

KENTUCKY, a Southern State, admitted to the Union June 1, 1792; area, 44,400 square miles. The population, according to each decennial census since admission, was 220,955 in 1800; 406,511 in 1810; 564,135 in 1820; 687,917 in 1830; 779,828 in 1840; 982,405 in 1850; 1,155,684 in 1860; 1,321,011 in 1870; 1,648,690 in 1880; 1,858,635 in 1890; and 2,147,174 in 1900. Capital, Frankfort.

Government.—The following were the State officers in 1902: Governor, J. C. W. Beckham; Lieutenant-Governor, L. H. Carter; Secretary of State, C. B. Hill; Treasurer, S. W. Hager; Auditor, G. C. Coulter; Adjutant-General, D. R. Mur-

ray; Attorney-General, R. J. Breckinridge, succeeded April 1 by Clifton J. Pratt; Superintendent of Education, H. V. McChesney; Commissioner of Agriculture, I. B. Nall; Commissioner of Insurance, J. B. Chenaunt; Chairman of the Railroad Commission, C. C. McChord; Prison Commissioners, J. M. Richardson, E. Fennell; State Inspector, H. B. Hines—all Democrats but Pratt; Chief Justice of the Court of Appeals, T. H. Paynter, Democrat; Associate Justices, J. D. White, Democrat; George DuRelle, Republican; A. Rollins Burnam, Republican; B. L. D. Guffy, Republican; J. P. Hobson, Democrat; E. C. O'Rear, Republican; Clerk, S. J. Shackelford, Democrat.

Elections of State officers are held in November of the years next preceding presidential elections. The term of office is four years. The Legislature consists of 38 Senators and 100 Representatives, and meets on the first Tuesday after the first Monday of January in even-numbered years.

Education.—The number of illiterates in the State, according to the census of 1900, was 262,954. The percentage of persons between ten and fourteen years of age who were able to read and write was 91.66. In 1890 it was 85.17. Relatively, Kentucky occupies about the same place on the list as in the former year, having been the thirty-seventh in 1890 and the thirty-sixth in 1900. A table showing the average wages paid to teachers gives \$44.03 as the average for men and \$37.18 for women.

Corrections.—The dormitory at the State School of Reform, near Lexington, was burned shortly after midnight, March 20. This was the only dormitory completed to this time, excepting the one occupied by the girls, three-quarters of a mile away. The colored boys of the manual training building and the colored girls occupy an old house, at one time called the old "farm," purchased by the State.

A serious riot was occasioned in the State Prison at Frankfort, Aug. 20, by the attempt made by 3 desperate murderers to escape. The warden placed a guard of 60 men around the building in which the desperadoes had barricaded themselves, and called on them to surrender. As they refused, he determined to starve them into surrender. After this they made several proposals to treat with the officers, and at length the warden consented to meet them. As they came down-stairs with their hands up, one of them dropped his to his side, as if to draw a weapon, when he was immediately shot by one of the guards; he died at night. Two others of the leaders were wounded.

Industries and Products.—The census report on agriculture, issued in July, shows that the farms of Kentucky June 1, 1900, numbered 234,667, and were valued at \$382,004,890, of which 76 per cent. were in land and improvements other than buildings. The value of the farm implements and machinery was \$15,301,860, and of live stock \$73,739,106. The total value of farm property was \$471,045,856.

With 384,805 acres in tobacco in 1899, the State produced 314,288,050 pounds, valued at \$18,541,982.

The capital invested in the lumber industry in 1900 was \$9,805,404, and the cut was 777,218,000 feet. The forest area is 22,200 square miles.

The coal product in 1901 was 5,487,994 short tons, valued at \$5,208,094.

The value of mill-products in 1900 was \$154,590,069; in 1890 it was \$126,719,857. The capital employed in flour and grist mills was \$4,928,928, and the value of the product \$14,515,161. In saw and planing mills \$9,804,404 was the amount of

capital, and \$13,774,931 the value of the product. In cotton manufacture there were 991 looms, capital of \$1,867,605, and products of the value of \$1,663,712. By the report of 1901-'02, Kentucky had 976 looms in operation with 68,414 spindles running, and consumed 24,372 bales.

Railroads.—The number of miles of railroad built in 1902 was 57; in 1903 148 miles are to be constructed. Four railroads of the State were to be consolidated July 1, to be known as the Lexington and Big Sandy Railway Company. It will operate 1,188½ miles of track.

The Goebel Murder Trials.—James Howard was tried for the second time in January, and was found guilty by the jury; but the penalty was fixed at life imprisonment. At the first trial he was sentenced to death. In December the Court of Appeals reversed the judgment of the Circuit Court and granted him a new trial. A new trial was granted to Caleb Powers also, who was under conviction and sentence of life imprisonment.

Lawlessness.—A negro charged with assaulting a white girl was taken from jail at Springfield, Jan. 11, and hanged by a mob. Another, for the same crime, was hanged by a mob at Nicholasville, Feb. 6. A white man who was in jail at Owensboro charged with the murder of his wife was taken out and hanged in one of the principal streets, July 17. Another was lynched at Russellville in August for assault and murder—his victim a girl sixteen years old, daughter of his former employer, with whom he had had trouble.

On Feb. 12 a battle was reported at Middlesboro between officers and mountaineers. The officers were trying to arrest a saloon-keeper. In the fight the saloon was burned. The number of the dead was supposed to be at least 6. The saloon was notorious for the number of men that had been killed there—53 before the fight in February.

Under the title "Race War," an account was given in March of an occurrence at Madrid Bend in which 2 negroes were shot and 3 were beaten almost to death. Their offense was stealing chickens.

Election Frauds.—Two men were convicted in the federal court at London, in November, of gross frauds committed in Lexington at the November election of 1900; and 3 others were indicted by the London Grand Jury for alleged frauds in Louisville in the election of 1902. They were charged with violation of the federal election laws in regard to registration. During the congressional registration they wilfully prevented and refused to allow a number of colored voters to register because of their Republican affiliations.

Legislative Session.—The General Assembly was in session from Jan. 7 to March 18. N. W. Utley was president *pro tem.* of the Senate, and Gerald Finn was Speaker of the House. There were 26 Democrats in the Senate and 74 in the House; 12 Republicans in the Senate and 26 in the House.

The House adjourned Feb. 3, on motion of a Representative, who said: "Mr. Speaker, I move that this house now adjourn out of respect to the memory of Gov. William Goebel, who died and passed to heaven two years ago to-day."

The Senate also adjourned.

The power of appointment of the legal assistant for the Attorney-General was taken from the Attorney-General and given to the State Auditor. The courts had decided that Clifton J. Pratt, Republican, was the rightful claimant of the office of Attorney-General, then held by R. J. Breckinridge, Democrat. The Auditor announced that he would reappoint Breckinridge's assistant.

The right to vote in school elections in sec-

ond-class cities was taken from women; but they have the right to serve on school boards.

The law regarding the sale of the dower rights of women was amended.

The charters of cities of the second, fourth, and sixth classes were amended. It was provided that the State shall pay its proportion of the cost of improvements of streets in cities of the second class.

A free public library in Louisville was provided for, enabling the city to accept the Carnegie offer of \$200,000. The establishment of libraries in cities of the second class was provided for; and the creation of a free-library commission.

The office of Inspector of Labor, with a salary of \$1,200, was created.

Mine operators are required to pay employees once in two weeks, instead of once a month.

A new revenue law was enacted. The so-called McCain tobacco law was repealed; as was also the law allowing county judges, on petition of citizens, to call out guards to protect property from mobs.

A bill was passed to protect wild birds and their nests. It does not refer to game-birds. A bill was passed, also, to prohibit the docking of horses' tails, but it was vetoed on the ground that it would interfere with the sale of Kentucky horses in the East, and that the statute on cruelty to animals, if enforced, would prevent the practice if it could be shown to be cruel.

A bill requiring the certificates of registration to be issued to voters in cities and towns of Kentucky without presentation of which at the polls on the day of the general election no such voter could exercise his right of suffrage was passed in the lower house and signed there, but was reported to have disappeared without reaching the Senate.

The double-liability clause of the statute on corporations was repealed. The new law relieves all corporations from double liability on its stock save banks, trust companies, and insurance and investment companies.

The life-insurance laws were amended so that policies shall have a cash surrender value only after the third annual premium has been paid. The scope of insurance companies for investments of accumulations was enlarged.

Among the appropriations were \$17,000 annually for the State militia; \$15,000 for improvement at Frankfort penitentiary; \$61,000 for improvements at Eddyville prison; \$10,000 for the Children's Home Society; \$110,000 for the Eastern and Central Asylums, and \$60,000 for the Deaf-Mute School, at Danville; \$2,000 for a monument over Confederate graves at Perryville; \$15,000 annually for the State fair; \$16,000 for the colored normal school at Frankfort, the name of which was changed to the Kentucky Normal and Industrial School.

Other measures passed were: Providing for the maintenance of a Confederate home by the State.

Ceding to the Government jurisdiction over certain land in Boyle County for the establishment of a military park at Perryville.

Providing for the erection of levees along the Ohio river by ceding to the United States Government jurisdiction over certain land.

To suppress "blind tigers."

Making the first Monday in September, Labor Day, a legal holiday.

Making abduction for ransom a felony.

Making attempted rape a felony.

Fixing \$100 as the per capita for inmates of the House of Reform.

Creating a board of examiners for barbers in

cities of the first, second, and third classes, and requiring an examination by the board before a certificate is issued allowing the practise of the trade. The bill has also provisions for the inspection of barber shops for the purpose of preserving sanitary conditions.

Authorizing the legal voters of a county to vote a tax for extension of the common-school term.

Political.—The contest for the minor State offices that arose from the disputed election when Goebel and Taylor were the candidates for Governor was ended this year by the decision that Clifton J. Pratt, the Republican candidate for Attorney-General, had been legally elected. Mr. Pratt, who had been compelled by a former decision to give up the office to R. J. Breckinridge, the Democratic candidate, took possession of the office again April 1.

At the November election the Democratic candidates for Congressmen were elected in all the districts except the Eleventh, where Vincent Boreing, Republican, had 8,013 plurality. Justices Guffy and DuRelle, of the Court of Appeals, were defeated by the Democratic candidates, W. E. Settle and H. S. Parker.

The eligibility of Gov. Beckham, under the State Constitution, to succeed himself has been questioned; but several constitutional lawyers have agreed that he is eligible and he has announced his candidacy for the nomination at the Democratic primary to be held May 9, 1903. The action of the State Committee in calling the primary was strongly opposed by a section of the party, and proceedings were taken to serve an injunction.

LOUISIANA, a Southern State, admitted to the Union April 30, 1812; area, 48,720 square miles. The population, according to each decennial census since admission, was 152,923 in 1820; 215,739 in 1830; 352,411 in 1840; 517,726 in 1850; 708,002 in 1860; 726,915 in 1870; 939,946 in 1880; 1,118,587 in 1890; and 1,381,025 in 1900. Capital, Baton Rouge.

Government.—The following were the State officers in 1902: Governor, William W. Heard; Lieutenant-Governor, Albert Estopinal; Secretary of State, John T. Michel; Attorney-General, Walter Guion; Treasurer, Ledoux E. Smith; Auditor, W. S. Frazee; Superintendent of Education, J. V. Calhoun; Adjutant-General, Allen Jumel; Commissioner of Agriculture and Immigration, Jordan G. Lee; Railroad Commission, C. L. De Fuentes, W. L. Foster, Overton Cade; Registrar of the Land Office, J. M. Smith; Chief Justice of the Supreme Court, Francis T. Nicholls; Associate Justices, Newton C. Blanchard, Joseph A. Breaux, Frank A. Monroe, O. O. Provosty; Clerk, T. McC. Hyman. All are Democrats.

The term of the State officers is four years; they are elected in April of the years of presidential elections. The Legislature meets biennially in May of the even-numbered years; the length of the session is limited to sixty days.

Finances.—The Treasury transactions for 1900-'01 are summarized as follow: The total receipts from all sources, including cash balances on hand and transfers, for 1900, to Dec. 31 of that year, are \$5,549,274.94. The total disbursements for all purposes for the same period, \$4,243,583.31; balance, \$1,305,691.63. The gross receipts for the year 1901 and cash and balances on hand aggregated \$5,188,373.49; the disbursements, \$3,775,567.75. The total receipts in 1902 were \$4,160,067.60, and the balance on hand \$1,392,047.37.

The Treasurer's report says the gross receipts to the general fund for 1900 amounted to \$929,030.82, while the expenses of the general fund for the

same period were \$1,055,717.04, an excess of expenditures over receipts of \$126,686.22. This was promptly met by the balances to the credit of that fund, amounting to \$214,433.80.

In 1901 the receipts of the general fund were \$1,015,499, while the expenses were \$878,964.37, showing an excess of \$136,534.63.

Since the organization of the Pension Board in 1898 there have been 1,871 beneficiaries, and \$175,000 has been paid out.

The total of State assessments for 1902 was \$315,583,468. For 1901 it was \$301,215,222. The official schedule of appraisement of railroads, telegraph, telephone, express companies, etc., in the State, shows a net increased assessment of approximately \$2,000,000. This increase is almost wholly made up of new lines and actual increased values.

Education.—The number of illiterates in the State ten years of age and over was 381,145 in 1900. Of these, 284,028 were negroes and 566 Indians and Chinese. In the percentage of persons from ten to fourteen who were able to read and write, Louisiana stood at the foot of the list of the States, with 67.12 per cent. It is pointed out that there are three facts which explain the proportion of illiteracy in the State: First, the large negro population, densely ignorant; second, the fact that in the southern part of the State a majority of the population speaks a foreign language, and is therefore difficult to reach through the public schools; third, the large proportion of children compared with adults and wage-earners.

In 1901 the total enumeration of school-children in the State was 404,757, and the enrolment in the schools 198,896. The receipts for 1901, including balance on hand, amounted to \$1,396,892, and expenditures \$1,236,647.57. For 1902 it was estimated that the apportionment of 1½ mill for the schools would yield \$475,000, to which are to be added the interest on sixteenth sections, amounting to \$62,836, which, with the proceeds from the poll-tax and the local taxes for schools, aggregate about \$1,500,000. This sum when prorated among the 404,727 children of educable age, gives a per capita of \$3.70. Prorated among the 198,896 children enrolled in the public schools, the per capita would be \$7.40.

The number of pupils in Catholic schools is given as 23,398.

The Peabody Normal School, at Alexandria, reported 445 pupils in June, 1901.

The roll of the State University shows 420 students in 1901-'02, against 179 in 1891-'92, with a graduating class of 34, against 8 ten years before.

The State Normal School at Natchitoches, the State industrial schools at Ruston and at Lafayette, the Louisiana State University and Agricultural and Mechanical College at Baton Rouge, the Southern University at New Orleans, the Institute for the Deaf-Mutes and for the Blind at Baton Rouge, are maintained by the State, save the State University, at Baton Rouge, which is maintained by the State and the United States jointly. Tulane University, at New Orleans, is liberally aided by the State by means of the exemption of its rent-bearing property from taxation. The Legislature of 1902 appropriated the sum of \$176,900 for new buildings, repairs, additions, equipments, etc., for the Institute for the Blind, the State Normal School, the industrial schools at Ruston and Lafayette, and the State University, at Baton Rouge.

Convicts.—The average distribution of the convicts in 1901 was: Within walls, 105; at Angola, 455; at Hope, 184; at levee camps, 320; total, 1,064. Of the 1,142 at the end of the period 158 were white males, 1 a white female, 944 colored males, and 39 colored females. Only 418

could read and write. The life convicts numbered 240 and those sentenced for ten to twenty years 150. By April, 1902, the number was further increased to 1,210 and by August to 1,270. The gross product of the work of convicts in 1901, on farms, levees, and work within the walls, was \$238,138.20. The net cost of maintenance of prisoners and farms was \$191,354.84.

The Insane.—The number admitted to the State Asylum in 1900-'01 was 486; those discharged as cured, 202; number of deaths, 170. In 1902 there were 1,284. The cost of maintenance is estimated at about \$2 a week.

Building Associations.—The number of these this year was 32; the membership, 20,885; the assets, \$5,943,208.

Railroads.—In 1901 the new railway-track built amounted to 160 miles; in 1902 to 236. The total mileage in 1901 was 2,662; in 1902 it was 2,898. The East Louisiana and the Louisiana Southern were established in 1902.

Industries and Products.—Oil has been found in quantities at Jennings, in Calcasieu Parish, and also at Welsh, in the same parish, and a good flow has been secured near Breaux Bridge, in the parish of St. Martin, or at a point more than 100 miles east of the Beaumont oil-field, and consequently not much more than 100 miles from New Orleans.

In a report on the Texas-Louisiana oil-field by the United States Geological Survey it is said that the apparent consensus of opinion among chemists who have examined the field is that the Gulf coast petroleum is unsuited for the production of illuminating oil, and it is doubtful if it can be made to yield a good lubricating oil on a commercial basis. Its value as a source of asphalt and a gas oil are, as yet, undetermined. The experiments seem to establish both its availability and its economy as a generator of steam.

The cotton-crop of the State in 1901-'02 was given in September as 880,000 bales. There were 5 cotton-mills, with 1,609 looms and 66,552 spindles, consuming 18,017 bales.

At a meeting of citizens interested in the production of sugar, at New Orleans, in January, a protest was adopted against the proposal to remit the duties on sugar brought in from Cuba.

The rice-crop of Louisiana and Texas, in 1901, was estimated at 3,250,000 bags, of which Louisiana probably produced 2,750,000 bags. The estimated production of the two States, 1902, was 3,100,194 bags.

The census bulletin gives the number of farms in 1900 as 115,969; in 1890 it was 69,294. The value of farm property was \$198,536,906 in 1900 and \$110,447,005 in 1890. Of the owners of farms in the census year 36,255 were white and 8,460 were colored. Of the tenants, 18,531 were whites and 48,703 were colored. In 1900, 21.2 per cent. of the total acreage was operated by colored farmers, while less than 10 per cent. was actually owned by them. The average of corn to the acre in 1902, by the preliminary estimate, was 12.5; the average for ten years, 16.4.

The growth in the value of mill-products was from \$57,806,713 in 1890 to \$121,181,683 in 1900.

The leading industry of Louisiana is the manufacture and refining of sugar and molasses. The 384 establishments reported in 1900 gave employment to 6,504 wage-earners, or 15.4 per cent. of the wage-earners employed in the State, and the products were valued at \$47,891,691, or 39.5 per cent. of the total value of the products of the State.

The manufacture of lumber and timber products ranks second in importance, with 432 establish-

ments, 10,171 wage-earners, and products valued at \$17,408,513.

The manufacture of cottonseed oil and cake holds third place among the manufacturing industries of the State. There were 24 establishments in 1900, with 1,317 wage-earners and products valued at \$7,026,452. The refining of cottonseed oil is a branch of the industry recently established in New Orleans.

Lawlessness.—Two negroes were lynched in West Carroll Parish, in January, for the murder of a police juror who attempted to arrest them for stealing from him. Another negro murderer was lynched in Vidalia, March 19. Near Cocoa, in June, a negro was hanged by a mob for criminal assault, and another for the same crime near Homer, Aug. 7.

A street-car strike in New Orleans in October was attended with rioting and bloodshed. The entire National Guard of the State was called to the city.

Legislative Session.—The Legislature was in session from May 12 to July 10. J. Y. Sanders was Speaker of the House.

The nominations of Justices Provosty and Breaux to succeed themselves were confirmed.

A reapportionment act divides the State into 7 congressional districts, the State being entitled to one more Representative by the last census. The legislative districts also were redivided.

A revenue bill passed with the following provisions: Providing for an attorney of the Board of Assessors in New Orleans; depriving the boards of review of assessments of the power of cutting down assessments; providing for the taxation of standing timber owned by a person other than the landowner; providing for the redistribution of the 6-mill tax, which, on an assessment of \$301,000,000, will yield revenues as follow: General fund, 1½ mill, \$451,500; school fund, 1½ mill, \$451,500; interest tax fund, 2 mills, \$602,000; engineer fund, 1 mill, \$301,000. There is an additional provision that a sum equal to one-eighth of 1 mill shall be transferred from the surplus in the general fund to the school fund, which will bring that fund up to \$489,125.

A "merger" bill was passed, affecting New Orleans only, but important in its provisions. It gives to the voters in general the management of the fund for the sewerage and water-supply. About 6,000 taxpayers of the city put up this fund, amounting to about \$14,000,000, and voted that the handling of the money should be put into the care of the Drainage Commission, to which should be added 7 property taxpayers, to be appointed by the mayor.

The bills affecting New Orleans were, besides the merger bill, an appropriation of \$200,000 for a court-house; an act allowing cities to anticipate their revenues for ten years; changing the date of the city election to November, 1904, and every fourth year thereafter; providing for the succession to the mayoralty in case of vacancy; creation of a firemen's pension fund, by using as a nucleus 1 per cent. of the city licenses collected; and the constitutional amendment elsewhere mentioned, enabling the city to fund \$500,000 of certificates invalidated by a court decision.

Other acts were:

For an exhibit of Louisiana's resources at the Louisiana Purchase Exposition, making an appropriation of \$100,000.

Making an appropriation to celebrate the centennial anniversary of the transfer of the territory of Louisiana from France to the United States at New Orleans in December.

To establish an insane asylum for colored per-

sons, and making an appropriation of \$100,000 for it.

To provide substantial artificial limbs for the citizens of the State who lost a limb or limbs in the military service of the Confederate States.

Among the larger appropriations were: Expenses of the General Assembly, \$80,000; State printing, two years, \$70,000; public schools, \$450,000; constructing and repairing levees, \$300,000; interest consolidated bonds, \$435,112; militia, \$29,500; and for maintenance of State institutions, as follows: Institute for the Blind, \$12,000; for the Deaf-Mutes, \$21,600; university, \$15,000; Normal School, \$27,200; Industrial Institute, \$15,000; Southwestern Industrial Institute, \$12,000; Southern University, \$10,000; Asylum for Insane, \$140,000; Charity Hospitals, \$122,000; Lepers' Home, \$10,000; Soldiers' Home, \$17,680; pensions, \$75,000; support of Penitentiary, \$200,000. The general appropriation bill carries a million dollars a year. The special appropriations reached nearly \$500,000.

A bill providing that no history should be used in the schools of the State that did not give credit for the victory at Santiago to Admiral Schley was passed, but was vetoed. A bill to create the office of commissioner of hygiene was vetoed also. A proposal to amend the Constitution so as to allow the Governor to succeed himself was not pressed, as the Governor disapproved of it.

Among important bills that failed was an anti-trust bill and an antilynching bill, giving the Governor power to transfer prisoners and grant change of venue where lynchings are threatened.

A separate street-car law was passed. On a trial for violation of the law it was attacked as unconstitutional, and the judge of the Second New Orleans Criminal Court sustained the demurrer.

Court Decisions.—In June the United States Supreme Court decided that Louisiana or any other State has the right to pass laws excluding bodies of people from going into a city or community which is quarantined.

In a case involving the question whether the wages of a locomotive engineer were exempt from seizure for debt under the provision of law exempting "laborers' wages," the State Supreme Court decided that the exemption could not apply to a master mechanic's wages.

A celebrated case was decided by the State Supreme Court in April. The owner of an orange-grove in Plaquemines Parish had sold to a buyer by contract, in advance, the crops of the years 1899 and 1900 for \$8,000, half of which was paid down and the other half to be due Dec. 1, 1900. The contract said "Purchaser assumes all risks." Within three months after the execution of this contract, and therefore in the same winter, and before the trees had had a chance even to put out the blossoms of the crop of 1899, a frost came that killed the trees, root and branch. Cold weather had been known to destroy the crops of the year, and even to kill the trees half-way down, but never, within the memory of the oldest inhabitant, had the trees been killed entirely, or even so injured as not to produce a crop the following year. In the several histories of Louisiana mention is made of such a killing frost having occurred in 1748, 1768, and 1830. Nothing shows that the parties when they entered into their contract had any knowledge of these events. The plaintiff, the buyer, claimed the return of the \$4,000 he had paid, and the defendant demanded in reconvention the \$4,000 that was payable Dec. 1, 1900. The decision was that the defendant should keep the \$4,000 already paid, and the plaintiff should be released from obligation to pay the remaining

\$4,000. Dissenting opinions were that the loss could not be so divided, that the agreement of the buyer to assume all risks either covered the extraordinary case of the destruction of the trees or covered only the ordinary risks.

Public Works.—Work was begun in the summer on a canal to run 75 miles from Washington, through St. Landry and Acadia Parishes, to the Bayou Nez Piquez, and into Calcasieu Parish. This canal will be 250 feet wide, and there is an ample water-supply at Washington, on a branch of the Atchafalaya and Mississippi rivers. It is proposed to build this canal and equip it with the most modern appliances, sufficient to irrigate from 500,000 to 700,000 acres, which to-day is prairie.

The Good-Intent dry-dock, at Algiers, opposite New Orleans, sank Dec. 27. It was built thirty-five years ago, and cost originally \$38,000, but many thousands have been spent in improvements upon it.

Biologic Station.—A biologic station has been established at the mouth of Calcasieu river, in Cameron Parish. A large building has been erected, and many specimens of the Gulf's rich fauna have been collected.

Alleged Violation of Neutrality.—A flurry of excitement was caused in the spring by the statement of Gen. Pearson, representative of the Boers, that there was at Chalmette a base of supplies and enlistment station for the use of the British in the South African War. The Governor laid the facts before the Government at Washington. As hostilities ceased soon afterward, there was no occasion for further action.

Political.—At the election in November for members of Congress only 26,265 votes were polled, although the number of possible voters in the State is 235,344. In New Orleans, where there are about 40,000 citizens qualified to be voters, only about 16,000 were registered, and not all of these voted. The small number voting is due in part to the effect of the new Constitution in disfranchising a large percentage of otherwise qualified voters, in part to the requirement of a poll-tax payment of \$1 as a prerequisite for voting, and in part to the fact that there is practically but one party, there is little interest in elections. The 7 members of Congress are all Democrats.

Six constitutional amendments were submitted, 4 of which were carried. They are: 1, to make valid certain contracts for works of public improvement in New Orleans; 2, relating to the payment of judicial expenses; 3, creating a special board of appraisers; 4, changing the specifications of property exempt from taxation. The exemptions include church, school, and library property, household property to the value of \$500, mining and certain manufacturing property for ten years; certain exemptions to railroads hereafter built and completed before 1904, and property used by the National Guard for military purposes.

The 2 amendments that were defeated were: 1, The repeal of the poll-tax payment as a requisite for voting; 2, changes in the judiciary system, creating more judgeships, and providing that only cases involving \$5,000 or more can be carried to the Supreme Court. The limit remains \$2,000.

Reports of registered voters and poll-taxes paid appear to give proof of the claim that the poll-tax requirement has not operated to disfranchise negroes, those registered having as a rule paid the tax, while many white citizens have refused or neglected to pay it. The Secretary of State gives figures showing that in 10 parishes where there were 11,095 white voters 21,951 poll-taxes were paid in 1900.

MAINE, a New England State, admitted to the Union March 15, 1820; area, 33,040 square miles. The population, according to each decennial census since admission, was 298,268 in 1820; 399,455 in 1830; 501,793 in 1840; 583,169 in 1850; 628,278 in 1860; 626,915 in 1870; 648,936 in 1880; 661,086 in 1890; and 694,466 in 1900. Capital, Augusta.

Government.—The following were the State officers in 1902: Governor, John F. Hill; Secretary of State, Byron Boyd; Treasurer, Oramandal Smith; Attorney-General, George M. Seiders; Superintendent of Education, W. W. Stetson; Adjutant-General, Augustus B. Farnham; Commissioner of Labor, Samuel W. Matthews; Bank Examiner, F. E. Timberlake; Insurance Commissioner, S. W. Carr; Liquor Commissioner, James W. Wakefield, who died June 6 and was succeeded by Justin M. Leavitt; Railroad Commissioners, Joseph B. Peaks, B. F. Chadbourne, Parker Spofford; Assessors, George Pottle, Otis Hayford, F. M. Simpson; Librarian, Leonard D. Carver; Pension Agent, E. C. Milliken; Commissioner of Agriculture, Augustus W. Gilman; Land Agent and Forest Commissioner, Edgar E. Ring; Superintendent of Buildings, E. C. Stevens; Registrar of Vital Statistics, A. G. Young; Steamboat Inspectors, Horace Atwood, J. M. Taylor; Chairman of Commission of Inland Fisheries and Game, L. T. Carleton; Chief Justice of the Supreme Court, Andrew P. Wiswell; Associate Justices, Lucilius A. Emery, W. P. Whitehouse, Sewall C. Strout, Albert R. Savage, Frederick A. Powers, Henry C. Peabody, and Albert M. Spear, the last named succeeding William H. Fogler, who died in February; Clerk, W. S. Choate. All are Republicans except Justice Strout.

The term of the State officers is two years. The election takes place on the second Monday in September of even-numbered years. The Legislature meets biennially the first Wednesday in January in the odd-numbered years; the session is not limited.

Finances.—The Treasurer's report for 1901 was rendered in February. The total receipts for the year amounted to \$2,392,022.86, which, with the cash on hand at the beginning of the year, \$198,879.01, makes the sum of \$2,590,901.87 to be accounted for.

The total expenditures for the year amounted to \$2,293,064.70, leaving a balance on hand Dec. 31, 1901, of \$297,837.17, or the sum of \$98,958.16 more than was on hand at the beginning of the year 1901.

The bonded debt amounts to \$2,053,000; the temporary loans to \$250,000; the trust funds, upon which interest is paid, to \$794,002.

The State has liabilities amounting to \$177,894.08, upon which no interest is paid, being deposits of insurance companies. Other liabilities amount to \$856,191, and \$38,726.13 is due counties for county taxes paid, making the total liabilities of the State \$4,169,813.25.

The income from the organization of new corporations and the increase of capital stock of old ones in 1901 was \$56,775. For the first ten months of 1902 it was \$75,095.

The taxes on savings-banks amounted to \$500,470.92 in 1901, and \$537,720.51 in 1902. The tax on loan associations was \$214.43 in 1901 and \$262.47 in 1902. The taxes on railroads in 1901 amounted to \$291,860; the increase in 1902 was about \$35,000. Other receipts were: Trust and banking companies, \$21,385; sleeping and palace cars, \$592.36; telegraph, telephone, and express companies, \$25,186.23; insurance companies, taxes and fees, \$89,603.28; collateral inheritances, \$38,

951.41; public lands, income, \$13,408.08; shore rents for Penobscot Indians, \$3,474.50; fines and licenses, fish and game, \$8,582.88; from United States, account Spanish War, \$28,263.21. The receipts from dog licenses amounted in 1901 to \$28,980; payments for damage to domestic animals by dogs aggregated \$4,808. The remainder of the fund goes back to the town treasuries.

Valuations.—In 1901 the total valuation of the State, except the wild lands, was \$317,067,894. The wild lands were valued in 1900 at \$19,127,407. The money at interest in the State, so far as the assessors were able to ascertain for taxation for 1902, amounts to \$11,308,877.

The total debt of all the towns is given as approximately \$8,780,100, or 2.7 per cent. of valuation. This does not include the plantations. More than two-thirds of the total is owed by the cities; 132 towns are free from debt, and 12 have a surplus. The real and personal property of the 20 cities as locally assessed amounts to \$141,894,429; the valuation by the State assessors is larger, amounting to about \$150,000,000.

Education.—The number of illiterates of ten years and over in the State, as shown by the census of 1900, was 29,060. By the percentage of those between ten and fourteen who were able to read and write, Maine stood twenty-eighth in the list, with 97.92 per cent.

The apportionment of the school fund and mill tax for 1902 disposed of \$590,280.77, which is an increase of \$28,118.59 over the amount apportioned in 1901. The returns to the superintendent of public schools show the total number of pupils in the State to be 212,965, the towns therefore receiving a fraction over \$2.77 for each pupil. The number reported in 1901 was 211,834, which gave a fraction over \$2.65 per pupil.

Half of the savings-bank tax goes to the schools. The increase of this and of the State valuation has largely added to the school fund in recent years. The cost of providing free textbooks averages about 98 cents to a pupil. The law compels towns to furnish them; the State provides for unincorporated places. The average wages of male teachers in 1901 were \$35.66 a month; of female teachers, \$6.72 a week.

The class of 1902 at the Castine Normal School numbered 50. In 1901 211 free high schools were receiving aid from the State.

The State University, at Bangor, at its thirty-first annual commencement in June, graduated 54 in the academic department, 14 in the law schools, and 3 in the short course in pharmacy. It opened in September with 136 registered.

The centenary of the opening of Bowdoin College was celebrated in June. Every class graduated since 1842 was represented at the celebration, and several earlier classes. The oration was delivered by Hon. Thomas B. Reed, LL. D., class of 1860, and Rev. Samuel V. Cole, D. D., class of 1874, read an original poem.

The catalogue for 1902-'03 shows 36 instructors and 391 students at the institution. Of these students there are 275 in the college proper and 124 in the medical school. This shows a gain of 2 instructors and 50 students over the previous year.

The class of 1875 presented the college with new entrance gates at the centennial celebration. A library building has been given by T. H. Hubbard.

The eighty-third year of Colby University opened in September with an entering class of 72, of whom 32 were women. At Bates College, Lewiston, a new library, the gift of Mr. Coram, was dedicated in October.

The Legislature of 1899 made an appropriation to carry into effect the act establishing free public

libraries. On Oct. 20, 1899, the first library was sent out, and in that year 15 libraries of 50 books each were prepared for circulation. Although only \$1,000 a year is available for the purpose, there were in 1902 80 libraries going the round of the State with 4,000 volumes.

Military.—The number of men subject to military duty in the State in 1901 was 102,268. About 600 men were encamped at Camp Hill for the annual muster in August. The National Guard numbers 698.

In 1901, 2,571 pensioners received State aid. The annual appropriation is \$80,000.

Charities and Corrections.—The report of the General Hospital, covering its thirty-second year's work, shows that for the year ending Sept. 30, 1,267 patients—636 male and 631 female—were admitted. There were 102 under treatment at the close of the year. In the year 75 patients died at the hospital, 741 were discharged as recovered, 297 as relieved, 21 as not relieved, and there were 112 who were examined and advised but not treated. The expenses of the hospital for the year were \$63,805. There is a deficit of about \$7,000. The notable event of the year was the completion of the nurses' home to accommodate 58 nurses. A building wholly for surgical purposes is being constructed, costing about \$33,000.

There were 92 pupils in the School for the Deaf, at Portland, in 1901. The State appropriation is \$17,500 a year.

The Reform School has received 2,395 boys since its first opening; there were 141 Dec. 1, 1901.

Railroads.—In 1901 reports were received from 22 steam and 21 street railways; in 1902 from 21 steam and 18 street railways, consolidations having reduced the number. The gross income per mile of the 21 steam-roads varies from \$512 on the Wiscasset and Quebec to \$13,647 on the Boston and Maine. Only a small part of the former line was in operation up to June 30, 1901; and the gross income of all the lines operated by the company is included in the average of the Boston and Maine.

There are 347.72 miles of street-railway in operation. In the construction and equipment of the street-railways more than \$10,000,000 has been expended, and yet the aggregate bonded indebtedness of the 18 systems in existence is only \$5,723,517.93. The gross earnings for the past year aggregate \$1,449,043.97, and the operating expenses amounted to \$1,035,194.87.

Highways.—The Legislature of 1901 appropriated \$15,000 to aid towns in building and repairing roads. One road is to be designated as the main thoroughfare and to be known as a State road. Towns establishing such roads may secure State aid not exceeding \$100 to each, which will be half the amount expended. The Secretary was notified that year by 41 towns, applicants, but only 5 had complied with the full provisions of the law.

Steamboats.—There are in the inland waters of the State, as nearly as can be ascertained, 195 steam-vessels. The inspectors have issued licenses to 147 masters and pilots and 156 engineers. Seventeen new steamers were added to the service in the year.

Banks.—The report of the State Examiner for 1901 is summarized as follows:

There are 51 savings-banks, with assets of \$74,623,171.03; 18 trust and banking companies, \$15,207,325.55; and 34 loan and building associations, \$2,865,380.98; making 103 institutions, with combined assets of \$92,695,877.56.

For the first half of 1902 the figures were: Fifty-one savings-banks, with total liabilities of \$76,-

582,415.56. The resources include cash on deposit of \$977,618.87 and cash on hand of \$225,289.38. The trust and banking companies are 18, with total liabilities of \$16,528,146.79, and among the resources is a total cash account of \$348,593.39.

Insurance.—The fire-insurance companies doing business in the State in 1901 were reported as follow. Risks written, \$138,543,163.19; amount paid in premiums, \$1,840,632.84; losses incurred, \$1,298,174.73; losses paid, \$1,294,849.

The business done by the marine insurance companies was as follows: Risks written, \$36,806,312.39; amount paid in premiums, \$397,555.61; losses incurred, \$203,708.38; losses paid, \$201,629.09.

The total of risks written by the miscellaneous companies was \$50,793,013.22, against \$41,853,102.24 in 1900. The total of losses paid was \$86,764.99, while in 1900 the losses paid amounted to \$68,695.44.

Four assessment companies are doing business in Maine. These totals are as follow: Policies, 1,809; amount, \$1,480,836; premiums received, \$52,338.59; claims paid, \$26,994.37.

Policies in force Dec. 31, 1901, numbered 3,220, against 3,172 in 1900. The amount of these policies was \$4,773,561. In 1900 the amount was \$6,662,675.

The total loss to buildings amounted to \$1,116,582; to contents, \$1,053,442.

The commissioner says the payments made by companies of other States and countries were greater than in any other single year; and the ratio of payments to premiums received, 70.35 per cent., was greater than in any year since 1886, when on account of the conflagrations at Farmington and Eastport the companies paid \$102 for every \$100 received. The abnormal loss ratio last year was occasioned by conflagrations at Lisbon Falls and Old Town and by a single fire in the city of Portland, which alone resulted in a property loss of more than \$280,000.

Nineteen companies withdrew from the State this year.

Life-insurance policies to the number of 31,217, amounting to \$15,543,429, were issued this year. In 1900 the figures were 23,686 and \$13,828,064, respectively.

Industries and Products.—The farms of Maine, June 1, 1900, numbered 59,299, and had a value of \$96,502,150. Of this amount, \$47,142,700, or 48.9 per cent., represents the value of buildings, and \$49,359,450, or 51.1 per cent., the value of land and improvements other than buildings. The value of farm implements and machinery was \$3,802,720, and of live stock \$17,106,034. Of the 59,299 farms 56,524 were operated by their owners, 2,030 by cash tenants, and 745 by share tenants.

The number of dairy cows has steadily increased and in 1900 there were 173,592. The importance of this industry is shown by the fact that in 1899 the proprietors of 29.9 per cent. of the farms derived their principal income from dairy produce.

During the last five months of 1900 Aroostook County shipped 2,500,000 bushels of potatoes.

This State leads in the granite industry. There are about 150 granite quarries, of which about one-third are now operated.

In 1901 a new mica-mine was discovered and opened on Hedgehog mountain in Peru.

The reports show a capital of \$122,918,826 invested in 1900 in manufactures and mechanical industries in the 6,702 establishments reporting.

The value of the products is returned at \$127,361,485, to produce which involved an outlay of \$3,171,433 for salaries of 3,329 officials, clerks, etc.;

\$28,527,849 for wages of 75,000 employees; \$7,774,216 for miscellaneous expenses; and \$68,863,408 for materials.

The 10 leading manufacturing industries of the State are, in the order of the value of their products, as follow: Cotton, lumber, wool, paper and pulp, fish canning, flour and grist, foundry products, ship-building, tanning, and the printing and publishing of newspapers. The first four are nearly equal in importance.

The manufacture of cotton goods has long been the leading industry of the State. The 15 establishments reported in 1900 gave employment to 13,723 persons, 18.3 per cent. of the wage-earners of the State, and their products were valued at \$14,631,086, or 11.5 per cent. of the total manufactured products.

There were 838 establishments engaged in the manufacture of lumber and timber products in 1900, the industry second in rank, with 6,834 wage-earners and products valued at \$13,489,401.

In the manufacture of paper and wood pulp Maine ranked third with 35 establishments with 4,851 wage-earners and products valued at \$13,223,275.

The wooded area of the State is given as 23,700 square miles, 79 per cent. of the total land area.

There were 117 establishments engaged in the canning and preserving of fish in 1900, with 5,567 wage-earners, and products valued at \$4,779,733.

Ship-building ranked eighth in 1900, but this year it would doubtless stand much better on the list. There were 115 establishments engaged in wooden ship and boat building in 1900, with 1,369 wage-earners and products valued at \$2,491,765.

Legal Decision.—A decision, affecting thousands, was given by the Supreme Court in December. The act of 1901 requiring hawkers and peddlers to pay a license fee was declared unconstitutional.

New Defenses.—The new defensive works which the Government has allotted Casco Bay will consist when completed of 38 rifled guns. Eighteen of these will be 12-inch, 10 10-inch, and 10 8-inch, to cost for guns \$1,352,164 and for carriages \$546,000. The large disappearing guns at Fort Williams, Portland Head, are the largest in the world. They have a range of 15 miles and fire 5 shots before the first one reaches its destination.

In addition there is constructing a mortar battery to contain 48 12-inch mortars, to cost \$648,000, and their carriages an additional \$336,000. These, with the fortifications at Diamond and Cushings islands, complete a line of defense which would effectually take care of any fleet that any country might send here.

The whole eastern end of Diamond island has recently been acquired by the Government.

Pemaquid.—The ancient fortifications at Pemaquid, known as Fort William Henry, have been conveyed to the State by the Pemaquid Monument Association, and are in the charge of a commission. The foundations of the old fort, which was destroyed by Iberville, have been uncovered and a part of the wall rebuilt from the original materials, corresponding to the plan of the old fort; and it is desired to carry on the work still further, for which the Legislature is asked to make appropriation.

Centennial Anniversaries.—Several towns this year celebrated the one hundredth anniversaries of their incorporation—Waterville, Minot, Brownfield, and Lincolnville. York reached this year the age of two hundred and fifty years.

Bowdoinham.—Half the business portion of this village was destroyed by fire Dec. 14.

Political.—A Governor, members of Congress, and a Legislature were elected in September.

The Republican convention, at Portland, June 11, renominated Gov. Hill and adopted a platform affirming the party principles, approving the policy of the administration, favoring legislation to suppress anarchy, and saying on State affairs: "We fully indorse the strong and able administration of Gov. Hill, under which the Republican pledges of two years ago have been fully and faithfully carried out. As a result of wise legislation, the great corporate interests are bearing a larger portion of the public burdens than ever before in the history of our State. Within a few weeks the last dollar of the temporary loan, incurred largely on account of the war with Spain, will be paid. Along with this good work has gone also a substantial reduction in our permanent debt. All this has been accomplished without any increase in the State tax rate."

At Bangor, June 17, the Democratic convention nominated Samuel W. Gould for Governor and adopted a platform demanding "the immediate abolition of all tariffs upon trust-made articles." "We ask," it said, "why it is that the Maine Congressmen permit the steel trust to charge the ship-builders of Maine \$1.65 per hundred for the same material which they sell to the English builder for 95 cents, thereby crippling one of our State's leading industries."

The Prohibitionists met at Bath, June 4, and nominated James Perigo for Governor.

Charles L. Fox was the candidate of the Socialist party for Governor.

The vote for Governor, Sept. 8, stood: Hill, Republican, 65,839; Gould, Democrat, 38,349; Perigo, Prohibition, 4,376; Fox, Socialist, 1,973. Republicans were elected to Congress in all the 4 districts.

The Legislature will have, on joint ballot, 158 Republicans to 24 Democrats. Three Republican candidates in Lewiston will contest the election of the Democratic candidates.

MARYLAND, a Middle Atlantic State, one of the original thirteen, ratified the Constitution April 28, 1788; area, 12,210 square miles. The population, according to each decennial census, was 317,728 in 1790; 341,548 in 1800; 380,546 in 1810; 407,350 in 1820; 447,040 in 1830; 470,019 in 1840; 583,034 in 1850; 687,049 in 1860; 780,894 in 1870; 934,945 in 1880; 1,042,390 in 1890; and 1,185,044 in 1900. Capital, Annapolis.

Government.—The following were the State officers during the year: Governor, J. Walter Smith; Secretary of State, Wilfred Bateman; Comptroller, Joshua W. Hering; Treasurer, Murray Vandiver; Adjutant-General, John S. Saunders; Attorney-General, Isidor Rayner; Superintendent of Education, M. Bates Stephens; Commissioner of Insurance, Lloyd Wilkinson; Commissioner of Public Lands, E. Stanley Toadvin—all Democrats; Chief Judge of the Court of Appeals, James McSherry; Associate Judges, David Fowler, A. Hunter Boyd, Henry Page, I. Thomas Jones, John B. Briscoe, Samuel D. Schmucker, and James A. Pearce; Clerk, Allan Rutherford—all Democrats except Schmucker and Rutherford, Republicans.

The term of the State officers is four years; they are elected in November of the years preceding the presidential elections, and take office the next January. The sessions of the Legislature are biennial, beginning in January of even-numbered years, and are limited to ninety days.

Johns Hopkins University.—Feb. 22 is observed at the Johns Hopkins University as Commemoration Day. This day in 1902 marked the

silver jubilee of the university and the formal transfer of the presidency of the institution from Dr. Daniel Coit Gilman, who organized the university and directed its destiny from its beginning, to Prof. Ira Remsen, who had been associated with President Gilman on the faculty from the opening of the university. Eighty-three educational institutions had at least one member of their faculty present, most of them being represented by their presidents. The ceremonies extended over three days. During the exercises the announcement was made that the donors to the university of a tract of land in the city estimated to be worth \$1,000,000 had relieved the university of the conditions originally connected with the gift of raising an additional \$1,000,000 in cash. But \$750,000 of the \$1,000,000 had been raised, and as some of the subscriptions had been made conditional upon the raising of the entire \$1,000,000, the friends of the university continued their efforts until June 28, when President Remsen was able to announce that the entire million-dollar fund, though no longer a condition, had been completed.

Landscape architects have been laying out the tract, which contains 151 acres of beautifully wooded lands, and the university has, in accordance with one of the conditions of the gift, conveyed 10 acres to the city for a public park. The trustees will follow the principle that has guided the policy of the university from the beginning and not use any of the principal for buildings.

Commemoration Day was also made notable by the largest gathering of alumni of the university ever assembled, and the presentation to retiring President Gilman of a beautifully engrossed and illustrated address signed by 1,012 alumni. The presentation address was by Dr. Woodrow Wilson, an alumnus of Johns Hopkins, now president of Princeton University.

In his first annual report President Remsen said: "A false impression has been spread abroad in regard to the present condition of the university. It will probably be a surprise to many to learn that the university has no debt. It has had misfortunes, but, by the good management of the trustees and the generous aid of the citizens and of the State, it has always been enabled to meet its obligations. A cautious policy has been necessary, but the caution has been wisely exercised so as to affect as little as possible the members of the staff. For a long period it has not been practicable to increase the salaries of a number of those who are entitled to recognition by virtue of the character of their work. This has been the cause of a good deal of hardship, but this has been in the main without complaint. The loyalty of our staff during the long period of depression is worthy of the highest praise. While the buildings of the university form a striking contrast to the costly collections that so many of the older and some of the younger institutions rejoice in, and while many a visitor has expressed astonishment and disappointment at the first sight of these plain structures, the fact should be emphasized that the equipment of these buildings has never been allowed to deteriorate. The laboratories are, and always have been, supplied with everything needed for the purposes of the work carried on in them. I do not believe any important piece of work, whether in the line of instruction or of research, has ever been allowed to suffer for lack of means. Large sums have been expended from the beginning for the purpose of encouraging research."

Railroads.—The strong desire of the Wabash Railroad interests to secure a line to the Atlantic

seaboard, with tide-water terminals, gave the city of Baltimore its long-looked-for opportunity to dispose of its controlling interest in the Western Maryland Railroad at a reasonable figure. The city had guaranteed the company's bonded indebtedness, and as the road was just beginning to pay its fixed charges, the road's debt to the city had been constantly growing. When it became known that a syndicate representing the Wabash interests had put in a bid for the road competition became brisk. The Reading Railroad and other syndicates also put in bids. The bid of the Wabash syndicate of \$8,751,370.45 was accepted in preference to the higher bids of its competitors, one of which was \$10,001,000. The contract with the Wabash syndicate requires the purchasers to avail themselves of the extensive tide-water franchises of the Western Maryland and build terminals here.

The syndicate also purchased the interest of Washington County in the road upon the same terms upon which it acquired Baltimore city's interests. Since acquiring the Western Maryland the Wabash has bought considerable property along the water-front, and work on the terminals has already been arranged for.

Prior to purchasing the Western Maryland, the Wabash secured control of the West Virginia Central and Pittsburg Railroad. This is to be connected with the Western Maryland, to give the Wabash a transcontinental road.

The annual report of the Baltimore and Ohio Railroad shows remarkable results achieved in the reconstruction of that company, the "cradle of railroads," which a few years ago was bankrupt. The receivers issued enormous blocks of securities to provide for improvements and new equipment. Their equipment purchases aroused opposition from the bondholders and bankers, who misapprehended their acts. Not only were large amounts of securities issued, but the maintenance expenditures of the company were also largely increased. In two years the maintenance of way and maintenance of equipment expenditures rose from \$4,838,000 to \$7,655,000, an increase of almost 55 per cent. In less than five years the Baltimore and Ohio was almost entirely reconstructed, and from a state of absolute bankruptcy it was placed upon a dividend basis. There were issued in the reorganization, for receivers' certificates and reorganization expenses, nearly \$42,000,000 of bonds, \$10,000,000 of convertible debentures, \$24,000,000 preferred stock and \$6,000,000 common stock. About \$60,000,000 in cash was realized from the sale of these securities, of which more than \$50,000,000 was spent for new equipment and improvements to the roadway. The annual report shows gross earnings for the entire system of \$62,215,150. This includes the controlled or affiliated lines, most of which were acquired during the year covered by the report. On the Baltimore and Ohio system proper the gross earnings amounted to \$51,178,000. The net income for the twelve months amounted to \$9,021,000.

Commerce.—Baltimore largely increased its customs receipts in 1902, as the result of an enormous increase in imports; but the exports show a marked decrease. The customs receipts amounted to \$4,699,116.63, an increase of \$2,829,078.63, compared with the receipts of 1898. The value of the exports was \$74,097,708, a decrease of more than \$41,000,000 since 1898. In the five years the cost of collecting the revenue fell from 13 $\frac{3}{4}$ cents to 5 $\frac{1}{4}$ cents on the dollar. The total expense of collecting in 1902 was \$271,239.38, and in 1898 \$250,490.89.

The following is a summary of the collections of internal revenue in 1902, in comparison with 1901: Assessments, penalties, etc., \$120,371.80, decrease \$770,781.21; fermented liquors, \$1,486,601.30, decrease \$444,154.45; distilled spirits, \$2,464,889.32, decrease \$396,921.17; cigars and cigarettes, \$727,808.76, decrease \$65,047.76; snuff, \$225,009.27, decrease \$55,237.84; tobacco, \$765,445.90, decrease \$342,971.34; special taxes, \$194,053.49, decrease \$24,208.72; oleomargarine, \$79,721.32, increase \$9,679.28; adhesive stamps, \$99,729.94, decrease \$499,841.49; renovating butter, \$681.50, increase \$681.50. The collections amounted to \$6,164,312.60, a decrease of \$2,499,434.04, caused principally by the abolishment of the war-revenue taxes. While the collection from fermented liquors, cigars, tobacco, and snuff are less than in the previous year, the actual manufacture and sale of the articles themselves show a substantial increase over the previous year. The decrease in distilled spirits is occasioned by the closing of one of the largest plants.

The grain trade was not satisfactory. The previous year's failure of the corn-crop and the shortage of cars after the last corn-crop was ready for movement to the seaboard most seriously affected the corn-export trade, although the amount of corn exported in December—3,398,851 bushels—was very satisfactory, the quantity exported in the preceding months of the year having been only about 1,000,000 bushels more.

The exports of bituminous coal, foreign, from Baltimore in 1902 were 245,864 tons, against 403,505 tons in 1901.

Industries.—The charter records of the Superior Court show that in 1902 196 corporations, with an aggregate capital stock of \$14,857,400, were formed in Baltimore for business purposes. Of these, 171, with a total capital stock of \$6,073,900, are for manufacturing and trade. The remaining 25, with a total capital stock of \$8,783,500, are building associations and land and loan companies.

In the shirt-making industry of Baltimore, the total product of 1901 was worth about \$7,000,000; the value of the product of 1902 will probably reach \$10,000,000.

In the clothing trade the volume of business exceeded that of any previous year, and the number of employees was correspondingly greater. Fully 25,000 persons are employed in this industry, with steady work at good wages. The output is estimated between \$18,000,000 and \$20,000,000. The receipts of Maryland tobacco in this market in 1902 were 34,662 hogsheads, about 3,000 hogsheads more than in 1901. The increase was partly caused by unusually heavy receipts of the new crop, estimated at 1,800 hogsheads.

Immigration.—The number of alien immigrants that arrived at this port in 1902, on whom the tax of \$1 each was collected, was 47,605, compared with 27,014 in 1901 and 19,158 in 1900. They come from the following countries: Austria-Hungary, 32,435; German Empire, 5,057; Italy, 32; Roumania, 29; Russian Empire, 9,820; England, 110; Turkey in Europe, 63; Ireland and Denmark sent 1 each; Norway, 2; Scotland, 3; West Indies, 9; Serbia, 13; Spain and Switzerland, 15 each. The number of immigrants that settled in Maryland, and the race or people to which they belong, in the year ended Dec. 31, 1902, was: English, 3; Roumanian, 5; German, 793; Hebrew, 632; Russian, 16; Polish, 633; Russniak, 6; Croatian and Slavonian, 42; Slovak, 95; Bohemian, 168; Lithuanian, 71; Magyar, 46; total, 2,510.

Legislative Session.—The regular biennial session of the Legislature began on Jan. 1 and con-

tinued until April 1. The Senate consisted of 17 Democrats and 9 Republicans, and the House of 51 Democrats and 44 Republicans. John Hubner was elected President of the Senate, and Noble Mitchell Speaker of the House. Six hundred and thirty-three bills were passed and several resolutions. One of these was a memorial urging Congress to take action to give recognition to Commodore Winfield Scott Schley as the commander of the American fleet at the battle of Santiago. There was also a joint resolution for a joint committee to adjust the Maryland-Virginia boundary-line, and to decide upon joint legislation for the preservation of the food supply of the Chesapeake Bay. A resolution was also adopted, urging the acquisition by the Government and the enlarging and deepening of the Chesapeake and Delaware Canal. The more important laws that were passed during the session were:

Amending the election law and removing some of its defects. It requires notice to all persons suspected of not being entitled to registration and an abundant opportunity for a hearing, before their names are stricken from the list. It also provides that no person coming into Maryland from another State shall be entitled to vote until one year after his intention to become a citizen of this State, shall, upon his application, have been inscribed in a book kept for the purpose by the Circuit Court clerks in the various counties and by the clerk of the Superior Court of Baltimore city. The law also provides that the names of the various candidates shall be printed on the official ballots in 12-point (pica) type, one-eighth of an inch high and in depth. At the recent elections the names of candidates in some of the counties were printed in a small, antiquated type for the evident purpose of puzzling or misleading voters who had a meager education, the invalidating of the ballot of the negro voter being especially aimed at.

Providing that no room or apartment in any tenement or dwelling-house shall be used except by the immediate members of the family residing therein, which shall be limited to a husband and wife and their children, for the manufacture of any article of clothing, feathers, artificial flowers, cigarettes, or cigars. Before such dwelling can be used for such purposes there must be an inspection by the Chief of the Bureau of Industrial Statistics and a permit issued by him.

A compulsory school-attendance law. A child that is found to be an habitual or incorrigible truant to be committed to a "parental school," to be established in each county and in the city of Baltimore.

For the appointment of a commissioner to codify the incorporation laws of the State and to prepare a general system of incorporation law, to be submitted to the next Legislature.

For the appointment of a tuberculosis commission.

Forbidding the employment of minors under sixteen years of age in handling intoxicating liquors, or in any brewery or bottling establishment where liquors are prepared or offered for sale.

To prevent the desecration of the national flag. It provides that the flag or coat of arms of the United States or any imitation thereof shall not be attached to or imprinted on any goods, wares, or merchandise, or any advertisement of the same.

Providing for a State library commission, to consist of 7 persons, of whom at least 2 shall be women; the State Librarian, Superintendent of Public Instruction, and the librarian of the Enoch Pratt Library to be *ex-officio* members, the others to be appointed biennially by the Governor. Its

duties are to advise all public and free libraries and all committees and persons proposing to establish them as to the best means of selecting and cataloguing books and other details of management; also to organize and conduct traveling libraries.

Placing the primary elections of both parties upon practically the same footing as the general elections.

Authorizing the Mayor and City Council of Baltimore to issue stock to an amount not exceeding \$1,000,000 for enlarging and improving the water service. The ordinance was submitted to the voters at the municipal election, and was ratified by a large majority.

Changing the law for a State board to examine persons desiring to practise medicine in the State. Two State boards are now provided for, one named by the Medical and Chirurgical faculty of the State of Maryland, and the other by the Maryland State Homeopathic Society, which are to examine respectively the candidates of the two schools of medicine. Physicians who have been practising in States which allow Maryland practitioners to practise without taking an examination are to be entitled to practise here.

Prohibiting railroad companies from issuing, selling, or receiving tickets for passage through the city of Baltimore without coupons attached to and from the city, and allowing a stop-over privilege.

Providing a pension fund for teachers who have taught in the public or normal schools twenty-five years and have reached the age of sixty years. In the event of their becoming physically or mentally disabled they are entitled to an annual pension of \$200.

Providing for the issue of bonds to the amount of \$600,000, the proceeds to be used for the erection of an addition to the State-House in Annapolis, for the removal and demolition of the State Library Building and annexes, for construction of a plant to heat all the State buildings, for the completion of the Fifth Maryland Armory, and the construction of an annex to the Maryland House of Correction.

Providing for a State Board of Undertakers, to be appointed biennially by the Governor and to consist of 7 members, of whom 5 shall be undertakers of at least five years' active experience.

Providing for a State Board of Pharmacy, to be composed of 5 persons, to be appointed by the Governor. The law provides that no person shall open or conduct a pharmacy unless such person has received a certificate from the board, and no pharmacy shall at any time be left in charge of any person not a certified pharmacist to compound prescriptions or sell poisonous drugs.

Providing for the creation of a commission to investigate the cause, origin, treatment, prevention, and cure of the disease in horses called cerebro-spinal meningitis.

Making the counterfeiting of any kind of deed, will, promissory note, or document of value of any kind a felony.

For the more complete support of the Maryland Agricultural College, containing the provisions necessary to meet the requirements of the congressional acts known as "the land grant act of 1862," "the Hatch experiment station act of 1887," and "the Merrill act of 1890."

Baltimore.—The city was able to meet every one of its financial obligations in 1902, and on Dec. 31, 1902, had nearly \$200,000 in bank. The city comptroller announced that every department lived within its appropriation for the year, and that there will probably be an unexpected bal-

ance of \$1,500, which will be turned into the sinking fund. Last year the city expended about \$9,703,248.52.

The Fire Department consists of 513 active men, including substitutes. The cost of operation for 1902 was as follows: Salaries, \$374,302.21; expenses, \$103,346.93; salaries and equipment of No. 23 Engine Company, \$18,277.74.

City-Engineer Fendall reports the expenditure of \$173,000 in repairs to cobble and improve streets and \$25,000 on the maintenance of and repairs to the city bridges.

Building-Inspector Preston's report shows that the amount spent for improvements to public buildings for the city was \$428,218.96, while for repairs and rebuilding there was spent \$178,898.

The Street-Cleaning Department expended \$368,925.15, out of a total appropriation of \$369,040.

The collector of water rents and licenses reports the receipt of \$17,055.83 from the sale of dog licenses and \$61,542.62 from the sale of wagon, street-car, telegraph and telephone pole, theatrical, pool, and other licenses. From water rents he collected about \$853,000.

The chief engineer for the Subway Commission reports the construction of 600,000 feet of duct work in the year. Almost the only unfinished work is the connection of the Pratt Street powerhouse and substation of the United Electric Light and Power Company with the subway system.

In 1901, the net cost to the taxpayers on account of the jail, exclusive of salaries, was \$13,716.10, being the lowest in the history of the institution. This record was surpassed in 1902, the net cost for the year being \$10,455.25, a decrease of 24 per cent.

Political.—The Legislature, at its biennial session, elected Arthur Pue Gorman, Democrat, to succeed George L. Wellington in the United States Senate. Mr. Gorman, who was Mr. Wellington's predecessor, will take his seat on March 4, 1903. The Legislature also elected Murray Vandiver to succeed himself as State Treasurer.

At the November elections 6 members of Congress were elected, of whom 4 were Republicans and 2 Democrats. This was a gain of 2 Democrats, the congressional delegation having been solidly Republican.

MASSACHUSETTS, a New England State, one of the original thirteen, ratified the Constitution Feb. 6, 1788; area, 8,315 square miles. The population, according to each decennial census, was 378,787 in 1790; 422,845 in 1800; 472,040 in 1810; 523,159 in 1820; 610,408 in 1830; 737,699 in 1840; 994,514 in 1850; 1,231,066 in 1860; 1,457,351 in 1870; 1,783,085 in 1880; 2,238,943 in 1890; and 2,805,346 in 1900. Capital, Boston.

Government.—The following were the State officers in 1902: Governor, Winthrop Murray Crane; Lieutenant-Governor, John L. Bates; Secretary of State, William M. Olin; Treasurer, Edward S. Bradford; Auditor, Henry E. Turner; Attorney-General, Herbert Parker; Insurance Commissioner, Frederic L. Cutting; Adjutant-General, Samuel Dalton; Savings-Bank Commissioners, Warren E. Locke, James O. Otis; Prison Commission, F. G. Pettigrove, Margaret P. Russell, Henry Parkman, Mary V. O'Callaghan, Arthur H. Wellman; Chief of the Bureau of Labor Statistics, Horace G. Wadhin; Secretary of the Board of Education, Frank A. Hill; Secretary of the Board of Agriculture, James W. Stockwell; Chief Justice of the Supreme Court, Oliver Wendell Holmes, who was appointed in August to the bench of the United States Supreme Court. He was succeeded by Associate Justice Marcus P.

Knowlton, and Henry K. Braley was promoted from the Superior Court bench to fill the vacancy caused by Justice Knowlton's promotion. Other Associate Justices, James M. Morton, John La-throp, James M. Barker, John W. Hammond, and William C. Loring; Clerk, Henry A. Clapp. All are Republicans.

The term of the State officers is one year; they are elected in November. The Legislature meets annually on the first Wednesday in January. The length of the session is not limited.

Finances.—The gross debt of the Commonwealth, actual and contingent, Jan. 1, 1902, was \$77,696,635. Of this amount, \$25,738,223 is represented by loans issued for State purposes exclusively, and \$51,958,412 by loans issued for the benefit of cities and towns. Applicable to the loans issued for strictly State purposes are sinking-funds amounting to \$13,278,169, making the net actual State debt \$12,460,063. For the redemption of the contingent debt there are sinking-funds of \$3,312,853, which makes the net contingent debt \$48,645,558.

JOHN L. BATES,
GOVERNOR OF MASSACHUSETTS.

The Auditor's estimate of the sum needed for the expenditures of 1902 was \$6,376,242.60. The reimbursement of towns for the care of the insane added \$15,000 more to the expenses of the executive department than was needed in 1901. The Treasurer's department called for an increase of \$10,000 for premiums on securities for the Massachusetts school fund, and a decrease of \$1,000 on clerical assistance. For State and military aid \$18,800 more was required; and for the Attorney-General's office \$4,000 more.

In the estimates for 1903 the high prices of fuel and other supplies caused increases; and in addition each department is compelled by the new law to pay for its own printing. The Cattle Bureau asks for \$100,000 for exterminating contagious diseases among animals. Last year the appropriation was \$58,000. The Insurance Commissioner asks \$15,700 for salaries, \$26,025 for extra clerks, \$4,000 for incidentals, and \$4,800 for printing. The Civil-Service Commissioners ask for \$25,550, an increase of \$850 to cover printing. The Tax Commissioner desires \$25,400, with an added sum of \$9,500 for salaries; the Attorney-General \$40,000, as last year, for salaries and contingent expenses; the Harbor and Land Commissioners \$43,200, an increase of \$1,000; the Highway Commission \$34,950 for salaries, traveling expenses, etc. The Fish and Game Commissioners desire \$5,630 for salaries, \$1,550 for travel and incidentals, \$780 for clerical expenses, and \$18,445 for enforcement of game-laws, distribution of fish, etc. The Court of Land Registration asks \$39,000; the Savings-Bank Commissioners the usual amount, with \$5,000 added. The Auditor's estimate is \$20,600, no increase; the Commissioners of War Records \$10,000, as last year; the editor of Province Laws, \$21,200, an increase of \$1,900.

Treasurer Bradford asks for an increase of \$15,000. He says that on April 1 \$1,500,000 Bos-

ton and Albany bonds, a part of the investment, matured and were paid. Other investments in time securities are constantly maturing, so that on Nov. 5 there was \$871,288.43 of the fund in cash, producing only 2 per cent. per annum.

The deputy chief of the district police asks for the fire marshal's department \$21,800, an increase of \$1,000 for traveling expenses and of \$800 for additional stenographer; for the district police proper the chief asks \$104,100, an increase of \$500. Judge Dewey, for the bar examiners, asks \$1,500, as last year; the State Board of Charity \$526,900, an increase of \$15,800.

Education.—The number of illiterates in the State reported by the census of 1900 was 134,043. In the percentage of children from ten to fourteen who were able to read and write Massachusetts stood ninth in the list of States and Territories, with 99.33 per cent. In 1890 it stood second, with 99.17 per cent.

Caroline Hazard succeeds Alice Freeman Palmer (deceased) as member of the State Board of Education.

The enrollment at Harvard for 1902-'03 shows 534 instructors and 4,281 students. The proportion of instructors to students is greater than ever. There are 120 more students than in the year preceding, and 51 more instructors. Counting Radcliffe College and the Summer School, the total number of persons enrolled for instruction in 1902 is 5,206. The Law School shows its usual steady gain in number of students, this year's total being 640. The requirement of a college degree as a qualification for admission to the Medical School, the full force of which is felt this year for the first time, results in a decrease of about 50, 445 men being registered. The Dental School shows an increase, with 112 students. The Graduate School has 316 students, against 312 last year. The Theological School remains as before, and the Bussey Institute, or Agricultural School, registers an increase of one. The catalogue notes the opening of two museums—the geological section of the University Museum and the new Germanic Museum.

Harvard has a new hospital, the Stillman Infirmary, opened in September. It is the gift of James Stillman, of New York, and is as nearly complete and modern as any hospital in the United States.

A gift of \$250,000 from Mrs. Collis P. Huntington in March completes an aggregate of nearly \$3,000,000 for the enlargement and endowment of the Harvard Medical School.

Funds have been collected for a building at Radcliffe to serve as a home for the use during college hours of the day-students who come from the various parts of the city and vicinity. The fund is at present about \$125,000. The house is to be known as the Elizabeth Cary Agassiz Hall.

Tufts College celebrated its fiftieth anniversary in April. There were 903 men and women catalogued in 1901-'02, and 141 degrees were conferred in course in June.

Simmons College, provided for in the will of John Simmons, a Boston merchant who died about forty years ago, leaving for the purpose property now amounting to more than \$2,500,000, was opened in Boston in October with about 120 women as students. It has as yet no permanent home. Four lines of instruction are opened—household economics, secretarial, library, and scientific courses. For entrance a high-school education or its equivalent is required. The secretarial courses, which are now the most popular, give instruction in modern languages, history, stenography, and typewriting.

Banks.—At the beginning of the year there were 186 savings-banks in the State, with 1,593,640 depositors, and deposits aggregating \$560,000,000. The Central National Bank of Boston closed its doors Nov. 14, the Comptroller of the Currency having ordered the Bank Examiner to take charge of its business. The closing is said to be due to excess loans and a lack of quick assets. No dishonesty was charged.

A final dividend was paid in December to the creditors of the Globe National Bank.

Building and Loan Associations.—There are of these 128 in the State, with 74,771 members and assets amounting to \$28,674,207.

Industries and Products.—The value of farms in the State in 1900 was given as \$182,646,704. Only 95 acres were devoted to wheat in 1899; dairying and market gardening have increased in late years, and also the cultivation of fruit.

The wooded area is estimated at 4,200 square miles.

The value of manufactured products in 1900 was about \$1,035,000,000. The value of cotton manufactures, exclusive of cotton small wares, was \$110,478,327. The capital invested was \$155,761,193, and the number of looms 179,280. For cotton small wares the figures were: Capital, \$528,258; value of products, \$646,848; looms, 302.

In the value of woolen manufactures Massachusetts stood first among the States, with a value of \$81,041,537.

In 1901 the number of textile mills added to those of the State was 4, with 134 looms and 30,000 spindles.

Peabody.—The Historical Society of Peabody has erected a monument to the memory of John Proctor, of that place, who was hanged as a wizard on Gallows Hill, Salem, Aug. 19, 1692. Proctor's wife and children were prosecuted at the same time, but escaped death. The monument consists of a boulder bearing a tablet.

Boston.—The number of immigrants to this country through the port of Boston in the year ending July 1, 1902, was 41,462. The greatest number ever admitted in one year into this port was 52,416, in 1882. In the year ending July 1, 1901, the port admitted 29,998.

In December the Dominion Line established direct service with ports on the Mediterranean, and this is held accountable in large measure for the increase of immigration.

By the report of an expert on the municipal finances, it appears that the cost of administration in Boston is greater than that of any other city in this country. The total expenditures per capita exceed those of New York by 18½ per cent., and exceed those of the average of 10 cities by 172 per cent. These 10 cities are Chicago, Philadelphia, St. Louis, Baltimore, Cleveland, Buffalo, Milwaukee, Providence, Indianapolis, and Kansas City. Some reasons are given to show that a part, at least, of this disparity is rather apparent than real. For instance, Boston, unlike many other cities, does not, as a rule, charge the cost of street improvements and other public works wholly on abutting property, but pays for them from the general tax levy. Hence the great cost of streets—\$2.51, compared with 40 cents in the 10 cities named. Again, the cost of ferries and bridges is due to the geographical position of the city. The greater expenditure for charities and that for street cleaning may indicate greater relief and better sanitation, or they may indicate more expensive administration.

At the November election the question of ac-

cepting the "district option bill" was voted upon. The bill, which was rejected by a vote of 45,939 to 35,671, was subject to this referendum, and provided that the voters of the 8 Boston districts should decide independently the question of license for their districts.

Wakefield.—A soldiers' monument, the gift of Mrs. Harriet N. Flint, was dedicated at Wakefield in June.

Rivers and Harbors.—The appropriations made by Congress this year for waters of the State were as follow: For beginning the work on the great new channel of Boston harbor, \$3,600,000; harbor at Fall River, \$156,000; Gloucester, \$302,000; New Bedford, \$37,700; Hyannis and Nantucket, \$35,000; Newburyport, \$30,000; Rockport, \$22,000; Lynn, \$25,000; Beverly, \$10,000; Cohasset, \$21,000; Woods Hole, \$20,000; Plymouth and Provincetown, \$5,000; Manchester, \$5,000; and provisionally \$200,000 for the harbor of refuge at Sandy Bay, Cape Ann. Also \$85,000 for improvements to the Merrimac, Mystic, Malden, Weymouth, Town, and Taunton rivers.

Lawlessness.—Seven men were tried at Plymouth in November on a charge of "white-capping," in having tarred, feathered, and horse-whipped a man at Marion for alleged immorality. The trial, which attracted much attention, ended in a verdict of not guilty.

Legislative Session.—The Legislature this year was made up of 198 Republicans—33 in the Senate and 165 in the House—79 Democrats, of whom 7 were in the Senate, and 2 Social-Democrats, both in the House.

Rufus A. Soule was reelected President of the Senate, and James J. Myers was again chosen Speaker of the House.

The message of the Governor recommended many radical changes in the administration of State departments, and others, which were formulated in bills and many of them passed. Following is a summary of the recommendations: That the powers and duties of the fire marshal be transferred to the district police; the powers and duties of the Cattle Commissioners be transferred to the State Board of Agriculture; the powers and duties of the inspector of gas and gas-meters be transferred to the Board of Gas and Electric Light Commissioners; the powers and duties of the inspector-general of fish be transferred to the Commissioners on Inland Fisheries and Game; the powers and duties of the State assayer of liquors be transferred to the State Board of Health; the powers and duties of the pension agent be transferred to the Commissioners of State Aid; that the number of such commissioners be reduced to one; and that an appeal may be taken from his decision to the Governor and Council; all the State officers be accommodated in the State-House, and none in hired quarters outside; a Board of Publication to be established composed of State officials, to be appointed by the Governor and Council, to serve without additional compensation, to supervise publication of public documents, which have grown too large; the salaries of the Park Commissioners be permanently fixed instead of named each year by the Governor and Council. It was recommended that if legislation is to be passed authorizing the continuation of a new subway in the city of Boston, the act should contain these provisions: First, that the subway shall be owned, controlled, and paid for by the city of Boston; and second, that the act shall not take effect until it has been accepted by a majority of the voters of said city, voting at a special, State, or municipal election. To prevent the ex-

cessive and wasteful consumption of water in the metropolitan district and others, the consumption of water should be the basis for determining the assessment laid upon each city and town; that all street-railway locations granted by local boards be subject to the approval of the Railroad Commission; and that as the general law of 1890 for the abolition of grade-crossings has practically ceased to be operative, its further operation should be secured by an appropriation of \$5,000,000 to be expended at the rate of not more than \$500,000 in any one year, under the direction of the Railroad Commissioners.

An incident of the session was the protest of the two Socialists in the House against the proposal to extend the invitation of the Legislature to Prince Henry of Prussia to meet the General Court in joint convention on the occasion of his formal return of the Governor's call at the State-House on the 6th of March, which was adopted in the Senate by a rising vote without dissent.

Delegates from various labor organizations, estimated to be about 700 strong, appeared before the Committee on Constitutional Amendments to support a petition that amendments to the Constitution may be submitted to the voters of the Commonwealth upon petition of 50,000 legal voters.

The Sunday laws were modified by an act that made the following provision: "The provisions of the preceding section shall not be held to prohibit the manufacture and distribution of steam, gas, or electricity for illuminating, heat, or motive power, nor the distribution of water for fire or domestic purposes, nor the use of the telegraph or the telephone, nor the retail sale of drugs and medicines, nor articles ordered by the prescription of a physician or mechanical appliances used by physicians or surgeons, nor the retail sale of tobacco in any of its forms by licensed innholders, common victualers, druggists, and newsdealers whose stores are open for the sale of newspapers every day in the week, nor the retail sale of ice-cream, soda-water, and confectionery by licensed innholders and druggists, and by such licensed common victualers as are not also licensed to sell intoxicating liquors, and who are authorized to keep open their places of business on the Lord's Day; nor the letting of horses and carriages or of yachts and boats, nor the running of steam ferryboats on established routes, nor the running of street-railway cars, nor the preparation, printing, and publication of newspapers, nor the sale and delivery of newspapers, nor the wholesale or retail sale and delivery of milk, nor the transportation of milk, nor the making of butter and cheese, nor the keeping open of public bath-houses, nor the making or selling by bakers or their employees, before ten o'clock in the morning and between the hours of four o'clock and half-past six o'clock in the evening, of bread or other food usually dealt in by them, nor the carrying on of the business of bootblacks before eleven o'clock in the forenoon."

The Governor was directed to appoint a committee of three persons to examine and consider the State laws in relation to the formation, taxation, and conduct of all corporations, foreign and domestic, except municipal, banking, and public-service corporations, and to determine what legislation, if any, is necessary to make the relations existing between the Commonwealth and corporations more advantageous to it and to the public interest.

An act calling for the appointment of a commission to investigate the methods of supporting the public schools provides that its members

shall be taken from those already in the public service, and that no additional compensation shall be given.

A State board of publication was created in accordance with the recommendation of the message.

The Cattle Commission was abolished, and Austin Peters, for several years its chairman, was appointed chief of the Cattle Bureau of the State Board of Agriculture.

In accordance with the suggestions of the message, the committee recommended these other changes: That the offices of pension agent and State-aid agent be merged in the new office of State Aid Commissioner; that the office of State fire marshal be abolished and its duties given to a division of the State police; that the office of inspector-general of fish be abolished; and that of the inspector of gas-meters be abolished and its duties given to the Gas Commissioners.

A bill respecting banks provided that after July 1, 1904, no incorporated savings-banks shall occupy the same office or offices with a national bank, or any office directly connected by doors or other openings in partitions with the offices occupied by any national bank or other banks of discount. After the same date no president, vice-president, or treasurer of a savings-bank shall hold similar offices in a national bank or any similar institution.

Other enactments were: Making vaccination compulsory; regulating the speed of automobiles and prescribing for their management, so as to prevent accidents; providing that elevators running more than 100 feet a minute must be in charge of persons eighteen years of age or over, and other elevators must be in charge of persons sixteen years of age or over; providing that a married woman under twenty-one years of age may convey lands as if she were of age; providing that the succession tax shall be assessed on the value at the time the right of possession falls; and the value of existing life estates and estates for years is to be deducted; making it "unlawful for any person to advertise in a newspaper circulated in this Commonwealth, or by any other means, to perform or to procure the performance of the marriage ceremony"; authorizing cities and towns to appropriate money for celebrations of greeting to returning sons and daughters and other invited guests, and for addresses and ceremonies of historical interest.

Provision was made for a memorial statue of Gov. Wolcott on the State-House grounds.

In accordance with an act providing for three additional judges for the Superior Court, the Governor appointed Charles A. De Courcy, Robert O. Harris, and Lemuel L. Holmes. William C. Wait was appointed to fill the vacancy caused by the death of Justice John Hopkins.

The Governor vetoed a bill for nearly \$33,000 for Herring river in Harwich, as extravagant and wasteful.

Among the bills defeated was one for abolishing capital punishment, and one for preference of Spanish War veterans.

Requisition for a Criminal.—It was reported in August that the Governor had refused to honor a requisition of the Governor of North Carolina for a negro who was under indictment for arson in that State. It was true that protests were made against delivering up the negro on the ground that he would be lynched; that though the Governor of North Carolina had promised him protection the fact that two negroes had been lynched during his administration, though he had made vigorous attempts to stop

the crime, showed that there was no certainty that he would be able to afford protection. A hearing of the protests was held before the Attorney-General; in the end, the requisition was honored.

Political.—There were 5 tickets in the field for the State election this year—Republican, Democratic, Socialist, Socialist-Labor, and Prohibition.

The Democrats met in convention at Boston, Sept. 17. Following is the ticket named: For Governor, William A. Gaston; Lieutenant-Governor, John C. Crosby; Secretary of State, Willmore B. Stone; Treasurer, Thomas C. Thatcher; Auditor, J. L. Chalifoux; Attorney-General, John J. Flaherty. Some changes were made in the ticket later.

The nominations and the platform, which was adopted after they were made, were a triumph for that part of the party opposed to the Kansas City platform and to Mr. Bryan. There was a minority report from the Committee on Resolutions, offering a platform, which was read by George F. Williams, approving the Kansas City platform and reaffirming the principles advocated by the party in the last two national campaigns. The majority report, which was adopted, made no reference to these. It declared that the supremacy of the State over its corporate creatures, the trusts, must be asserted and maintained; that tariff duties should be reduced to a reasonable revenue basis; and that duties on raw materials, particularly on coal, iron ore, wool, and hides, should be removed; it favors a reciprocity policy and demands reciprocity with Canada; demands the repeal of the tariff duties upon articles whose production is controlled by trusts; condemns the coal operators for refusal to submit differences with employees to arbitration; denounces the Republican Congress for failure to give tariff concessions to Cuba; opposes all forms of Government subsidies, whether on land or on sea; reaffirms opposition to colonial imperialism; and declares that the State, in connection with the city of Boston, should join in the work of harbor improvements.

In Boston, Oct. 3, the Republicans named the following candidates: For Governor, John L. Bates; Lieutenant-Governor, Curtis Guild, Jr.; Secretary of the Commonwealth, William M. Olin; Treasurer and Receiver-General, E. S. Bradford; Auditor of Accounts, Henry E. Turner; Attorney-General, Herbert Parker.

The platform approves the gold standard, and says of trusts: "These combinations of labor and capital, by whatever name they are called, are the natural results of modern economic developments and are entitled to the due protection of the laws so long as they are innocent and law-abiding. Publicity, honest accounting, issuing stock only for its true value, the prohibition of improper devices to break down competition and severe penalties for corrupt interference with elections or with legislation by the use of money or offers of employment will protect the public against injury from large combinations of capital." The Democratic plan of free trade in all products made by trusts is opposed as meaning the greatest possible injury to all the competitors of trusts. The anthracite-coal strike is deplored, but is declared not to be a political question, and should not be used as such. President Roosevelt's efforts toward ending the strike are heartily approved. The platform concludes with a commendation of Gov. Crane's administration.

The candidate for Governor of the Socialists was John C. Chase; of the Socialist-Labor party,

Michael T. Berry; of the Prohibitionists, William H. Partridge. The platform of the Socialist-Labor party denounced the capitalist class and declared that the Republican and Democratic parties are the friends of the capitalistic class, while the Socialist-Democrats are the stool-pigeons of both.

The election was held Nov. 2, and resulted in the success of the Republican ticket. The vote for Governor was: Bates, Republican, 196,276; Gaston, Democrat, 159,156; Chase, Socialist, 33,629; Berry, Socialist-Labor, 6,079; Partridge, Prohibitionist, 3,538.

The Executive Council consists of the following members from the 8 districts of the State: David F. Slade, Arthur A. Maxwell, Edwin R. Hoag, Jeremiah J. McNamara, David I. Robinson, Walter S. Watson, Arthur H. Lowe, Richard W. Irwin.

Republicans were chosen to Congress in all but 4 of the 14 districts; but notice of contest has been served by the Republican candidate in the Ninth District, in Boston.

The surprise of the election was the large Socialist vote, which showed an increase of about 210 per cent. over that of 1901. In Haverhill and Brockton the party was especially strong. The two Representatives in the last Legislature, from Haverhill and Rockland, were reelected, and another Socialist was added by Brockton.

MICHIGAN, a Western State, admitted to the Union Jan. 26, 1837; area, 58,915 square miles. The population, according to each decennial census since admission, was 212,267 in 1840; 397,654 in 1850; 749,113 in 1860; 1,184,059 in 1870; 1,636,937 in 1880; 2,093,889 in 1890; and 2,420,982 in 1900. Capital, Lansing.

Government.—The following were the State officers in 1902: Governor, Aaron T. Bliss; Lieutenant-Governor, Orrin W. Robinson; Secretary of State, Fred M. Warner; Treasurer, Daniel McCoy; Auditor, Perry F. Powers; Attorney-General, Horace M. Oren; Superintendent of Public Instruction, Delos Fall; Commissioner of the State Land Office, E. A. Wildey; Adjutant-General, George H. Brown; Labor Commissioner, Scott Griswold; Bank Commissioner, George L. Maltz; Insurance Commissioner, James V. Barry; Railroad Commissioner, Chase S. Osborne; Food Commissioner, W. E. Snow; Salt Inspector, F. P. Dunwell; Commissioner of Mineral Statistics, T. A. Hanna; President of the State Board of Health, Frank A. Wells; Tax Commission, James C. McLaughlin, A. F. Freeman, William T. Dust, Ira T. Sayre, Graham Pope; Coal-Mine Inspector, Charles Atwood; Game Warden, Grant M. Morse; Secretary of the Board of Charities, L. C. Storrs; Fish Commissioner, Horace W. Davis; Chief Justice of the Supreme Court, Frank A. Hooker; Associate Justices, Joseph B. Moore, Claudius B. Grant, Robert M. Montgomery, and Charles D. Long, who died June 27; his successor is William L. Carpenter; Clerk, Charles C. Hopkins. All are Republicans.

The term of the State officers is two years. They are elected in November of the even-numbered years. The Legislature, consisting of 32 Senators and 100 Representatives, meets biennially in January of the odd-numbered years.

Finances.—By the Auditor's report submitted in December it is shown that the balance at the beginning of the year was \$2,627,523.84; the receipts of the State Treasury from all sources in the year ending June 30 were \$7,079,429.21; the disbursements for all purposes, \$6,253,141.91; the balance at the close of the fiscal year, \$3,453,811.14.

The transactions of the tax division were unusually satisfactory as regards the collection of delinquent revenues. The amount paid into the division was \$692,555,554, against \$407,958.61 the previous year. The local taxes collected amount to \$440,534.80, against \$272,900.62 the year previous.

A total of \$1,892,347.71 in specific taxes was collected from companies, the railroads paying \$1,430,434.62.

The receipts were larger than usual on account of the money received from the General Government on account of the Spanish War and other claims.

The Secretary of State received fees sufficient to pay the entire expenses of that department. A total of \$64,915.42 was received, of which sum \$55,833.61 was franchise fees, \$3,688.65 for recording and filing articles, and \$1,696.43 for charges against building and loan associations.

The Insurance Department received for the year ending June 30, 1902, \$323,027.01.

The Land Commissioner's office received for the year ending June 30, 1902, \$105,261.74.

The outstanding bonded indebtedness on account of Spanish-American War bonds is \$416,300, and the amount of money in the State treasury available for the payment of these bonds is \$473,311.99.

The total tax levy for 1902 was fixed at \$2,669,943.65—more than \$1,000,000 less than that of the year next preceding. The various purposes for which the tax is levied and the amount credited to each are as follow: University, \$397,525; Agricultural College, \$100,000; State Normal College, \$124,491.40; Central Normal School, \$45,000; Northern Normal School, \$27,630; Michigan College of Mines, \$97,875; State Library, \$12,000; Soldiers' Home, \$124,000; Home for the Feeble-Minded and Epileptic, \$85,000; State Public School, \$32,500; School for the Deaf, \$80,500; School for the Blind, \$30,700; Jackson Prison, \$4,000; Industrial School for Boys, \$72,750; Industrial Home for Girls, \$58,750; State Fish Commission, \$31,000; compiling records of Adjutant-General's office, \$1,250; dairy and food department, \$25,000; Michigan Dairymen's Association, \$300; Library Commission, \$900; National Guard, \$120,949.10; Naval Brigade, \$12,104.91; State Board of Health, \$6,500; State Weather Service, \$1,000; Michigan war loan of 1898, \$197,262.50; Michigan Agricultural Society, \$4,500; State Horticultural Society, \$1,500; current expenses of prisons, \$68,000; current expenses of asylums for insane, \$614,318.24; general purposes of State Government, \$500,000.

Education.—The census figures on illiteracy show a total of 80,480 illiterates in the State. In the percentage of persons between ten and fourteen who are able to read and write, Michigan stands tenth in the list, with 99.30 per cent.

Owing to the increased amount of specific taxes collected and placed to the credit of the primary-school fund, the semiannual apportionment of school money this year called for the largest sum ever distributed from the State treasury to the schools. The total is \$1,530,799.20, which is at the rate of \$2.10 for each of 728,952 children of school age.

The enrolment in the Agricultural College in 1901-'02 was 699, the largest in its history.

At the commencement of the University of Michigan, in June, degrees were granted to 777 graduates, the largest number ever given.

The State Board of Registration in Medicine calls attention to the successful operation of the Chandler medical act after an experience of

twenty-seven months. "Previous to Sept. 23, 1899, Michigan was the dumping-ground for so-called graduates of fake and disreputable colleges, over 200 of whom had registered in one county of this State alone. Not only has this law entirely cut off the undesirable future supply, but has caused this class of practitioners already in the State to either abandon the practise or properly qualify themselves."

The State Prison.—The Board of Control of Jackson Prison established a rule in April prohibiting corporal punishment in the institution.

One of the amendments adopted at the November election was to empower the Legislature to enact a law for indeterminate sentences, a law of 1889 to that effect having been found to be unconstitutional.

Railroads.—The total main-line mileage in the State is 8,199.43, an increase of 253.49 over that of the previous year. The commissioner says the statements of monthly earnings indicate an increase of about 9 per cent. over those of last year.

In 1901 there were 162 persons killed and 638 injured. This is the greatest number in the history of the State, with the single exception of 1900, when 254 were killed. Of the number killed last year, 28 were passengers, being 1 passenger for every 525,406 passengers carried.

A total of 82 companies reported to the department for the year. Of these 52 were regular operating companies. All were in first-class financial condition. In addition to paying interest on indebtedness, 8 companies declared dividends.

Under the repeal act of the last Legislature the Michigan Central was required to reduce its passenger fares to 2 cents a mile on its main line, the earnings of the passenger-trains on such line being in excess of \$2,000 a mile of road operated. It was found that the passenger income of the Detroit, Grand Haven, and Milwaukee was in excess of \$2,000 a mile of road operated, and a case is pending in the Wayne Circuit Court to require this company to reduce its passenger rates to 2½ cents a mile.

Articles of association were filed by 15 railroad companies.

A law of the last Legislature changed the system of taxation. Heretofore the railroads have paid a certain percentage on their gross earnings, but under the new system they will pay on the value of their property, like ordinary taxpayers.

The State Tax Commission fixed the valuation of the roads, making a total of about \$208,212,500, while the tax computed upon this valuation is \$2,850,231.22. The amount of tax assessed against the railroads this year under the specific system is \$1,483,906.84.

Banks.—An abstract of reports of the 213 State and 85 national banks and 3 trust companies, Feb. 25, shows increases over the report made Dec. 10, 1901, as follow: Loans, discounts, bonds, mortgages, and securities, \$3,597,986.79; commercial deposits in State banks, \$1,553,037.02; commercial deposits in national banks, \$1,548,108.20; savings deposits in State banks, \$2,093,132.22; total increase in deposits, \$5,194,277.44.

The City Savings-Bank, of Detroit, failed in February. The vice-president was tried on a charge of fraudulently securing from the bank more than \$1,000,000, and was convicted and sentenced to fifteen years' hard labor in prison.

Building and Loan Associations.—The number of these in the State is 63; they have a membership of 31,787, and assets amounting to \$9,386,764. The Attorney-General is endeavoring to exclude from the State certain so-called home-purchasing associations believed to be fraudulent.

Insurance.—A report of the financial condition and business of companies of other States doing business in Michigan in 1901 shows the following totals: Paid-in capital, \$58,642,875; admitted assets, \$312,958,919.52; liabilities, \$155,310,396.51; divisible surplus, \$96,776,816.65; taxes paid in Michigan, \$161,041.27; fire risks written, \$427,572,100; fire premiums received, \$5,367,437; fire losses paid, \$3,159,304; fire losses incurred, \$3,424,991; marine risks written, \$21,304,082; marine premiums received, \$258,077; marine losses paid, \$126,614; marine losses incurred, \$146,152. The per cent. of losses to premiums received was 63, against 62 for the years 1899 and 1900.

The commissioner says: "The fact that during the past eighteen months 24 companies, representing an aggregate capital of \$5,000,000, have retired from Michigan, coupled with the further fact that their places have not been taken by other companies, and that the companies which continue to do business in the State have reduced their lines fully 30 per cent., presents the anomaly in insurance economics of a constantly increasing demand with just as constantly decreasing supply of indemnity."

The commissioner urges amendments to the insurance laws that will relieve double taxation on premiums in case of reinsurance. The number of companies authorized to do business in the State is 146, there being 2 Michigan companies, 36 of foreign countries, and 108 of other States.

Industries and Products.—The farms of the State on June 1, 1900, numbered 203,261, and were valued at \$582,317,710, of which amount 27 per cent. represents the value of buildings, and 73 per cent. the value of the land and improvements other than buildings.

According to statistics compiled by the Department of Agriculture, Michigan is now the leading State in sugar-beet acreage, having a total area this year of 98,000 acres, an increase of 70 per cent. over last year. Statistics of the Sugar-Manufacturers' Association give the following items: The total daily capacity of the 13 Michigan factories is 6,600 tons of beets; the total investment is \$7,700,000; 64,400 acres of beets were harvested; and the crop weighed 597,600 tons. The average value of the ton was \$5.20, making the amount paid to farmers \$3,107,520. The average cost of a ton of beets to the farmer is \$3.70, and the net profit per acre is \$6.30. Freight must be deducted from this profit. The average output of sugar per ton of beets at the Michigan factories is 210 pounds.

In the census year there were 286 butter and cheese factories and creameries in the State, of which 146 were cheese. Michigan stands fifth in cheese production, the value having more than doubled since 1890. In the year 18,378,869 pounds of condensed milk was produced, nearly four times as much as in any other State. The value of all products of the 286 factories was \$3,918,995.

The figures for the manufactures of the State in 1900 are: Number of establishments, 16,806; capital, \$284,047,233, an increase of 8 per cent.; value of products, \$356,387,412, an increase of 23 per cent. There were 162,336 wage-earners, \$66,458,947 of wages, \$25,491,813 of miscellaneous expenses, and \$199,153,711 was the cost of materials used.

Michigan, which was the first among the States in the production of iron ore, is now second to Minnesota. The total production in 1901 was 9,654,067 long tons of iron ore. The coal product in 1901 was 1,040,530 short tons, valued at \$1,543,756. The State is credited with producing gold of the value of \$30,000 and \$48,600 worth of silver.

The wooded area of the State is 38,000 square miles. A forest reserve has been established in Roscommon and Crawford Counties, at the head waters of the principal rivers of the lower peninsula.

Legal Decisions.—The act of the last Legislature increasing the salaries of the State Treasurer, Land Commissioner, and Secretary of State, was declared invalid by the Supreme Court in its denial of a mandamus to compel the Auditor to pay the increase.

The decision against the Illinois antitrust act virtually applies to that of Michigan.

The Sault Canal.—This was opened Oct. 25. Statistics of the work are given in brief as follows: Length of canal, 13,000 feet; time consumed in construction, four years; cost, \$7,000,000; power developed, 60,000 horse-power; average width of canal, 200 feet; width at bottom, 164 feet; width at top, 215 feet; width of intake, 950 feet; depth of water, 23 feet; fall, 20 feet; velocity of current, 4½ miles per hour; volume of flow, per second, 30,000 cubic feet; number of turbines, 320; size of power-house, 1,380 by 125 feet. From an account of the opening celebration the following is taken: "In the military and civic parade in the morning were over 10,000 men, including the great army of men employed in the Clergue works across the river. The afternoon industrial parade showed the various products of the Clergue works in all stages from raw material to the finished article. The farmers of Chippewa County were much in evidence, having in the parade 250 wagons loaded with the produce of their lands. The historical section showed the Soo in all sizes and conditions, from the Indian to the present population, clad in Prince Albert coats and silk hats. This canal is the greatest hydraulic power plant in the world. Starting in the lower arm of Lake Superior, it passes straight through the heart of the city, and by a magnificent true curve debouches into the St. Mary's river a mile below the rapids."

On the American side of the river most of the power is to be devoted to two distinct lines of industry, calcium-carbide and alkali works.

By the invention of a distinguished scientist named Rhodin, a method has been devised for decomposing common salt by electrical current into chloride gas and caustic soda. The American works will employ about 2,000 men. Three hundred tons of salt and about the same quantity of lime will be consumed daily and transformed from a substance worth \$2.50 a ton to products worth \$25 a ton.

The storage-battery plant is the largest of its kind in the world. It has a capacity for the storage of 25,000 electrical horse-power.

Political.—The Republican State Convention, in Detroit, June 26, nominated Gov. Bliss for a second term. The other nominations were: For Lieutenant-Governor, Alexander Maitland; Secretary of State, Fred M. Warner; State Treasurer, Daniel McCoy; Auditor-General, Perry F. Powers; Attorney-General, Charles A. Blair; Commissioner State Land Office, Edwin A. Wildey; Superintendent of Instruction, Delos A. Fall; Members State Board of Education, Patrick H. Kelley, L. L. Wright.

The platform commended the national administration, reaffirmed the principles of the party, and favored reform in primary elections. On the trust question it said: "We realize that large combinations of capital may be necessary, but we desire to express our condemnation of all conspiracies and combinations to restrict business, to create monopolies, to limit production, or control

prices, and we favor such legislation as will effectually restrain and prevent all such abuses. We cordially approve and commend the efforts of President Roosevelt to enforce the laws against illegal combinations in restraint of trade."

A special convention was held in Grand Rapids, Sept. 25, to nominate a candidate to succeed Judge Charles D. Long, of the Supreme Court, who died June 27. William L. Carpenter was nominated. The candidacy of Gen. Russell A. Alger to succeed the late Senator McMillan was approved, and he was appointed by the Governor "to serve until his successor is chosen by the Legislature."

The Democratic Convention met in Detroit, July 30. Following is the ticket: For Governor, George H. Durand; Lieutenant-Governor, John F. Bible; Secretary of State, John Donovan; State Treasurer, W. F. Davidson; Auditor-General, David A. Hammond; Land Commissioner, Arthur F. Watson; Attorney-General, W. F. McKnight; Superintendent Public Instruction, W. N. Ferris; Member State Board of Education, Charles F. Field; Justice of Supreme Court, Benjamin J. Brown.

Later, George H. Durand withdrew on account of failing health, and his brother, L. T. Durand, was chosen to take his place.

The resolutions adopted by the convention demanded the destruction of bossism in Michigan; favored primary election reform; election of the United States Senators by direct vote; adoption of the system called the initiative and referendum; equal taxation and equitable assessment; municipal ownership of all public utilities; and adequate compensation for State employees. It denounced profligate expenditures in the State administration, and demanded that a strong fight be made on the contemplated suit of the Michigan Central against the State on account of the repeal of the charter of the road.

Candidates were named by the Prohibitionist, Socialist, and Social-Labor parties also.

The Republican State ticket was successful throughout. The vote for Governor stood: Bliss, Republican, 211,261; Durand, Democrat, 174,077; Westerman, Prohibition, 11,326; Walter, Socialist, 4,271; Conlin, Social-Labor, 1,264. The other Republican candidates received larger pluralities, Judge Carpenter's being 76,104.

Republicans were chosen to Congress in all the districts except the first, where Alfred Lucking, Democrat, was elected. The Legislature will stand on joint ballot 121 Republicans to 11 Democrats.

Two proposed constitutional amendments were submitted, one relative to the publishing of all the general laws of any session in a newspaper, abolishing the provision for payment; the other, empowering the Legislature to enact a law imposing indeterminate sentences as a punishment for crime, and to provide for the parole and return to prisons of persons imprisoned on such sentences. Both were carried, the former by a majority of 50,596, the latter by 68,027.

MINNESOTA, a Western State, admitted to the Union May 11, 1858; area, 84,287 square miles. The population, according to each decennial census since admission, was 172,023 in 1860; 439,706 in 1870; 780,773 in 1880; 1,301,826 in 1890; and 1,751,394 in 1900. Capital, St. Paul.

Government.—The following were the State officers in 1902, taking office the first Monday in January, 1901: Governor, Samuel R. Van Sant; Lieutenant-Governor, Lyndon A. Smith; Secretary of State, Peter E. Hanson; Auditor, Robert C. Dunn; Treasurer, Julius H. Block; Attorney-

General, Wallace B. Douglas; Commissioner of Insurance, Elmer H. Dearth; Adjutant-General, Elias D. Libbey; Chief Grain Inspector, L. D. Marshall; Commissioner of Labor, John O'Donnell; Public Examiner, Sam T. Johnson; Chief Justice of the Supreme Court, Charles M. Start; Associate Justices, L. W. Collins, John A. Lovely, Calvin L. Brown, Charles L. Lewis; Clerk of the Supreme Court, Darius F. Reese; Railroad and Warehouse Commissioners, Ira B. Mills, Charles F. Staples, and Joseph G. Miller—all Republicans.

The Governor, Lieutenant-Governor, Secretary of State, Auditor, Treasurer, and Attorney-General are elected every two years. The Railroad Commissioners are elected for six years, but the present board, the first elected, was so arranged that one term expires biennially. The Insurance Commissioner, Adjutant-General, Labor Commissioner, and Grain Inspector are appointed by the Governor for two years; the Public Examiner for three years.

The judges of the Supreme and district courts are elected by the people for six years. The clerk of the Supreme Court is elected every four years. The other court officers are appointed by the judges, except the deputy clerk and his assistants, who are appointed by the clerk of the court. State officers are chosen in November of even years. The Legislature convenes in January of odd years, and the session is limited to ninety legislative days.

Finances.—For the fiscal year ending July 31, 1902, the receipts of the State treasury were \$7,506,443.94, and the disbursements \$7,292,950.12, leaving a balance of \$2,212,837.06. The balance July 31, 1901, was \$2,000,343.24.

The State debt was \$1,069,000, having been reduced \$140,000 during the year. It has since been reduced to \$999,000 Dec. 31, 1902. The permanent school and university funds were respectively \$14,316,389.06 and \$1,334,035.55.

The principal classifications of the treasury receipts for the year were: Revenue fund, \$4,051,043.46; permanent school fund, \$1,217,219.13; general school fund, \$1,237,368.45; general university fund, \$373,775.08. The disbursements were: Revenue fund, \$3,898,948.60; permanent school fund, \$1,252,442.01; general school fund, \$1,153,562.46; general university fund, \$402,592.61. The amount of railroad taxes paid was \$1,659,296.94. The total of insurance taxes paid through the State Insurance Commissioner's office was \$216,515.68.

Charities and Corrections.—The new Board of Control, appointed by the Governor, and consisting of William E. Lee, S. W. Leavitt, and C. A. Morey, took charge of charitable and correctional institutions Aug. 1, 1901, and for the first fiscal year reduced the cost to the State \$147,000. The population of these institutions Aug. 1, 1902, was: Insane, 3,792; distributed as follows: Anoka Asylum, 135; Hastings Asylum, 137; St. Peter's Hospital, 981; Fergus Falls Hospital, 1,407; Rochester Hospital, 1,132. The asylums are for chronic cases. School for the Deaf, 254; School for the Blind, 74; School for the Feeble-Minded, 817; State Public School, 248; State Training-School, 326; State Reformatory, 192; State Prison, 553.

Lands.—The influx of settlers from the older and more crowded portions of the United States, which grew to large proportions in 1901, continued throughout 1902, and land values increased in a corresponding degree. The average value of State school lands sold was \$9.78, as compared with \$5.76 the year previous. The full amount

permitted by law, 100,000 acres, was sold. Practically every acre of known mineral land in the State is now leased, and much of this land is held by the State. Prospecting is continuous, and new areas are being added to the mineral values frequently. Some State pine still remains to be sold, and during the year sales of this amounted to \$324,991.60. The stumpage averaged about \$5 per thousand feet. The permanent school fund, which is derived from the sale of State lands and the revenue from timber and mineral leases, amounted July 31, 1902, to \$14,316,389.06, of which \$8,289,230.65 was invested in the bonds of other States and of Minnesota school districts; \$5,680,873 was in outstanding land contracts; and \$346,285.41 was in cash. The permanent university fund amounted to \$1,334,035.55 and the internal improvement fund to \$2,816,996. A new fund derived from the sale of swamp lands allotted to the State institutions amounts to \$298,905.

Products.—In the past year 36 new creameries have been established, making a total of 682. These made 63,726,450 pounds of butter out of 1,217,787,450 pounds of milk, produced by 382,356 cows. The butter output per cow was considerably increased over the year previous. The creameries paid to their 50,839 patrons \$10,052,743.50 in cash, besides 3,988,791 pounds of butter. The total value of the butter product of the State is figured at \$13,909,897.76. There was shipped out of the State 42,525,605 pounds of butter, practically two-thirds of the product.

The chemists of the Dairy and Food Commission made more than 16,000 analyses of food samples, of which about one-fourth were found to be below the standard required by law.

The ore product of the Missabe and Vermilion iron ranges had a phenomenal increase, the total shipments being 13,401,691 tons, against 10,786,983 tons the year previous.

While the wheat acreage decreased from 6,250,000 acres in 1901 to 5,960,000 acres in 1902, the average yield was increased from 12.5 to 13.7 bushels per acre, making the crop of that staple 82,150,000 bushels, as against 78,000,000 in 1901. The decrease in wheat acreage was more than made up by the increase in flax, although figures as to that crop are not systematically gathered.

Education.—There are in the State 141 high schools, and each receives special State aid of \$1,000. The total enrolment in these schools for the year ending July 31, 1902, was 15,410; the number of graduates was 1,877. There are 119 graded schools of not less than four departments, employing 667 teachers. In addition to these there are 92 graded schools of either two or three grades, employing 308 teachers.

In the University of Minnesota there are 3,720 students, including 1,044 women. The students are distributed as follow: College of science, literature, and the arts, 1,179; engineering and mechanic arts, 345; school of mines, 109; agricultural department, 619; law, 504; medical colleges, including pharmacy and dentistry, 551; summer school, 237; graduate students, 176.

The annual resources for current expenses are \$410,000; invested funds, \$1,334,035.55.

Labor.—In the last year this department has been pursuing, in addition to its factory inspection, a special inquiry into the condition of women wage-workers, and has sought to ascertain the causes underlying the aversion of women for housework. This inquiry has included an inquiry of the employers, as well as of the employees, and while it has not been entirely fruitful, is believed to promise some success.

Legislative Session.—The Legislature convened Feb. 4, 1902, in special session, and adjourned March 11, being in session twenty-nine working days. The principal business before it was the new code of tax laws, prepared by a commission appointed at the preceding session. The new code failed of passage.

Political.—The Republican State Convention was held in St. Paul, July 1. The important planks of the platform were these:

Approving the administration of President Roosevelt, including the administration of civil government in the Philippine Islands.

Adhering to the policy of protection.

Favoring the wider extension of markets for the sale of all American products.

Favoring reciprocity with Cuba.

Favoring legislation, national and State, to prevent combinations which stifle competition, limit production, control prices, or unduly increase profits or values.

Favoring the most stringent legislation for the suppression of anarchy.

Our faith in the gold standard has been amply justified by the wonderful strides of American industry and commerce.

The following ticket was nominated: For Governor, Samuel R. Van Sant; Lieutenant-Governor, Ray W. Jones; Secretary of State, Peter E. Hanson; Auditor, Samuel G. Iverson; Treasurer, Julius H. Block; Attorney-General, Wallace B. Douglas; Clerk of the Supreme Court, C. A. Pidgeon; Railroad and Warehouse Commissioner, Charles F. Staples.

The Democratic State Convention was held in Minneapolis, June 25. The principal planks in the platform were:

Demanding independence for the Philippines.

For the enforcement of the laws against trusts and the revoking of the tariff benefits they enjoy.

Favoring the income tax and postal savings-banks.

Opposing government by injunction.

Favoring municipal ownership of public-service corporations.

Favoring the election of Senators by direct vote.

Favoring the eight-hour work day.

The following ticket was nominated: For Governor, Leonard A. Rosing; Lieutenant-Governor, Robert A. Smith; Secretary of State, Spurgeon Odell; Auditor, Albert G. Leick; Attorney-General, Frank D. Larrabee; Treasurer, Joseph L. Meyers (Meyers declined, and the State Central Committee substituted H. L. Shirley); Clerk of the Supreme Court, George P. Jones; Railroad and Warehouse Commissioner, J. M. Bowler.

The Republican ticket was elected, the vote on Governor being: Van Sant, Republican, 155,849; Rosing, Democrat, 99,362; Scanlon, Prohibition, 5,765; Meighen, People's party, 4,821; Van Lear, Socialist Labor, 2,570; Nash, Socialist, 2,521; Van Sant's plurality, 56,487.

MISSISSIPPI, a Southern State, admitted to the Union Dec. 10, 1817; area, 46,810 square miles. The population, according to each decennial census since admission, was 75,448 in 1820; 136,621 in 1830; 375,651 in 1840; 606,526 in 1850; 791,305 in 1860; 827,922 in 1870; 1,131,597 in 1880; 1,289,600 in 1890; and 1,551,270 in 1900. Capital, Jackson.

Government.—The following were the State officers in 1902: Governor, A. H. Longino; Lieutenant-Governor, J. T. Harrison; Secretary of State, Joseph W. Power; Treasurer, George W. Carlisle, who resigned Nov. 1, and was succeeded by Thad. B. Lampton; Auditor, W. Q. Cole; Su-

perintendent of Education, H. L. Whitfield; Attorney-General, Monroe McClurg; Adjutant-General, William Henry; Land Commissioner, E. H. Nall; Revenue Agent, Wirt Adams; Railroad Commission, J. D. McInnis, J. C. Kincannon, A. Q. May; Chief Justice of the Supreme Court, Albert H. Whitfield; Associate Justices, S. H. Terral, S. S. Calhoun; Clerk, Edward W. Brown. All are Democrats.

The term of the State officers is four years; they are chosen in November of the years next preceding those of the presidential elections. The Legislature meets biennially the first Tuesday after the first Monday in January of the even-numbered years. Every second session is a special session, the regular sessions coming quadrennially. The length of a special session is limited to thirty days unless it is extended by the Governor; and only appropriation and revenue bills may be considered unless the Governor introduces other subjects by message.

Finances.—Following is an unofficial statement of the condition of the funds in December: "Indications point to the fact that on Jan. 1, 1903, there will be \$60,000 in cash in the State treasury, after paying all outstanding warrants and all expenses to that date. This will be accomplished, according to Auditor Cole, without any delay anywhere, and without issuing a dollar of the million dollars' worth of bonds authorized for the construction of the new State-House. By Feb. 1 \$750,000 will be received from State taxes, ample to meet the common-school funds and other appropriations to be paid to that date."

In the year \$199,996.50 was paid to 6,680 Confederate pensioners.

The present bonded debt of the State is given as \$2,887,026.

Valuations.—The assessed value of realty this year is \$145,719,108, an increase over 1901 of \$14,403,287; the personal property valuation is \$64,647,897, an increase of \$1,411,421; that of railroads, \$30,622,121, an increase of \$2,326,893. The total, \$240,989,126, shows an increase of \$18,141,601. The increase for three years amounts to \$52,713,217. The number of polls assessed in 1902 was 300,756, an increase of 8,837. "Of the 75 counties of the State, 57 show an increase in valuations, while 18 show a decrease. The most notable increases are from the southeastern part of the State, formerly called 'cow counties,' where the railroads have been followed by sawmills, new towns, and other enterprises."

The Treasurer's Office.—The shortage in the treasury (see Annual Cyclopædia for 1901, p. 722) was made the subject of a legislative investigation, and following is a part of the report: "We find that \$100,000 of the \$107,621.44 that was missing at the time the Governor made his count, in August, 1901, of the money in the State treasury had been loaned in Memphis at the rate of 3 per cent. per annum; said interest, when collected, was to be divided equally among Messrs. F. T. Raiford, Phil A. Rush, and John Armistead. This \$100,000 so loaned had been brought from Memphis before the counting of the money in the State treasury by the Governor on two occasions, one time by John Armistead and the last by F. T. Raiford. We failed to find any trace as to the whereabouts of the \$7,621.44 at the time the Governor and Auditor Cole counted the money in the treasury in August, 1901. We find from the evidence that there were no bonds or security in the State treasury to cover the missing \$107,621.44 at the time of the count made by the Governor; nor was there any evidence as to the whereabouts of said money at that time. We find

that the banks of Jackson, collecting checks and drafts and handling money for the State treasury, placed bonds, collaterals, or securities with said Treasurer covering all amounts so obtained from him."

Indictments were found against the men named. The prosecution of Rush resulted in a mistrial. He will be tried again in 1903, when the other trials are also to occur.

Mr. Carlisle, who was appointed after Mr. Stowers resigned, gave up the office Nov. 1, on the ground that it was too great a responsibility to have the care of such an amount in the treasury.

Education.—By the census report of 1900 there were in the State 351,461 illiterates. In the percentage of children from ten to fourteen years old who are able to read and write Mississippi stands forty-fifth, with 77.62 per cent. The school enumeration shows 630,439 this year, an increase for the biennial period of 40,427. The school term has been lengthened in most of the counties, only 5 at the beginning of this year having but the old four-months' term, others having from five to eight. Ninety towns in the State have organized into separate school districts with terms of nine months.

The enrolment at the Agricultural College for the year ending in June was 604; about 20 received the degree of bachelor of science.

The State University graduated 19 in the academic department and 24 in the department of law.

The Hazelhurst Summer Normal School had an attendance of 79 throughout the term and a total enrolment of nearly 200.

Mississippi College, at Clinton, graduated 20 in May; the East Mississippi Female College, 8.

The Alcorn Agricultural and Mechanical College, for colored students, had an attendance of 478, of whom 60 were girls.

Jefferson Military College, at Natchez, the first literary institute in the Southwest and the first military college endowed by Congress, celebrated its centennial at the commencement, May 30.

The property of Jackson College has been sold to Millsaps College for \$40,000. The latter enrolled 240 students in 1901-'02, and graduated 29 in the several courses.

Charities and Corrections.—The Legislature having refused to make any provision for a soldiers' home, the Sons of Confederate Veterans have taken steps to raise money for the purchase of Beauvoir, near the waters of Mississippi Sound, which is offered for \$10,000. There are 48 Confederate veterans in the various poorhouses and county farms of Mississippi.

The main building of the Institute for the Deaf and Dumb, in Jackson, was burned, March 18, with a loss of \$40,000, partly covered by \$15,000 insurance. At a meeting of the trustees in May it was decided to build 5 cottages and a dining-room and have them ready for opening in the autumn. The opening took place in November, with about 100 pupils.

Charges were made against the warden of the Penitentiary by a member of the Board of Control, in connection with the finances of the institution, but after a hearing they were dismissed with a slight censure for the omission to report the collection of \$91, as required by law. The appraisal of the prison property in March showed \$2,023,000 realty and \$99,617 personalty. The expenses for the first half of 1902 were \$89,004.23, and the receipts \$190,436.72.

Banks.—According to the report of the Comptroller of the Currency, the national banks in Mississippi make a good showing. Their loans and

discounts are \$4,632,556.66; United States bonds to secure circulation, \$1,012,500; United States bonds to secure United States deposits, \$250,000; money in reserve, gold coin, \$59,390.50; gold treasury certificates, \$25,650; silver dollars, \$99,202; silver treasury certificates, \$29,117; silver fractional currency, \$39,119.55; legal-tender notes, \$374,128; capital stock paid in, \$1,460,910; surplus, \$549,000; undivided profits, \$303,641.60; individual deposits, \$5,552,489.20; average reserve held, 20.69 per cent.

The Auditor, in his report of the State banks in July, says that this is the best showing made during his term. The number of banks reporting on July 15, 1901, was 117, compared with 129 for July 5, 1902. These new institutions have capital stock ranging from \$25,000 to \$100,000. The total resources of the 129 banks is \$26,544,946.83, compared with \$23,948,412.12 for the 117 banks. Loans and discounts on personal securities amounted to \$17,386,114.36. Under the heading of liabilities, capital paid in is placed at \$5,468,080.33, an increase of \$577,989.10 and an average of about \$44,000 for each of the 12 new banks established.

Railroads.—The mileage of roads in the State was increased by 127 in 1902; in 1901, the increase was 98. The gross receipts of the Yazoo and Mississippi for the year ending June 30 were \$6,587,355.80, an increase of 7.5 per cent.; the net receipts were \$1,930,171.14, a decrease of 6.77 per cent.

The business of the Louisville and Nashville in the State for the first quarter showed receipts from all sources, \$228,294.97; operating expenses, \$123,966.14; net revenue after paying taxes, interest, etc., \$55,963.12. This is an increase of \$34,138.08 over last year.

Hattiesburg is now reached by the Mobile, Jackson and Kansas City road. This part of the State is developing rapidly.

Insurance.—There are 55 insurance companies, 8 guarantee companies, 12 accident companies, and about 60 fraternal orders doing business in the State.

The new insurance law passed at the last session of the Legislature requires more extensive reports from the companies than heretofore. A separate insurance department was created, and the powers of the commissioner were enlarged. The present law affords greater security, providing that only capitalized companies may write fire-insurance. The system of taxation is changed, the law now requiring a percentage tax on actual business.

A strong effort was made to have an extra session of the Legislature called in order to repeal the valued-policy clause of the law. The Governor even received an offer from Vicksburg to pay the expenses of the extra session. But he declined to call the session, as, from answers received to a circular letter to the legislators, he found that the law would not be repealed.

On the other hand, the insurance companies were emphatic against writing blanket policies on cotton if the Legislature should amend the law only in its application to that staple; demanding the repeal of the entire law. But in September the Mississippi Fire Association decided to insure cotton under the old blanket policy. The new method adopted by the companies in the spring was to insure cotton in bales only, by marks and numbers.

Industries and Products.—According to the census report, 61.5 per cent. of the land area of the State is included in farms. There were of these 220,803, valued at \$152,907,000. Of this value, 24 per cent. represents the buildings and 76 per cent.

the land and all improvements other than buildings. The total value of farm property is \$204,221,027. Of the farms 41.7 per cent. were operated by white farmers and 58.3 by colored. Of the white farmers, 66.2 per cent. owned all or a part of the farms they operated. The colored farmers owned 16.3 of the farms they cultivated.

The cotton-crop in 1902 was 1,375,000 bales, against 950,000 in 1901. The consumption in mills of the State was 16,203,653 pounds of lint cotton. There were 16 mills, with 3,821 looms and 127,772 spindles. Two new textile-mills, with 160 looms and 10,120 spindles, were constructed in 1901. In the census year there were but 2,464 looms. The growth of the cottonseed-oil business is very rapid. In the first half of the year, 19 new mills were started, with \$860,000 capital. There is a great demand for Mississippi turpentine, and distilling plants have been running day and night.

The forest area of the State is estimated at 32,300 square miles.

The aggregate of capital stock of all concerns incorporated in the fiscal year was \$9,133,000.32, subdivided as follows: Lumber companies, \$1,127,000.29; banks, \$1,065,000.65; mercantile companies, \$1,669,000.22; oil-mills, \$1,995,000.07; railroads, of which 3 have already organized, \$85,000; 3 cotton factories, \$310,000; 150 miscellaneous corporations, \$2,882,000.

Lawlessness.—Lynchings have been reported this year in Attala County and at Walnut Grove, Clayton, Corinth, Columbus, Summit, and Darling. Three of the victims, negroes, were burned. The one burned at Corinth, Sept. 28, confessed to an atrocious murder. The one burned at Darling had, in company with 2 white men, murdered a mill owner whom they robbed. The one burned at Clayton in July had assaulted a young lady. A policeman attempting to arrest a negro running an unlicensed saloon at Summit in November was shot by the negro, who escaped. But 2 negroes accused of assisting the escape were caught and lynched. The negro lynched at Walnut Grove had committed an assault on a white woman, and the one at Columbus had attempted one. Two negroes were lynched in Attala County in September, accused of promoting dissension between the races.

Whitecap troubles have arisen this year in Amite, Franklin, Pike, and Lincoln Counties. The blacks have been terrorized by threats and notices to give up their employment in mills or to leave the county altogether. The Governor issued a proclamation, offering a reward for the arrest and conviction of each and every one guilty of the crime.

A race riot was reported from Tupelo in August, with 6 persons seriously shot and others injured.

Indianola.—Trouble arose in this place near the close of the year over the resignation, on compulsion, of the negro postmistress, who has conducted the office satisfactorily for several years, but was objected to on account of her color. Her resignation was not accepted, and the office was ordered closed.

Legislative Session.—The Legislature met for its special session Jan. 7. The limit of this session is thirty days, unless the time is extended by the Governor, as it was twice this year. Adjournment took place March 5. Adoniram J. Russell was Speaker of the House.

The number of Senate bills passed and approved was 56; of House bills and resolutions, 103.

Three constitutional amendments were proposed and submitted to vote in November. They were: 1, Authorizing a town or county, upon the vote of a majority of its qualified electors who pay

taxes on \$100 or more of property, to aid, by donation or subscription, in building of new railroads; 2, making the required vote to pass a constitutional amendment a majority of those voting, authorizing the Legislature to insert in the Constitution an amendment which has been adopted, at its next succeeding session, and giving the Legislature the power to determine finally whether an amendment has received a majority; 3, providing for regular biennial sessions of the Legislature, thus doing away with the present rule, which makes every second session a special one, and enabling the Legislature to take up any subject, instead of, as now, only those of revenue and appropriation and those introduced by the Governor.

The tax levy for the next two years was fixed at 6 mills.

As the State is entitled, by the census, to 1 more Representative in Congress, the 7 districts were redivided into 8. An additional judicial district was created, making 11.

Among the more important bills passed were a primary-election bill and one to provide for the better enforcement of the antitrust law, which was defective in some ways and so drastic as to be impossible of enforcement; also a new liquor law, and a so-called "amnesty act" in regard to the payment of privilege taxes.

A Board of Oyster Commissioners was created, to consist of 5 members appointed by the Governor, the full term of office being five years. They are to receive, besides their expenses, \$5 a day while engaged, not to exceed twenty days in a year. Oyster vessels of 1 ton burden gross must be licensed by them. They are to elect a chief inspector at \$100 a month, deputy inspectors, 3 or fewer, at \$60 for the canning season, and a secretary at \$600.

The office of Insurance Commissioner was created. Heretofore his duties have been a part of the Auditor's. Another office created was that of Assistant Attorney-General.

A State Department of Archives and History was created, to be established under the auspices of the historical society, from which the 9 trustees shall be chosen; and they shall elect a director to serve at a salary of \$1,800.

A portion of the Capitol grounds was set apart as a Confederate Memorial Park, and certain State officers were made a commission for its control.

Among other enactments were the following: Providing that any cause of action, or any interest therein, may be sold after suit is brought thereon, like any other property.

Raising the salary of the Governor and of the judges of the Supreme Court to \$4,500 each, and that of the Adjutant-General to \$600.

Appropriating \$50,000 for an exhibit at the St. Louis Exposition, and creating an exposition bureau, to consist of the Governor and 4 other members appointed by him. They are to appoint a commissioner who shall receive a salary of not more than \$2,000 and expenses.

Authorizing the Board of Levee Commissioners for the Yazoo-Mississippi Delta to levy a tax upon all privileges exercised within the said levee district, the taxes not to exceed those levied by the State on the same privileges.

To repeal section 1575 of the code, and prevent the granting of liquor licenses in towns of less than 500 inhabitants having police protection.

Authorizing supervisors to provide for the channeling of streams.

A committee that had been appointed to investigate the financial management of the Penitentiary made a report severely criticising the administration of the prison; finding that loose management

and unbusiness-like methods had prevailed; that it was "impossible, even with the most careful and long-continued examination of the books, to ascertain with any degree of accuracy whatever the results of former operations of the board," and that a "large tract of land had been cleared by convict labor for various parties with whom the Board of Control had no farming contracts whatever, and in whose lands the State had no interest whatever," together with other specifications. The Legislature passed a resolution directing the committee to begin investigating anew. A large amount of testimony was taken in open sessions, and the report, while it withdrew some of the charges and modified others, repeated the criticisms on the bookkeeping and the improper use of convict labor. Both houses merely received the report, refusing to adopt it, and discharged the committee. The Board of Control in charge of the prison consists of the Railroad Commissioners, the Governor, and the Attorney-General.

Congress was memorialized for an appropriation for Gulfport harbor.

Resolutions were passed condemning the majority report of the court of inquiry in the case of Admiral Schley, and commending that of Admiral Dewey, and saying further:

Resolved, by the Mississippi House of Representatives, that Admiral Schley is the real hero of Santiago, that he is one of the world's greatest naval commanders, and is entitled to the unfading gratitude of his country.

Resolved, further, that we extend a most cordial invitation to Admiral Schley to visit the State capital during his contemplated Southern tour, and receive a public manifestation of the exalted respect, confidence, and admiration in which he is held by the people of Mississippi.

A resolution of sympathy with the Boers passed both houses.

Another resolution instructed the representatives in Congress to support the bill for the purchase of Temple Farm and the Moore House at Yorktown, Va., by the Government. Still another requested the United States Fish Commission to investigate and report upon the oyster reefs in the State.

The Governor strongly recommended the establishment of a soldiers' home for the State, and it was desired to purchase for that purpose Jefferson Davis's old home, Beauvoir. The Senate passed a bill to that effect, but it was defeated in the House.

A concurrent resolution was passed "That the following verses be adopted as the State ode":

For thy grand and varied hills,
For thy clear and rippling rills,
For thy wide and fertile vales,
For thy coves, and glens, and dales—
I love thee, Mississippi.

With thy mists, and clouds, and storms,
With thy winds, and rains, and calms,
With thy snow, and hail, and sleet,
With thy sunshine and thy heat—
I love thee, Mississippi.

Where thy forests stand serene,
Where thy prairies roll between,
Where thy rich plantations lie,
Where thy sedge-fields never die—
I love thee, Mississippi.

Brave thy men, thy women fair,
Boys and girls beyond compare,
Proud thy record, years gone by,
Bright thy prospects, drawing nigh—
I love thee, Mississippi.

Place where first I saw the light,
Place where boyhood made its flight,

Place where love and hope grew strong,
Place where home and friends belong—
I love thee, Mississippi.

Here, my heart, thy vigils keep;
Here, my dead, in quiet sleep;
Here, my life, ebb thou away;
Here, my bones, turn back to clay—
I love thee, Mississippi.

The appropriations amounted to \$5,597,082, exceeding those of 1900, which were \$4,074,284. The amounts for the new Capitol are not included in either of these aggregates.

Political.—The primary-election law passed this year by the Legislature came before the courts and was pronounced constitutional. At the congressional election in November there was no opposition to the Democratic candidates. The 3 proposed amendments to the Constitution were defeated. The total vote polled was only 18,078, out of a voting population of 234,413.

Gulfport.—This city, the terminus of the Gulf and Ship Island Railroad, celebrated in November the arrival of the first seagoing steamship that ever touched there. For years the State has had a good port at Ship Island. Although this harbor afforded a shipping-point for the products of the mills of the Mississippi coast, its distance from the mainland and the necessity of employing lighters to handle freight limited the character of the business. A port on the mainland was desired, and that has at last been secured at Gulfport.

MISSOURI, a Western Mississippi valley State, admitted to the Union Aug. 10, 1821; area, 69,415 square miles. The population, according to each decennial census since admission, was 140,455 in 1830; 383,702 in 1840; 682,044 in 1850; 1,182,012 in 1860; 1,721,295 in 1870; 2,168,380 in 1880; 2,679,184 in 1890; and 3,106,665 in 1900. This is an increase since 1890 of 15.9 per cent. The city of St. Louis had in 1900 a population of 575,238. Capital, Jefferson City.

Government.—The following were the State officers in 1902: Governor, Alexander Monroe Dockery; Lieutenant-Governor, John Adams Lee; Secretary of State, Samuel B. Cook; Auditor, Albert O. Allen; Treasurer, Robert P. Williams; Attorney-General, Edward C. Crow; Superintendent of Schools, William T. Carrington; Railroad and Warehouse Commissioners, Joseph P. Rice, John A. Knott, W. E. McCully; Superintendent of Insurance, Robert G. Yates; State Geologist, E. R. Buckley; Supervisor Building and Loan Associations, Luther S. Hickman; Commissioner of Labor Statistics and Inspection, William Anderson; Inspector of Coal-Mines, Charles Evans; Inspector of other mines than coal, George K. Williams; Warden of Penitentiary, Frank M. Woolridge; Beer Inspector, Gyles Y. Crenshaw; Special License Commissioner, Thomas J. Martin; Adjutant-General, William T. Dameron; Factory Inspector, Clement J. Nordmeyer; Judges of the Supreme Court—Waltour M. Robinson, Chief Justice; Theodore Brace, Gavon D. Burgess, William Champs Marshall, Leroy B. Valliant, James D. Fox, James D. Gantt. The only Republican State officer is Waltour M. Robinson, Chief Justice of the Supreme Court.

State elections are held in November of even-numbered years, and all State officers hold for a term of four years. The Legislature holds biennial sessions, beginning in January of odd-numbered years. The Senate was composed of 26 Democrats and 8 Republicans. The House was composed of 82 Democrats and 60 Republicans. James H. Whitecotton was Speaker.

Finances.—The bonded debt of the State on Jan. 1, 1902, was \$1,287,000, showing a reduction in the year of \$600,000. The State also has \$4,393,839 in certificates of indebtedness outstanding, in which the State school and seminary funds are invested, making the total debt amount to \$5,680,839. The State's bonds draw 3½ per cent. interest, are dated Jan. 1, 1886, are due Jan. 1, 1908, and are redeemable after Jan. 1, 1893. The certificates of indebtedness draw 5 and 6 per cent. interest. The bonded debt of cities and towns is \$31,055,192. County and township bonds to the amount of \$9,000,000 are outstanding. They are owed by 53 counties, while 68 counties have no bonded indebtedness.

Railroads.—There are 154 steam-railways in the State, operated by 54 companies. Their total mileage is 8,656.26 miles, of which 7,300 is main line, showing an increase of 200 miles within the past year. Five counties in the State have no railroads. The railways pay a total tax of \$928,572. The casualties last year were as follows: Persons killed, 229; injured, 1,132. Of those killed, 60 were employees and 4 were passengers. Of the injured, 700 were employees and 160 passengers. All the railroads are of standard gage except the Missouri Southern and the Sedalia, Warsaw and Southwestern, and the latter is widening its tracks.

Insurance.—There are doing business in the State 13 regular mutual fire-insurance companies, 10 Missouri town mutual fire, lightning, and tornado companies, 26 foreign fire companies, 47 miscellaneous stock companies, 49 regular life companies, 4 stimulated premium life companies, 3 assessment life companies and associations, 67 assessment accident companies and associations, and 72 fraternal benefit associations. The business done in the State in 1901 was as follows: Fire—risks written, \$522,077,298.43; premiums thereon, \$5,900,949.39; losses paid, \$4,216,794.43; losses incurred, \$4,490,332.96. Marine and inland—risks written, \$10,317,743; premiums thereon, \$66,781.29; losses paid, \$43,747.60; losses incurred, \$43,445.56. Tornado—risks written, \$28,435,469.44; premiums thereon, \$124,110.55; losses paid, \$5,307.03; losses incurred, \$5,183.92. Fidelity and surety—risks written, \$56,660,081.23; premiums thereon, \$212,078.34; losses paid, \$59,494.57; losses incurred, \$44,650.39. Miscellaneous—risks written, \$227,839,080.45; premiums thereon, \$1,257,405.23; losses paid, \$593,185.52; losses incurred, \$634,736.10. Grand totals other than life—risks written, \$845,329,672.55; premiums thereon, \$7,561,324.80; losses paid, \$4,918,530.14; losses incurred, \$52,018,348.93. The life business done in the State in 1901 was as follows: Policies in force Dec. 31, 1901, number 105,756; amount, \$230,780,804.99; claims paid in 1901, \$3,205,563.21; premiums collected in 1901, \$8,842,241.76. The industrial insurance business during 1901 was as follows: The policies in force Dec. 31, 1901, numbered 441,895; amount, \$60,189,164; claims paid in 1901, \$629,387.36; premiums collected in 1901, \$617,947.81.

Education.—The State school fund amounts to \$3,159,073.40, and the State seminary fund to \$1,235,839.42, all of which is invested in the State certificates of indebtedness, and draws interest at 5 and 6 per cent. The interest is annually distributed among the 9,948 school districts, in proportion to the number of children of school age that they contain. The State school system consists of the State University, Agricultural College, School of Mines, 3 normal schools, 1 institute for colored teachers, 286 high schools, and 10,299 public schools.

The State University has an endowment of \$1,236,000, and 47,108 acres of unsold land. It receives annually from the United States Government \$38,150. Its total annual income is \$416,000. The number of students enrolled in June, 1902, was 1,710. The School of Mines and Metallurgy is at Rolla.

The Normal School, at Kirksville, had an enrolment as follows at the time of the last report: Men, 354; women, 501; total, 855. The total enrolment at the Normal School, at Warrensburg, was 1,012. The total enrolment at the Cape Girardeau Normal School was 442; and at Lincoln Institute for colored teachers, at Jefferson City, 247, of whom 123 were men and 92 women.

The following statistics of schools have been condensed from reports of county commissioners: Enrolment, white—male, 341,593; female, 337,616; total, 679,209; colored—male, 15,617; female, 16,894; total, 32,511; grand total enrolled, 711,720. Number of teachers employed, white—male, 5,607; female, 9,759; total, 15,366; colored—male, 285; female, 509; total, 794; grand total teachers employed, 16,160. Average salaries of teachers per annum—men, \$296; women, \$308. Estimated value of school property, \$20,328,279.

There are 128 private schools in the State, employing 1,275 teachers, and having an enrolment of 19,517 pupils, and buildings and grounds worth \$7,853,604. They have a total permanent endowment of \$8,829,000.

State Institutions.—The State institutions are the Penitentiary, at Jefferson City; the Reform School for Boys, at Boonville; the Girls' Industrial Home, at Chillicothe; 4 insane asylums—at Fulton, St. Joseph, Nevada, and Farmington—a colony for the feeble-minded, at Marshall; a Confederate Soldiers' Home, at Higginsville, which costs \$40,000 a year; and a Federal Soldiers' Home, at St. James, which costs \$20,000 a year. About \$900,000 was spent in the last two years on the buildings of public institutions.

Agriculture.—Seventy-seven per cent. of the land area of Missouri is included in its farms, of which 67.4 per cent. is improved. The number of farms, according to the last census, was 284,886. The value of farm property in 1900 was \$1,033,121,897, of which \$843,979,213 is lands, improvements, and buildings, \$23,602,680 implements and machinery, and \$160,540,004 live stock. The value of farm-products was \$218,296,970. The total increase in the value of farm property since 1850 was found to be 31.4. The number of farms operated by owners was 197,989; by cash tenants, 31,230; and by share tenants, 55,667. Of the farmers of the State, 98.3 are white and 1.7 colored. Of the white farmers, 69.1 per cent. own all or a part of the farms they operate; of the colored farmers, 30.9 per cent. Of the value of crops, cereals contributed 65.5 per cent.; hay and forage, 16.8 per cent.; vegetables, 7.2 per cent.; fruits and nuts, 3.6 per cent.; forest products, 3.7 per cent.; all other products, 3.2 per cent.

Labor.—There are 410 labor organizations in the State, with a total membership of 52,426, of which 51,426 are men and 1,378 women. The total number of strikes in the State in 1901 was 177, of which, according to the Labor Commissioner's report, 119 were settled satisfactorily to the strikers, 33 were compromised, and 15 were lost.

Manufactures.—The Bureau of Labor received reports from 1,666 manufacturing concerns. The aggregate value of their products in 1901 was \$253,711,595, an increase over 1900 of \$77,053,963. The average number of males em-

ployed was 80,610; females, 101,433; an increase of 27,890 over the previous year. The amount of money paid out in wages was \$46,809,729, an increase over the preceding year of \$13,748,198.

Militia.—The National Guard of Missouri consists of 1 brigade, comprising 4 regiments of infantry and 1 battery. The numerical strength is as follows: Commissioned officers, 198; non-commissioned officers, 337; musicians, 158, including 4 regimental bands and trumpet corps; hospital and ambulance corps, 64; farriers and blacksmiths, 7; privates, 1,918; total, 2,682.

Political.—The State election took place Nov. 5. Tickets were nominated by the Democratic and Republican parties, and the following parties nominated tickets by petition: Independent, Aligned, Prohibition, Socialist, and Socialist-Labor.

The Democratic State Convention met in St. Joseph, July 22, and nominated the following: For Superintendent of Public Schools, William T. Carrington; Railroad and Warehouse Commissioner (long term), John A. Knott; Railroad and Warehouse Commissioner (short term), Joe P. Rice.

The opening sentence of the platform "indorsed and affirmed the Democratic national platform adopted at Kansas City in 1900." Continuing, the platform said:

"We condemn the dishonest paltering with the trust evil by the present Republican administration, and we especially condemn the subversive to the trusts of our 'strenuous' President, who, only a few days before Mr. McKinley's assassination, boldly proclaimed in public speech at Minneapolis that trusts are an evil which the public safety requires should be promptly and mercilessly destroyed, but who, since his accession to the presidency, has struck not one effective blow against them, although holding in his hands all the necessary powers of government, and who, instead of executing his threat to exterminate the trusts, talks now only of regulating them.

"We favor the most stringent national and State legislation for the absolute control and regulation of the trusts, to the end that they will cease to be a menace to our public welfare as well as persecutors of the great army of the laboring people of our land. To that end we favor a consistent tariff revision which will remove the duty or tariff from all trust-made or trust-controlled products, thereby forcing the trusts into competition with foreign nations, depriving them of the fraternal support and fostering care of the Republican administration, by which they are now enabled to reduce their labor, minimize their output, grind down the working classes, and arbitrarily fix their own prices in this country, to the great detriment and hardship of our people, while at the same time the people of foreign countries reap all the benefits of the trust's economy by being able to purchase all of our trust products in their own country at fixed reductions varying from 20 to 60 per cent.

"In the event of such legislation failing in its purpose, then we favor the most drastic legislation which can be enacted prohibiting the existence or forming of such trusts, or any other such combinations which will have even a tendency to destroy honest competition in any line of business or make it possible to arbitrarily regulate wages, prices, rates, or charges of any kind.

"We condemn the alarming waste of the people's money in extravagant appropriations by Republican Congresses, now amounting to more than \$1,000,000,000 per year, and we heartily approve of the course of our Democratic representa-

tives in Congress in sturdily resisting this riotous profligacy, and in standing steadfastly for economy in public expenditures and for just principles of government.

"The assassination of the President of the United States by a self-confessed anarchist is deeply deplored. The recent assassination of the Governor of Kentucky by political anarchists, who fled to Indiana, where they are now protected by the Governor of that State, is also deplored. We denounce anarchy in all its forms and declare that it should not be permitted to find an abiding-place in this country.

"The Democratic party of Missouri offers as the best guarantee of the future its wise and economical administration of affairs of the State since it came into power in 1873, at which time it found a bonded debt of \$21,768,000, the securities for which had been corruptly squandered by the Republicans. This vast debt has been reduced, through Democratic economy and business methods, until the entire amount, except that held in trust for the public schools, will be paid by the close of the present year. We have continually reduced taxation until the levy for State purposes is now but one-half of what it was when the Republicans were in control of the State, being now only 25 cents on the \$100 valuation, and this tax can be still further materially reduced at the end of the current year."

The Democratic Judicial Convention met in Springfield, July 8, 1902, and nominated the following: For Judge of the Supreme Court, Division No. 1, Leroy B. Valliant; for Judges of the Supreme Court, Division No. 2, Gavon D. Burgess and James D. Fox.

The Republican State Convention met in Jefferson City, June 24. The following nominations were made: For Superintendent of Public Schools, James U. White; Railroad and Warehouse Commissioner (long term), Walter Silas Crane; Railroad and Warehouse Commissioner (short term), Barney W. Frauenthal.

The platform expressed the party's sorrow for the assassination of President McKinley. President Roosevelt's administration was approved, and he was favored for the Republican nomination for President in 1904. The convention declared itself "unalterably opposed to all trusts or combinations in restraint of trade, or having for their purpose in the remotest degree the stifling of competition," and demanded "such legislation, State and national, as will effectually protect the public from these evils." The "policy of President Roosevelt respecting our trade relations with Cuba" was approved. The convention favored legislation "enabling the people of our new possessions to enjoy the largest measure of self-government consistent with our sovereignty," and for securing an isthmian canal.

The rest of the platform discussed State issues. It charged that, "after thirty years of power in the State, the Democratic party has so administered the affairs of the State, particularly its financial matters, that the custodians of the books, records, and funds are unable to account to the people for the proper disbursement of the funds and for the money taken from the taxpayers.

"Democrats holding responsible positions of official trust have become gatherers of campaign funds from corporations whose property values were subject to assessment at their hands." It favored local self-government for all cities and towns, and denounced the Democratic party of the State for "having for twenty years maintained at the State capital an iniquitous lobby."

The Republican Judicial Convention met in Joplin, July 15, and nominated the following: For Judge of the Supreme Court, Division No. 1, Edward Higbee; Judges of the Supreme Court, Division No. 2, Henry Lamm and Moses Whybark.

The candidates of the Independent party were: For Judge of the Supreme Court, Division No. 1, Edward Higbee; Judges of the Supreme Court, Division No. 2, Henry Lamm and Moses Whybark; Superintendent of Public Schools, James U. White; Railroad and Warehouse Commissioner (long term), W. S. Crane; Railroad and Warehouse Commissioner (short term), Barney W. Frauenthal.

The candidates of the Allied party were: For Judge of the Supreme Court, Division No. 1, Frank E. Richey; Judges of the Supreme Court, Division No. 2, Henry N. Ess and Zachary Taylor; Railroad and Warehouse Commissioner (long term), Lyman Forgraves; Railroad and Warehouse Commissioner (short term), Oswald Hicks.

The candidates of the Prohibition party were: For Judge of the Supreme Court, Division No. 1, Reuben B. Robinson; Judges of the Supreme Court, Division No. 2, Jonathan P. Orr and Austin F. Butts; Superintendent of Public Schools, David R. Dungan; Railroad and Warehouse Commissioner (long term), Andrew Grassley; Railroad and Warehouse Commissioner (short term), William N. Keener.

The candidates of the Socialist party were: For Judge of the Supreme Court, Division No. 1, J. W. Gibbens; Judges of the Supreme Court, Division No. 2, James A. Slanker and Frank P. O'Hare; Superintendent of Public Schools, A. H. Hull; Railroad and Warehouse Commissioner (long term), Pearl Thompson; Railroad and Warehouse Commissioner (short term), W. I. Phifer.

The candidates of the Socialist-Labor party were: For Judge of the Supreme Court, Division No. 1, Charles Weppermann; Judges of the Supreme Court, Division No. 2, O. M. Howard and George F. Rudnick; Superintendent of Public Schools, Edward Heitzig; Railroad and Warehouse Commissioner (long term), Amil Neidermeyer; Railroad and Warehouse Commissioner (short term), Henry F. Mueller.

The Democratic candidates were elected. The vote on the candidates for Supreme Judge who headed the tickets was as follows: Valliant, Democrat, 273,081; Higbee, Republican, 228,897; Wippermann Socialist-Labor, 969; Gibbens, Socialist, 5,335; Richey, Allied, 1,841; Robinson, Prohibitionist, 4,945; scattering, 1.

MONTANA, a Western State, admitted to the Union Nov. 8, 1889; area, 146,080 square miles. The population, according to each decennial census since admission, was 132,519 in 1890 and 243,329 in 1900. Capital, Helena.

Government.—The following were the State officers in 1902: Governor, Joseph K. Toole; Lieutenant-Governor, Frank Higgins; Secretary of State, George M. Hays; Auditor, J. H. Calderhead; Treasurer, A. H. Barrett; Attorney-General, James Donovan; Superintendent of Education, W. W. Welch. These were elected on a fusion ticket of Democrats and Populists. Other officials were: Commissioner of Agriculture, Judson A. Ferguson; Adjutant-General, R. L. McCulloch; Land Register, Thomas D. Long; State Examiner, William Hudnall; Coal-Mine Inspector, Howard F. Welch; Game Warden, W. F. Scott; Sheep Commissioner, F. D. O'Neill; Mine Inspector, John Byrne; Inspector of Horticulture, E. N.

Brandagee; Chief Justice of the Supreme Court, Theodore Brantley, Republican; Associate Justices, G. R. Milburn, W. T. Pigott, Democrats; Clerk, Henry G. Rickerts, Democrat.

The State officers are elected for terms of four years at the time of the presidential elections. The Legislature meets biennially in January of the odd-numbered years.

Finances.—The unexpended balance Dec. 31, 1902, was \$616,698.45. The balance of warrants outstanding in the Capitol building funds was \$48,049.71; and in the Reform School building fund, \$1,212.20. The warrants drawn on the stock-bounty fund amounted to \$110,898.13, which was balanced by the cash on hand.

The bonded debt of the State is \$860,000. The debts of the 26 counties aggregate \$2,583,979.

Valuations.—The total valuation of the State for taxation, including railroads, is \$185,625,657 for 1902, of which \$86,001,619 is real, exclusive of railroads, and \$66,709,742 personal property. In 1901 the total was \$166,787,593. There is a gain of more than \$6,000,000 in real, and a loss of nearly \$5,000,000 in personal property.

Education.—By the census report there were 11,675 illiterates in the State in 1900. In the percentage of persons from ten to fourteen able to read and write Montana stood twenty-seventh in the list, with 98.07 per cent. The total number of children of school age Aug. 31 was 64,623, of whom 32,813 were boys and 31,810 girls.

This year 1,291 teachers were employed—236 men and 1,055 women.

The average length of term in the State was 6.56 months. There are reported 4 private schools, which have 1,839 pupils.

The whole number enrolled during the year was 44,881, while the average daily attendance was 31,471.

Sixty-five districts erected new schoolhouses. The number of districts adopting free text-books was 22, while in 28 districts the proposition was defeated by vote of the people. There are 48,510 volumes in the district libraries. The average salary for male teachers is \$76.89, and for female teachers \$52.04.

The State Normal School had an attendance of 118 in December. The School of Mines had 62. A night-class organized for young men employed during the day had 32. The expenses of the school amount to about \$24,515.

The enrolment at the Agricultural College, at Bozeman, was about 250 in the fall term. The estimated expense for 1902-'03 is \$51,420, of which the Government contributes \$40,000.

The science hall of the State University, at Missoula, was damaged by fire, March 13, to the extent of \$5,686.

Banks.—There are 21 State banks, with total resources \$15,254,236. The loans and discounts amount to \$7,924,946, besides those on real estate, \$797,030. The deposits amount to \$11,880,695.

The State Savings-Bank of Butte has resources \$4,133,889.

The defaulting teller of the First National Bank of Great Falls pleaded guilty in May, and was sentenced to ten years in the Penitentiary.

Telephones.—There has been a marked increase in the telephone business of Helena, which now has more than 500 telephones. Butte has 1,300 instruments. Great Falls has 325 telephones, Missoula 275, Anaconda 200, and Bozeman 110.

Charities and Corrections.—A new building has been provided for the Asylum for the Deaf, at Boulder. About 12 blind children are taught there.

The insane are provided for by contract at the rate of 65 cents a day, and the State convicts at 45 cents. The number of patients in the insane asylum averages 500, of whom about one-fifth are women.

Deer Lodge Prison had in April 463 convicts, about 100 more than in the previous year. About 20 were women.

The number of inmates at the Reform School, at Miles City, was 94, of whom 82 were boys and 12 girls. The report details the expenditures of \$21,998.47 for 1901 and \$22,522.11 for 1902.

Militia.—There are 34,000 men liable to military service. The infantry regiments of the National Guard consist of 2,613 men. The State appropriation is \$10,000.

Railroads.—The State is credited with 127 miles of new track in 1901, and 53 during the first six months of 1902. The valuation of the roads for taxation is somewhat more than \$30,000,000.

The Capitol.—The new Capitol was finished in January and was formally accepted and dedicated July 4. The contract price of the building was \$289,893; the actual cost to the contractor is given as about \$420,000.

Industries and Products.—The value of the principal mineral products of the State in 1901 was estimated as follows: Gold, \$4,802,717; silver, \$18,334,443; copper, \$36,751,837; lead, \$498,622; total, \$60,387,619.

Probably the silver is estimated at coinage value by the Government rate of \$1.29 an ounce; figured on the average market price, the value would be less than half that given in this estimate. The preliminary estimate of the Director of the Mint for the production in 1902 gives Montana's gold product as in value \$4,134,365, and silver, \$6,890,000.

The report of the United States Geological Survey for 1901 shows that Montana produced in that year \$90,000 worth of sapphires. Nearly all these stones were mined in the Yogo fields, in Fergus County. The value of the sapphires mined in Montana exceeded that of any other precious stones mined except turquoise, whose value amounted to \$118,000.

Rubies are found in the State, but none have the deep color of the Oriental stone.

New deposits of corundum have been found in Gallatin County.

According to statistics gathered by Commissioner Ferguson, there was a falling off in the production of coal in Montana in 1901 as compared with 1900. The total production was 1,442,569 tons.

There are, according to the latest estimate of the survey, 32,000 square miles of coal-bearing formations in Montana.

There were 33 accidents in the coal-mines in 1902, of which 7 were fatal. The whole number of fatal accidents in mines was 35.

The total value of the stone quarried, including plaster of Paris and other by-products, was \$470,142, compared with \$302,194 the previous year.

There are 20 breweries in the State, employing about 256 men, with a capital estimated at \$1,271,000. The amount of beer manufactured was greater than in any other year, the number of barrels being 163,283.

A table of industrial statistics for 1900 gives the value of the manufactured products of Montana at \$48,000,000.

The report of the State Board of Stock Commissioners shows that in 1902 the State produced 151,986 beef cattle, of which 92,000 head were shipped to points out of the State.

Montana excels all other States in wool-grow-

ing, the clip having been about 33,000,000 pounds this year.

The farms of Montana, June 1, 1900, numbered 13,370, and had a value of \$62,026,090. Of this amount, \$9,365,530, or 15.1 per cent., represents the value of buildings, and \$52,660,560, or 84.9 per cent., the value of land and improvements other than buildings.

Lands.—The wooded area in the State is about 42,000 square miles. The records of the State Land Office show a remarkable increase in the sale and lease of State lands. The State's holdings now amount to 2,020,977.73 acres. Of this amount, 304,814.24 acres are timber land, showing an estimate of 892,297,000 feet of saw timber; 65,693.03 acres are classified as agricultural, and the remainder of 2,650,470 are classified as grazing lands.

From the leased land the State received the annual sum of \$186,553.52. The school lands under lease exceed 1,350,000 acres.

Reserves.—By proclamation, Aug. 16, the President created 2 additional forest reserves in Montana, to be known as the Little Belt mountain and the Madison forest reservations. A large amount of land is withdrawn from public entry, and the Government will undertake to protect many millions of feet of timber on the land from the ravages of fire. The Little Belt mountain reserve includes timber land in the range of mountains bearing the same name, situated in a portion of Meagher, Fergus, and Cascade Counties, and is quite close to Helena. The Madison reserve lies almost wholly in the county of that name, excepting a very small portion which laps over into Gallatin County. The Lewis and Clarke reserve contains 4,572 square miles.

Legal Decisions.—By a decision of the United States Supreme Court, the antitrust laws of many States are pronounced unconstitutional. The ruling applies to all that make exceptions in favor of any class or classes.

The law of the Legislature of 1901 extending the operation of the statute of limitations upon accounts from three to five years has been declared invalid because it never passed the Senate, though it was signed by the President of the Senate and by the Governor.

The antigambling law was attacked, but was upheld by decision of the Supreme Court. One of the test cases was in regard to a slot-machine.

Political.—An election was held in November for an Associate Justice of the Supreme Court, a member of Congress, State Representatives, and local officers.

The Socialists were first in the field with a State ticket. Their convention was held at Bozeman, in July. W. F. Cameron was named for Associate Justice and George B. Sproull for Congress.

The resolutions called for an eight-hour amendment to the Constitution, and one prohibiting blacklisting, an employers' liability law, the initiative and referendum, and woman suffrage; expressed sympathy for the coal-miners of Pennsylvania; and said regarding fusion: "That the Socialist party can never recognize, unite, or affiliate or fuse in any way with any other political party. That any candidate on our ticket must refuse the indorsement of any other political party, because it insinuates our acceptance of their platform. We call upon the State membership to expel at once any member who proposes compromise or fusion."

There was dissension in the Democratic party this year, Senator Clark and F. Augustus Heinze being at the head of the two factions. The Clark faction gained control of the State convention,

which met at Boreman, Sept. 24. Jere B. Leslie was nominated for Associate Justice, and John M. Evans for member of Congress. The Heinze faction then organized what was called "the Antitrust Democratic party." They did not make nominations for the State offices, but threw their influence for the Republican candidates. Senator Clark and Mr. Heinze stumped the State, making charges each against the other party of bribery and corruption.

Early in the year the factional troubles in the Republican party broke out in a meeting of "straight Republicans" in Helena, Jan. 6, when a preamble and resolution were passed protesting against the domination of the "machine" controlled by ex-Senator Carter. The resolution was sent to the President.

Apparently the quarrel was settled or compromised before the State convention, which met in Great Falls, Sept. 27, and nominated W. L. Holloway for Associate Justice and Joseph M. Dixon for member of Congress.

In October the Populist and Labor parties in a joint conference nominated Judge Holloway.

The Republican candidates were elected. The vote for Justice stood: Holloway, Republican, 31,600; Leslie, Democrat, 21,204; Cameron, Socialist, 2,466. For Representative in Congress, Dixon, Republican, 24,626; Evans, Democrat, 19,560; Del. Labor, 6,006; Sproule, Socialist, 3,131.

The State Senate will have 12 Democratic, 13 Republican, and 1 Labor members; the House, 9 Democratic, 45 Republican, 9 Labor, and 5 Democratic.

NEBRASKA, a Western State, admitted to the Union March 1, 1867; area, 77,510 square miles. The population, according to each decennial census since admission, was 122,993 in 1870; 452,402 in 1880; 1,058,910 in 1890; and 1,068,539 in 1900. Capital, Lincoln.

Government.—The following were the State officers in 1902: Governor, Ezra P. Savage; Lieutenant-Governor, C. F. Steele; Secretary of State, George W. Marsh; Treasurer, William Stuefer; Attorney-General, F. N. Prout; Auditor, Charles Weston; Adjutant-General, J. N. Kilian, succeeded by William Hayward, who in turn was succeeded by L. W. Colby; Superintendent of Public Instruction, W. K. Fowler; Commissioner of Public Lands, G. D. Follmer—all Republicans; Chief Justice of the Supreme Court, J. J. Sullivan, Democrat; Associate Justices, S. H. Sedgwick, Republican, and S. A. Holcomb, Fusion; Clerk, Lee Herdman.

The State officers are elected in even-numbered years, the term beginning in January of odd-numbered years. The Legislature holds biennial sessions, beginning in January of odd-numbered years.

Finance.—The report of the Treasurer for the biennium beginning Dec. 1, 1900, and ending Nov. 29, 1902, presents the following remarks and suggestions: A balance of \$5,074.10 in the Normal School fund and \$4,068 in the Penitentiary land fund is unavailable on account of the failure of the Legislature to make the necessary appropriation. The amount of \$64.74 derived through the operation of the inheritance-tax law is unavailable because the law does not designate the fund to which it is to be credited.

The investment of the educational trust funds of the State in interest-bearing securities, the Treasurer recommends, should receive the earnest attention of the Legislature until a wise and practical solution is obtained. Under present constitutional limitations, municipal bonds and school-district bonds are not available for in-

vestment. The recent decision of the Supreme Court holding that bonds of other States are available securities has temporarily relieved the situation, and practically all the educational trust funds are now invested. In the biennium just closed the total investments amounted to \$2,839,825.43. But it has been impossible to keep all the trust funds invested at all times. The Treasurer suggests a constitutional amendment authorizing investment in municipal and school-district bonds coupled with a provision for the deposit of any uninvested balance in depository banks. The trust funds hold as investments bonds and warrants to the amount of \$5,456,977.90.

JOHN MICKY,
GOVERNOR OF NEBRASKA.

The floating indebtedness of the State is \$1,989,328.63, consisting of warrants drawn on the general fund. The educational trust funds hold \$1,457,351.56 of this amount. This floating debt has been created by making appropriations larger than the amount that could be collected from the State levy upon the assessed valuation of property.

The general financial statement for the biennium ending Nov. 29, 1902, is as follows: Balance Dec. 1, 1900, \$615,018.34; receipts from Dec. 1, 1900, to Nov. 29, 1902, \$6,742,551.71; total, \$7,357,570.05; disbursements from Dec. 1, 1900, to Nov. 29, 1902, \$6,925,314.67; on hand Nov. 29, 1902, \$432,255.38.

The receipts and disbursements of the treasury from Dec. 1, 1900, to Nov. 29, 1902, inclusive, were as follow: General fund, receipts, \$2,139,332.36; payments, \$2,105,320.22. Sinking-fund, receipts, \$11,617.58; payments, \$67,782.81. Permanent school fund, receipts, \$2,463,954.69; payments, \$2,569,792.07. Temporary school fund, receipts, \$1,346,975.99; payments, \$1,399,306.45. Permanent university fund, receipts, \$63,573.15; payments, \$65,550.97. Agricultural College endowment fund, receipts, \$138,882.52; payments, \$160,482.39. Temporary university fund, receipts, \$426,841.23; payments, \$383,522.69. Hospital for Insane fund, receipts, \$1,406.92; payments, \$291.67. State Library fund, receipts, \$7,813.50; payments, \$8,148.21. University cash fund, receipts, \$57,491.34; payments, \$55,272.97. Normal Library fund, receipts, \$3,095; payments, \$2,990.51. Normal endowment fund, receipts, \$16,728.77; payments, \$44,000. Normal interest fund, receipts, \$5,685.35; payments, \$4,604.17. Penitentiary special labor fund, receipts, \$46,141.38; payments, \$43,768.11. Penitentiary land fund, receipts, \$1,730. Agricultural and Mechanic Arts fund, receipts, \$50,000; payments, \$51,841.17. United States experiment station fund, receipts, \$30,000; payments, \$30,423.07. Inheritance tax fund, receipts, \$64.74. Total receipts, \$6,810,334.52; total disbursements, \$6,993,097.48.

Education.—State Superintendent W. K. Fowler issued a new educational directory, giving statistics for the year ending July 8, 1901. There are 6,875 districts in the 90 counties, and 6,773

schoolhouses. The whole number of teachers employed is 9,485, at an average monthly salary of \$40.08. Of the 377,069 children of school age (five to twenty-one), 286,718 are enrolled. It costs the State an average of \$13.90 a year to educate each enrolled pupil, but this amount is increased to \$21.82 on the basis of average attendance. The value of district property is estimated at \$9,870,683.79.

In apportioning the temporary school fund among the counties in December, 1902, the Superintendent had at his disposal \$236,252.68, the smallest amount available for several years. The whole number of persons of school age in the State being 374,304, the rate per pupil was 63 cents. In the May apportionment the rate was \$1.11, and in the previous December 84 cents. The smallness of the fund is explained by Treasurer Steufer by the fact that during his term \$800,000 has been paid in by holders of educational lands, necessitating the reinvestment of this money in bonds and warrants bearing only 3 per cent. interest, just half the rate on the land contracts, and little or no return is to be expected on many of the securities for some time.

Difficulty was experienced at the opening of the school year, in September, in securing teachers, the salaries not being large enough to attract either men or women, who could secure more profitable employment in harvesting the unusually bountiful crops.

The State Superintendent urged the purchase of small libraries for all lower-grade schools. Hitherto none but the high schools have possessed them.

The regents of the University of Nebraska decided to adopt the Omaha Medical College as an affiliated school. Students will pursue two years of their medical course at Lincoln, and the remaining two at Omaha, where they will have the benefit of the clinical work to be found in a city.

But 1,500 acres of school lands remained unleased in April, 1902.

Products and Resources.—Census Bulletin No. 193, published in July, 1902, gives the agricultural statistics for the past ten years. The farms of Nebraska, June 1, 1900, numbered 121,525, and were valued at \$577,660,020. Of this amount 15.8 per cent. represents the value of buildings and 82.2 per cent. the value of land and improvements other than buildings. The total value of farm properties was \$747,950,057. The 121,525 farms reported contained 29,911,779 acres, or 61.6 per cent. of the area of the State, of which 18,432,596 acres were improved. The average size of the farms was 246.1 acres, this high average being due to the large stock-farms in western Nebraska. The number of farms operated by owners was 76,715; by cash tenants, 11,599; by share tenants, 33,211. In 1900 the number of dairy cows in the State was 512,544; of other neat cattle, 2,663,699; horses, 795,318; mules and asses, 55,856; sheep, 335,950; swine, 4,128,000.

In 1890 3,014 manufacturing establishments were enumerated, with a capital of about \$37,500,000, producing \$93,000,000 worth of goods at a cost of \$85,333,333, with a net profit of \$7,715,778. In 1900 5,414 establishments, with a capital of about \$72,000,000, at a cost of \$123,000,000, produced \$144,000,000, yielding a net profit of about \$21,000,000.

Deputy Food Commissioner Bassett issued his biennial report in December. He estimated an increase of 33½ per cent. in the production of butter, over that of 1901. In this report the

commissioner asked that the Legislature give him control of all the foodstuffs, in order more effectually to enforce the law against food adulterations. The commission reported having issued 436 permits since its organization, and received \$4,296 in fees.

The University Agricultural Experiment Station published a report made up from 500 replies of alfalfa-raisers regarding the number of processes employed, and also the care of the crop. Bottom-land produced somewhat larger crops than up-land, but sustained greater loss from winter killing. A clay subsoil was found to be no impediment in a large number of cases. Early sowing, no use of a nurse crop, sowing broadcast with subsequent harrowing, and the use of 20 pounds of seed to the acre—are the principal approved conditions. Disking—that is, going over the ground with a disk harrow before growth begins, or in summer immediately after cutting—is beneficial, as this process cuts the crown root and stirs the soil.

Cattle suffered severely from what is called the corn-stalk disease, which was pronounced by a prominent veterinarian not to be a disease, but a dietetic error, in that corn-stalks when not properly cared for lose their nutrient qualities.

Coal was discovered in the boring for a well in the neighborhood of Jamestown; and subsequent borings led to the belief that the vein underlies a large part of the country around Jamestown and may be mined with profit.

Legal Decisions.—The constitutional amendment relating to the vote to amend the Constitution was proposed in due form by the Legislature during the incumbency of Gov. Dietrich, but was vetoed by him on the ground of the expense it would entail. The amendment was revived by Secretary of State Marsh under the advice of Attorney-General F. N. Prout, who declared that since the power of initiative rested with the Legislature the Governor had no power over the proposed amendment, either to approve or to veto. His view was supported by citations from the Constitution and from decisions of the Supreme Court.

On Oct. 9 the judgment of the Supreme Court, written by Commissioner John H. Ames and concurred in by Judge Holcomb and Judge Sedgwick, restrained the School Board of District 21 of Gage County from permitting a teacher to continue the practise of reading the Bible, singing certain songs, and offering prayer, on the ground that the exercises were sectarian and forbidden by the Constitution. Attorney E. O. Kretsinger, representing the School Board, filed a motion for a rehearing, and received permission to submit his brief in support of it by Dec. 20. The decision of the court attracted attention throughout the United States.

One of the hardest fought legal battles began June 8, when the Supreme Court was taking testimony on the application of the Bee Building Company of Omaha for a writ of mandamus to compel the State Board of Equalization to assess railroad franchises separate and apart from tangible property, and thereby increase the taxes of the railroads above the amount fixed at the spring meeting of the board. The defense of the board was that it had assessed franchises; the attorneys for the railroads concurrently maintaining that, as the courts had failed to define a franchise, the action of the board in taking into consideration earnings and the fact that the lines were in active operation constituted the taxing of franchises. The court denied the application. The Real-Estate Exchange of Omaha attempted

to enter a protest upon the City Council, during its sitting in January as a board of equalization, concerning the disproportion between the assessments of real estate and the property of such corporations as the street-railway, electric-light, telephone, gas, and water companies. The Council refused to entertain their protest, and an injunction was served by the Supreme Court restraining the Council from passing the tax-levy ordinance until a hearing had been secured in the cases of the 5 corporations above mentioned. The litigation lasted three months. The injunction was dissolved on May 18, after the hearings had been completed, and resulted in an increase of \$1,523,190 in the assessments of the 5 public-service corporations. The ruling was that the bonded indebtedness of the corporations, instead of being subtracted from the taxable property, be added to it.

Penitentiary.—The \$75,000 appropriated by the Legislature to rebuild the Penitentiary, which had suffered by a fire, proved insufficient to complete the new structure, and work was suspended.

Political.—In the State election, Nov. 4, the Republican ticket was successful by a large majority. The following were the officers chosen: Governor, John H. Mickey; Lieutenant-Governor, E. G. McGilton; Secretary of State, George W. Marsh; Treasurer, Peter Mortensen; Auditor, Charles Weston; Attorney-General, Frank N. Prout; Commissioner of Public Lands and Buildings, George D. Follmer; Superintendent of Public Instruction, William K. Fowler. The 5 Representatives elected to Congress were all Republicans.

The platform adopted at the party convention in June expressed its sympathy with the President's policy in favor of the national irrigation law; favored a speedy revision of the State Constitution to meet the changed conditions of the new century; called for the enactment of additional laws to hold every custodian of public funds responsible for the repayment of principal and accruing interest; called attention to the necessity of increasing the State's revenues and reducing the State's debt, which had exceeded the constitutional limit: to this end requiring a more strict enforcement of the laws relating to assessment and taxation, also requiring a revenue from all non-resident corporations writing life and accident insurance in the State (except mutual-benefit and fraternal societies); favored the creation of a board of pardons to investigate and pass upon applications for executive clemency; favored the creation of a board of audit, who should examine the accounts of the State Treasurer and periodically make public reports.

In the April town elections the main contest was over the liquor question, and high license won in a majority of cases.

An amendment to the State Constitution, proposed by George W. Marsh, Secretary of State, was voted on at the November election. The proposition was to make it easier to amend the Constitution by requiring that when amendments have been agreed to by three-fifths of the members elected to each house and published at least once each week in at least one newspaper in each county for a period of thirty days before an election of Senators and Representatives (the present Constitution requires three months), the amendment shall become a part of the Constitution if its adoption is approved by a majority of voters voting at such election on the proposed amendment (the present Constitution requires the vote of "a majority of the electors voting at such election"). The amendment was defeated by

the provision which it sought to correct. Out of the 198,574 votes cast at the election, 49,147 were cast in favor of the proposition and 15,999 against it, the total for and against not being a majority of the whole.

NEVADA, a Western State, admitted to the Union Oct. 31, 1864; area, 110,700 square miles. The population, according to each decennial census since admission, was 42,491 in 1870; 62,266 in 1880; 45,761 in 1890; and 42,335 in 1900. Capital, Carson City.

Government.—The following were the State officers in 1902: Governor, Reinhold Sadler; Lieutenant-Governor, James R. Judge; Secretary of State, Eugene Howell; Treasurer, David M. Ryan; Comptroller, Samuel P. Davis; Attorney-General, William Woodburn; Surveyor-General, Edward D. Kelley; Superintendent of Public Instruction, Orvis Ring; Adjutant-General, James R. Judge, *ex officio*; Chief Justice of the Supreme Court, Thomas V. Julien; Associate Justices, Charles H. Belknap, Albert L. Fitzgerald; Clerk, Eugene Howell, *ex officio*. All are of the Silver-Democratic party except Superintendent Ring, who is a Republican. William A. Massey resigned as Chief Justice of the Supreme Court, and Gov. Sadler appointed Thomas V. Julien to fill the unexpired term.

State officers are elected in November, once in four years. An Associate Justice of the Supreme Court is elected in the alternate even-numbered years. The Legislature meets every second year on the second Monday in January.

Finances.—The treasury, Dec. 31, 1902, had \$288,616.50 in coin. The State fund securities were: Irredeemable State school funds, Nevada 4-per-cent., \$240,100; Nevada 5-per-cent., \$380,000; United States 4-per-cent., \$900,000; total, \$1,520,100. In 1902 the Bond Commissioners redeemed \$13,000 worth of bonds and issued \$15,500. The Nevada war claims against the Government amounts to \$462,000. The annual report of the Treasurer shows that the State is better in a financial way than it has ever been.

Lands.—The grants to the State were 2,732,884.70 acres, of which 30,293.56 acres are still due to the State. There are 1,400,000 acres under contract at 6 per cent. per annum. The State has 400,000 acres of reverted lands, the greater part of which are for sale at \$1.25 an acre. The State has issued patents for 876,378.59 acres. Approximately 61,250,000 acres in the State are owned by the General Government.

Education.—The school population between the age of six and eighteen years is 9,277. The semiannual apportionment was \$70,414.27.

Products.—The number of cattle in the State is estimated at 50,000, and the sheep from 5,000,000 to 7,000,000.

Political.—The Democratic State Convention met in Reno on Aug. 26, 1902. The Silver Party Convention also met on the same day. After a three days' meeting the two parties agreed to a fusion, and the following ticket was nominated: For Congressman, Clarence Van Duzer; Governor, John Sparks; Lieutenant-Governor, Lemuel Allen; Supreme Judge, George F. Talbot; Attorney-General, James G. Sweeney; Secretary of State, Eugene Howell; Treasurer, David M. Ryan; State Comptroller, Samuel P. Davis; Surveyor-General, Edward D. Kelley; Superintendent of Public Instruction, John Edwards Bray; Superintendent of State Printing, Andrew Maute; Regents of the State University, William W. Boohar (short term), Richard Kirman (long term).

Their platform pledged to them the free and unlimited coinage of silver; opposed trusts and

monopolies of any kind; favored an eight-hour law for workmen; favored the election of United States Senators by the direct vote of the people; favored the irrigation law in every form; opposed the leasing of public lands to individuals or corporations; and pledged their votes to Francis G. Newlands for United States Senator.

The Republican Convention met in Reno on Sept. 12, 1902, and nominated the following ticket: For United States Senator, Thomas P. Hawley; Congressman, Edward S. Farrington; Governor, Abner C. Cleveland; Lieutenant-Governor, Frank J. Button; Justice of Supreme Court, P. J. Bowler, Jr.; Secretary of State, William G. Douglass; Comptroller, Milo C. McMillian; Treasurer, Simon Bray; Attorney-General, Samuel Platt; Surveyor-General, Walter C. Gayhart; Superintendent of Public Instruction, Orvis Ring; Superintendent of State Printing, William W. Booth; Regents of State University, Herman H. Springmeyer (short term), Edward E. Dodge (long term).

Their platform approved the administration of President Roosevelt; favored the largest use of silver as money metal in all matters compatible with the best interests of our Government; approved the efforts of the present administration to enforce to the fullest extent possible the Sherman antitrust law; favored labor-unions in all their lawful acts and procedures as being powerful instrumentalities for the public good, and declared themselves in favor of an eight-hour working day; favored territorial expansion; opposed any constitutional amendment authorizing a lottery; opposed the pollution of rivers and reservoirs; favored the election of United States Senators by direct vote of the people.

At the election, Nov. 4, 1902, the following ticket was elected: Congressman, Clarence Van Duzer, Democrat; Governor, John Sparks, Democrat; Lieutenant-Governor, Lemuel Allen, Democrat; Supreme Judge, George F. Talbot, Democrat; Secretary of State, William G. Douglass, Republican; Comptroller, Samuel P. Davis, Democrat; Treasurer, David M. Ryan, Democrat; Attorney-General, James G. Sweeney, Democrat; Surveyor-General, Edward D. Kelley, Democrat; Superintendent of Public Instruction, Orvis Ring, Republican; Superintendent of State Printing, Andrew Maute, Democrat; Regents, William W. Booher, Democrat, Richard Kirman, Democrat.

The total vote cast for Governor was 11,318; for Congressman, 10,921. Francis G. Newlands, Democrat, will have, on joint ballot in the Legislature, 44 votes, insuring his election.

NEW HAMPSHIRE, a New England State, one of the original thirteen, ratified the Constitution June 21, 1788; area, 9,305 square miles. The population, according to each decennial census, was 141,885 in 1790; 183,858 in 1800; 214,460 in 1810; 244,022 in 1820; 269,328 in 1830; 284,574 in 1840; 317,976 in 1850; 326,073 in 1860; 318,300 in 1870; 346,991 in 1880; 376,530 in 1890; and 411,588 in 1900. Capital, Concord.

Government.—The following were the State officers during the year: Governor, Chester B. Jordan; Secretary of State, Edward N. Pearson; Treasurer, Solon A. Carter; Adjutant-General, Augustus D. Ayling; Insurance Commissioner, John C. Linehan; Labor Commissioner, Lysander H. Carroll; Superintendent of Public Instruction, Channing Folsom; Bank Commissioners, Alpheus W. Baker, John Hatch, George W. Cummings; Railroad Commissioners, Henry M. Putney, Francis C. Faulkner, E. B. S. Sanborn; State Librarian, Arthur H. Chase; Chief Justice of the Supreme Court, Frank N. Parsons; Associate Jus-

tices, William M. Chase, Reuben E. Walker, James W. Remick, George H. Bingham; Chief Justice of the Superior Court, Robert M. Wallace; Associate Justices, Robert J. Peaslee, Robert G. Pike, John E. Young, Charles F. Stone; Attorney-General, Edwin G. Eastman.

The State elections are held biennially in November of even-numbered years. The Legislature meets in January of odd-numbered years.

Population.—Of the population of the State in 1900, 410,791 were white and 797, including 112 Chinese and 22 Indians, were colored. The native born numbered 323,431, and the foreign born 88,107. There were 110,895 of school age—between the ages of five and twenty years; and there were 88,149 males of military age—between eighteen and forty-four inclusive. Of the 168,453 males ten years old and over, 12,043, or a little more than 7 per cent., could not read and write; and of the 169,410 females of the same age, 9,032, or 5½ per cent., were reported as illiterates. There were 337,893 persons ten years old and over, and of these, 178,719, or 53 per cent., were engaged in gainful occupations—were wholly or in part earning a living either as wage-earners or as the proprietors of some business. Of these workers, 136,961 were males and 41,758 were females. Of the 178,719 who were

at work, 38,782 were engaged in agricultural pursuits, 7,765 in the professions, 30,576 in domestic and personal service, 25,651 in trade and transportation, and 75,945 in manufacturing and mechanical business. Thus it appears that only a little more than 21 per cent. of the State's population above ten years of age can be classed as agricultural, while 42 per cent. are mechanics or manufacturers, 14 per cent. are in trade or rail-roading, 17 per cent. in domestic and personal service, and 4½ per cent. in professional work.

There were 97,702 families, and of these 51,017 owned the homes they occupied. Of these homes, 36,078 were unencumbered and 13,154 were mortgaged. Of the 25,472 farm homes, 18,446 were unencumbered, and 6,319 were encumbered.

Finances.—Cash in the Treasury June 1, 1901, \$447,907.02; receipts during the year 1901-'02, \$1,389,322.67; total, \$1,837,229.69. Disbursements during year ending June 1, 1902, \$1,261,614.57; cash on hand at same date, \$575,615.12; total, \$1,837,229.69. Liabilities June 1, 1901, \$1,793,795.36; assets same date, \$785,162.45; net indebtedness June 1, 1901, \$1,008,632.91. Liabilities June 1, 1902, \$1,669,071.30; assets same date, \$912,638.94; net indebtedness June 1, 1902, \$756,432.36. Reduction of debt during the year was \$252,200.55.

The Treasurer says: "The net results of the year's business show a reduction of the State's indebtedness, notwithstanding the large appropriations of 1901 for public institutions and new enterprises. This is explained by the reduction of the annual interest charges, by the redemption of municipal war-loan 6-per-cent. bonds, and the receipt from the United States of \$108,372.53 for



NAHUM J. BACHELDER,
GOVERNOR OF NEW HAMPSHIRE.

interest on notes and bonds issued for raising and equipping the State's quota of troops during the civil war of 1861-'65. The State will never be free from debt, by reason of the obligations it has assumed in the acceptance of certain trust funds upon which it has contracted to pay interest forever. The Benjamin Thompson Trust fund, which originally amounted to \$363,823.32, will, on Jan. 30, 1910, amount to \$797,181.67. The State will have added to the original fund \$433,358.35, and after Jan. 30, 1910, will be obliged to pay in cash annually to the New Hampshire College of Agriculture and the Mechanic Arts 4 per cent. on \$797,181.67—an annual interest charge of \$31,887.27. Other trust funds on that date (Jan. 30, 1910) will, with the Thompson fund, amount to nearly \$1,000,000, involving an annual interest charge of nearly \$40,000."

Banks.—There are under the supervision of the Bank Commissioners 77 savings-banks, 13 banking and trust companies (7 with savings-bank departments), and 17 building and loan associations. This includes the savings-banks and trust companies now in the hands of assignees. The savings-banks now in active operation show an aggregate of resources on June 30, 1902, of \$70,725,954.79. There is due the depositors \$60,249,862.29, and the surplus and the guaranty fund amount to \$10,476,092.50. *Per capita* deposits for the entire population of the State, \$146.35.

The increase of deposits for the year was \$3,171,429.14, and the number of depositors has increased from 142,460 to 147,928. Unwise investments in distant States, induced by high rates of interest, have wholly ceased, and, under a conservative investment law, satisfactory investments in securities proper for trust funds have taken place.

But little change in the volume of business of the building and loan associations is shown. The loans to members on homesteads on June 30, 1902, was \$1,595,618.41; loans on shares, \$41,640.20; loans to others not members, \$38,696.08. The book value of real estate held by the associations was \$65,790.50; cash on hand and on deposit, \$58,785.37; total assets, \$1,740,116.64. The withdrawals during the year were: Dues capital, \$160,384.50; dues retired, \$98,435; dues matured, \$96,291; profits withdrawn, \$38,923.31; profits retired, \$36,306.62; profits matured, \$51,330.93. The shares account shows additions during the year of 5,821; withdrawn, 3,127½; forfeited, 25; retired, 898; matured, 751½; shares outstanding, 28,867.

Insurance.—The report for 1901, issued May 1, 1902, shows the withdrawal of 7 companies from the State and the admission of 1. The number of companies now doing business in New Hampshire is 113—83 stock companies and 30 mutual companies—a net loss of 6. The total business transacted within the State by all authorized companies for the year was: Risks written, \$111,581,480.96; premiums received, \$1,456,852.36; losses paid, \$875,264.92; a gain of about \$9,000,000. The largest amount written in any previous year was in 1899, the risks written being \$103,674,181.06.

The financial condition of all the companies doing business in New Hampshire on Jan. 1, 1902, was as follows: Total paid-up capital, \$44,677,875; total gross assets, \$259,324,706.80; total liabilities (except capital), \$128,946,004.04; total surplus as to policy-holders, \$130,378,705.76. By surplus to policy-holders is meant the surplus over all liabilities added to the amount of the paid-up capital; for both amounts are available, if necessary, for the payment of loss claims.

From 1867 to 1901, inclusive (thirty-four years), foreign insurance companies (companies of other States and countries) doing business in New

Hampshire received in premiums \$15,027,652.16, and paid losses in the same years of \$8,888,308.62. The premiums received exceeded losses paid by \$6,139,343.54.

In 1885 the "valued-policy law" was passed, which resulted in the withdrawal from the State of all foreign stock and mutual companies. They believed it impossible to do business with safety and profit under that law. In 1889, however, they began to return; and business went on as before. The ratio of losses to premiums, from 1867 to 1884, inclusive, under the old law common to most of the States, was 66.81; the ratio of losses under the "valued-policy law," from 1889 to 1901, inclusive, was 50.25—fairly showing the great value of the new law to New Hampshire and to the insurance companies compared with the old law. Nothing could induce the State to return to the old system of insurance.

Railroads.—The history of steam-roads for 1902 is mainly a duplication of last year's statement. Mileage, rentals, and dividends are precisely the same. The Boston and Main Railroad is authorized by the Railroad Commissioners of Maine, New Hampshire, and Massachusetts to increase its capital stock \$1,000,000 by issuing 10,000 shares, par value \$100. The proceeds of this increase will be expended in the further abolishing of grade-crossings, in permanent repairs on the Worcester, Nashua, and Portland branch, and for other lawful purposes.

The electric-road mileage now in operation is 223 miles, with 10 miles more in process of construction. Their capitalization is \$3,451,000 in stock and \$2,196,000 in bonds, an average of about \$25,000 a mile.

State Library.—This institution aims to be the central reference library of the State, supplementing the public libraries of the towns and cities, and furnishing aid to professional men, historians, scientists, and others within the borders of the State. The State has provided it with a commodious fire-proof building, well adapted for its needs. Upon its shelves are over 80,000 bound volumes, besides a very large number of unbound volumes. The average annual increase for the past few years has exceeded 6,000 bound volumes and an equal number of unbound volumes. While the legal department is the largest and most complete at present, much thought and effort is being given to the medical, historical, agricultural, scientific, religious, and other departments, to the end that all may be eventually as well served as is the legal profession. Much attention has been given during the past few years to the collection of proceedings and publications of societies of all kinds, with the result that the library to-day contains one of the best collections in the country.

National Guard.—The guard consists of 1 brigade of 2 12-company regiments of infantry, 1 4-gun light battery, 1 troop of cavalry, a signal-corps, and a hospital corps. The infantry is armed with the now obsolete breech-loading rifle, caliber 0.45, but a few of the Springfield magazine rifles, caliber 0.30 (Krag-Jorgensen), have been issued to each of the companies for rifle practise on the ranges, with the result that an unusual number of sharpshooters and marksmen have qualified. The interest in this branch of a soldier's education has been much increased.

New flag-cases for the battle-flags of the war regiments of New Hampshire of the civil and Spanish wars have been erected in the Doric Hall of the State-House. These cases, of unstained mahogany, are lined throughout with copper and enclosed in front with plate-glass, making them not only dust-proof, but practically air-tight.

The State Prison.—The average daily population for 1901-'02 was 150—a little more than the preceding two years, but much less than from 1895 to 1899. There have been no escapes since 1870. Trouble with the men is practically unknown. There are but 2 female convicts.

Prisoners are now sentenced under the indeterminate-sentence act of 1901, which went into effect in May of that year. Eight have been paroled under that act, but so recently that nothing can be said concerning the results. The most effective inducement to the convicts to submit bravely and patiently to their duties during their imprisonment is the provision for commuting sentences for good behavior.

tal, which, with their experience in the wards, broadens and perfects their education.

During the summer months the open-air treatment of insanity has been pushed to the furthest limit possible consistent with the physical condition of the patients. Tuberculosis patients were cared for in a tent, and all whose physical condition admitted were placed out on the grounds. Out of a population of 470, as many as 440 were out of doors. The results of such treatment were eminently satisfactory, both in promoting increased nutrition and in quieting such as were restless and excitable.

Soldiers' Home.—The inmates of the home number from 80 to 100 through the year. Up-

STATE LIBRARY, CONCORD, NEW HAMPSHIRE.

State Hospital.—The sum of \$15,000 was appropriated by the Legislature to provide fire-proof elevator wells for the food-elevators, a tower containing an iron stairway to serve as a fire-escape for the chapel building, a new oven and tile floor for the bakery, and a new cottage for the head farmer.

The summer sanatorium, located at Lake Penacook and distant 4 miles from the hospital proper, continues to be a most useful supplement to the remedial equipment of this institution. This addition now includes 56 acres of land, 2 cottages for men and women patients, besides small stable and barn. An average of 30 patients have been accommodated there during the summer months.

The Training-School for Nurses has been eleven years in successful operation. Its efficiency has been greatly increased during the past year by an alliance with the Concord District Nursing Association. Every nurse prior to her graduation must have served a certain number of weeks in district nursing under the direction of a head nurse employed by the association. In this way the nurses of the State Hospital acquire a fine drill in house-to-house nursing outside the hospi-

ward of 500 soldiers have resided there, and the deaths number 105. The cost of individual maintenance of members is about \$210 a year.

The home is in the town of Tilton, 20 miles from the capital, and is located on a beautiful eminence half a mile from the village. Its original cost was \$40,000, and it has been maintained at an annual expense to the State of about \$10,000, over and above the amounts received from the United States Government under general law. The Governor of the State is, *ex officio*, chairman of the Board of Managers; secretary, Col. Daniel Hall, of Dover; the commandant, Capt. Ervin H. Smith, of Peterborough.

Dartmouth College.—The total enrolment of students for the academic year 1902-'03 is 789—an increase of 21 over the preceding year. Of this number, New Hampshire has 220; Massachusetts, 284; and the remainder come from 25 different States and foreign lands.

State Agricultural College.—There was in the year some increase in the grade of work and the requirements for admission. The college is so related to the recently adopted courses of study in the State high schools that the graduates of these

schools can be admitted without examination. The courses of study in mechanical, in electrical, and in chemical engineering have been considerably improved. In a more marked degree the agricultural course has been strengthened. A special building for agriculture is being erected at an expense of \$30,000. It will be ready for occupancy early in 1903.

Normal School.—This year the enrolment was 140, an advance of 40 per cent. over the previous year. The model school is well equipped, and is under the supervision of 2 teachers who are specialists in their respective lines. It has a liberal course of study, including nature study, art work, and manual training, and is thoroughly up to date. In the Normal School the work in each subject has been placed under the direction of heads of departments. Room and apparatus have been provided for thorough physical training, partly through the agency of the Students' Athletic Association. The school has a well-chosen library of 5,000 volumes, while a special reference library of text-books has just been established. The principal of the school is Mr. J. E. Klock.

Board of Health.—The most important work of the year has been in the State Laboratory of Hygiene. In its chemical department much attention has been given to the analysis of public and private water-supplies with excellent results. Numerous cases of lead-poisoning have also been discovered, and its causes eliminated. In its 2 bacteriological departments many examinations have been made for the determination of tuberculosis, diphtheria, typhoid fever, malaria, etc., which have proved to be of great value.

Smallpox has existed in various parts of the State for two years, and the board has been indefatigable, and very successful, in its efforts to stamp it out.

The State Board of Health also constitutes the State Board of Commissioners of Lunacy, having authority to commit worthy indigent patients to the State Hospital for treatment at the expense of the State.

Charities and Corrections.—The Legislature of 1901 provided for a secretary and clerk outside the membership of the board; for the return of accurate statistics of all pauper relief given by towns throughout the State; that all the county reports should be prepared in a uniform manner, giving certain statistics as to the insane, feeble-minded, and prisoners, to be returned to the board; for an indeterminate sentence of prisoners; and for a State school for the feeble-minded, appropriating \$30,000 wherewith to establish it. This school has been located at Laconia, and will be opened Jan. 1, 1903, with about 60 pupils. By this action of the Legislature the Board of Charities was put upon a level with the other State departments, and its scope largely increased.

Old Home Week.—This distinctively New Hampshire festival was celebrated with more than the usual enthusiasm by 100 towns and cities. It brought back to the State thousands of her long-absent children, and was an interesting augmentation of the bulk of the summer travel. New roads through the mountain passes, under the patronage of the State, and new and magnificent hotels are meeting the visitors at every turn.

Antisaloon League.—The principal officers of the league for 1902 are: President, Hon. D. H. Goodell; superintendent, Rev. J. H. Robbins. The business of the league has been prosecuted with the accustomed vigor. The question of a change of the State policy from absolute prohibition to license or local option came prominently before the people at the biennial election in November,

and will be brought before the Legislature for consideration at its coming winter session. Some of the purposes of the league are to insure united action in the churches in the cause of temperance; to enforce all temperance laws; to secure advanced additional prohibition legislation; and to circulate temperance literature freely among the people.

Bureau of Labor.—The biennial report of this department for 1901-'02 was issued in December. It reports unusual activity and prosperity in all departments of business, and gives some interesting and exhaustive statistics concerning the foremost industries of the State. In manufactures, for 1891, the cotton interest leads, with manufactured goods to the value of \$29,143,680; with boots and shoes a close second, \$22,988,189. The woolen, lumber, paper, and granite industries have made remarkable strides, the business of each running into the millions, while many other industries are reported as equally prosperous. The New Hampshire creameries, in quality of goods manufactured, lead the whole country, as shown by the awards at the Chicago Exposition in 1893, and at Buffalo. The number of creameries reported is 50.

State Grange.—The master of the grange is Gov.-Elect Nahum J. Bachelder. Its present membership is 25,109, and it has held 6,000 meetings during the year. Its receipts have been \$8,898.48, and the total cash in the treasury is about \$17,000. It encourages the observance of Arbor Day by offering prizes to subordinate granges for the planting of shade-trees by the country roadsides, the number of such trees desired being 50,000. For fourteen years the Grange Mutual Fire-Insurance Company has been maintained, furnishing insurance exclusively to its members. Property upon which policies are now in force exceeds \$6,000,000. All losses and expenses have been promptly met, and the saving to the insured in premiums since the inception of the company has exceeded \$100,000, as compared with the cost of insurance for the same amount on the same property in stock companies.

There are more than 3,000 summer hotels and boarding-houses in the State, including the most costly and elegant summer hotelery in the United States, and they accommodate 75,000 guests. About 1,200 (abandoned?) farms have been purchased by wealthy non-residents for summer homes, who have expended nearly \$3,000,000 on their purchases in addition to the purchase price.

Political.—The whole number of votes cast for Governor at the November election of 1902 was 79,162, as follows: Nahum J. Bachelder, Republican, 42,115; Henry F. Hollis, Democrat, 33,844; John C. Berry, Prohibition, 1,621; Michael H. O'Neill, Socialist, 1,057; scattering, 525. Republican plurality, 8,271.

The new Legislature consists of 24 Senators—21 Republicans and 3 Democrats; House of Representatives, 393 members—256 Republicans and 137 Democrats.

The Governor's Council consists of 5 members, all Republicans.

Constitutional Convention.—The Constitution of New Hampshire has remained unchanged since 1889. The General Court (the Legislature), by an act approved March 21, 1901, provided for the election, on Nov. 4, 1902, of delegates to a constitutional convention, to assemble at Concord in the following December. The convention assembled as provided, and finally submitted to the people for ratification 9 amendments to the Constitution, as follow:

1. For the prohibition of trusts.
2. For the extension of the suffrage to women.

3. For a tax on inheritances and franchises.
4. For an educational qualification of the suffrage.
5. To strike the word "Protestant" from the bill of rights.
6. To place representation in the Legislature upon a new basis.
7. To establish voting precincts.
8. To extend the criminal jurisdiction of police courts.
9. To require examination of commissioned officers in the militia.

Statue to Commodore Perkins.—A noble and elaborate monument to Commodore George Hamilton Perkins, a son of New Hampshire, given to the State by his widow and his daughter (Mrs. Isabella Anderson), was unveiled in the State-House grounds, at Concord, April 25, the fortieth anniversary of Farragut's battle of New Orleans. The exercises were attended by many distinguished naval and military men and civilians. The oration was by President William Jewett Tucker of Dartmouth College. The monument stands on North State Street, in the rear of the State-House and facing the United States Government building. The statue is the work of Daniel C. French, of New York city, a native of Chester, N. H. The general structure is of New Hampshire granite, while the niche is of Tennessee marble. The statue (bronze), which stands in the niche, is 7½ feet in height. Elaborate panels and historical inscriptions occupy appropriate places on the monument. Its cost was about \$40,000.

NEW JERSEY, a Middle Atlantic State, one of the original thirteen, ratified the Constitution Dec. 18, 1787. Area, 7,815 square miles. The population, according to each decennial census, was 184,139 in 1790; 211,149 in 1800; 245,562 in 1810; 277,426 in 1820; 320,823 in 1830; 373,306 in 1840; 489,555 in 1850; 672,035 in 1860; 906,096 in 1870; 1,131,116 in 1880; 1,444,933 in 1890; and 1,883,669 in 1900. Capital, Trenton.

Government.—The State officers in 1902 were: Governor, Franklin Murphy; Secretary of State, George Wurts; Comptroller, William S. Hancock; Attorney-General, Samuel H. Grey; Adjutant-General, Alexander C. Oliphant; Superintendent of Public Instruction, Charles J. Baxter; Commissioner of Banking and Insurance, William Bettle—all Republicans. Chief Justice of the Supreme Court, William S. Gummere; Associate Justices, Gilbert Collins, J. Franklin Fort, Jonathan Dixon, Mahlon Pitney, Bennet Van Syckel, Charles G. Garrison, Abram Q. Garretson, and Charles E. Hendrickson; Court of Errors and Appeals: Judges John W. Bogart, Gottfried Krueger, Frederic Adams, William H. Vredenburg, Peter V. Voorhees, and Garret D. W. Vroom. Chancellor, William J. Magie.

A general election is held annually in November. The only elective State officer is the Governor, whose term is three years. The others, including the justices of the Supreme Court and the judges of the Court of Errors and Appeals, are appointed by the Governor, excepting the Treasurer and the Comptroller, who are appointed by the Legislature, which meets every year in January, the sessions not being limited.

Finances.—At the close of the fiscal year ending Oct. 31 the State fund was \$2,933,418.26; the school fund (including the school tax for 1901, \$1,486,806.75), \$5,461,789.42; local taxation on railroad corporations, \$400,784.47; allotment of taxes on railroad and canal property to the taxing districts, \$200,461.93; Agricultural College fund, \$116,000; total, \$9,112,454.08. The sinking-fund of the State consisted of the following as-

sets: Loans on bonds and mortgages, \$91,783.34; real estate, \$77,974.20; due from Thomas Crozier decree, \$1,000; balance in bank, Oct. 31, \$1,792.52; total, \$172,550.06.

Valuations.—The State Board of Taxation, in its annual report, Oct. 31, placed the total valuation of taxable real and personal property for 1902, as returned by the county boards of assessors, at \$952,560,540, an increase of \$34,141,798 over the ratables of 1901. Of this total of ratables, \$827,500,112 represents real estate, and \$153,233,682 personal property.

The amount of exempt property for 1901 was \$107,318,912. This, with the \$9,749,442 of exemptions allowed veterans, firemen, and militia, makes a total increase of \$8,309,294 over the exemptions of 1901. Of the amount of exempt property, \$15,261,060 is for the exemption of public schools, \$7,792,953 for other school property, \$40,802,264 for public property, \$35,719,711 for church and charitable property, and \$4,227,250 for cemeteries and graveyards. The deductions for debts in the State amount to \$21,756,071, compared with \$26,696,779 in 1901.

The returns of the ratables in the counties for 1902 show a net increase of \$34,141,798 over the valuations of 1901. All the counties show an increase except Burlington and Hunterdon.

The valuations of real estate in each county for 1902, compared with the valuations of personal property, show that the assessed value of real estate represents 84.4 per cent. of the whole.

The total valuation of real estate was \$827,500,112; of personal property, \$153,233,682.

The number of taxable corporations has steadily increased from 619 in 1884 to 8,056 in 1902, this latter figure being exclusive of about 300 corporations subject to tax under the provisions of the Voorhees franchise act of 1900, and being also exclusive of the great number of corporations that are exempt from State tax by reason of being engaged in manufacturing or mining carried on in New Jersey. There are, in fact, about 15,000 corporations carried by the State Board of Assessors. As a result of the assessments levied by this board, there was paid into the State treasury on account of miscellaneous corporation taxes for 1902 the sum of \$1,791,079.71, and for the amount of taxes levied in previous years the further sum of \$177,128.66, which is exclusive of \$569,237.35 received by the Secretary of State for the year and paid into the treasury for incorporation and reinstatement fees. The total receipts from miscellaneous corporations in the fiscal year were \$2,537,445.72, an increase over the last fiscal year of \$346,001.99.

The aggregate assessed valuation of the railroad and canal property is given as \$223,461,784, an increase of \$3,527,205 over the previous year. The total tax levied against the railroad corporations by the State was \$1,528,255.111, against \$1,500,524.75 for the previous year. Of this total tax, \$1,117,308.91 is for State uses and \$410,946.20 for local uses.

Industries.—The preliminary census report on the manufacturing industries of New Jersey, issued Jan. 16, 1902, showed a total capital of \$503,824,082, an increase of almost 101 per cent., and value of products in 1900 of \$611,728,933, an increase of almost 73 per cent. There were 15,481 establishments, increase 68 per cent.; 241,581 wage-earners, increase 101 per cent.; total wages of \$110,088,605, an increase of almost 33 per cent. The miscellaneous expenses increased 131 per cent., to \$42,640,143, and the cost of materials used was \$360,941,870, an increase of 91 per cent.

Banking.—The report of the State Banking Commissioner to the United States Comptroller showed the condition of the trust companies, savings-banks, and State banks for the quarter ending Sept. 15. There were 51 trust companies, 17 State banks, and 27 savings-banks. The condition of the trust companies was shown to have been as follows: Resources, \$99,995,256.74; liabilities, \$72,463,715.22. Notes and bills rediscounted, \$79,300; bills payable, \$850,000; bonds outstanding, \$1,150,000; other liabilities, \$573,600; total, \$99,995,256.74. The statement of the State banks showed the following condition: Resources, \$11,658,437.17; liabilities, \$8,556,437.17; bills payable, \$25,000; other liabilities, 4,600; total, \$11,658,437.17. The condition of the 27 savings-banks was reported as follows: Resources and assets, \$76,621,110.12; liabilities, capital stock paid in, \$500,000; amount due depositors, \$70,107,420.40; liabilities other than those stated, \$282,442.29; surplus, \$5,731,248.03; total, \$76,621,110.12.

Distribution of Products.—The chief of the New Jersey Bureau of Statistics compiled in December a statement showing the distribution of the product of the large manufacturing industries of the State. The statement is the first compilation of the kind made, and has to do with the distribution to capital account. The report of the bureau contains a classified list of 62 distinct industrial lines. There are 1,385 returns, and the firms reporting have a combined capital of \$225,000,000. In felt hats the industry product is \$4,014,197, which is \$1,530.32 per \$1,000 of capital employed. But the amount of capital is only \$2,610,045. The number of firms reporting was 48. The percentage of industry product devoted to profit and minor expenses was only \$32.88. In shoe manufacturing 41 firms reported, yet only \$2,152,079 in capital is employed. The ratio of the industry product devoted to profit and minor expenses is 42.37 per cent. In iron the percentage of industry product devoted to profit and minor expenses is less than one-third. In jewelry it is 61.23 per cent. Silk manufacturing is the most important industry included. The product is \$14,286,518, and the amount per \$1,000 of capital employed is \$705.42. The amount of capital is \$20,252,319, while the ratio of industry product devoted to profit and minor expenses is 47.74 per cent.

Factories.—The State Factory Inspector submitted his annual report in December. It shows that in the last fiscal year the department had made 180 inspections of factories, mines, and bakeshops, as a result of which 187 children were discharged. It sets forth that in the year 19 persons were killed and 68 injured because of accidents in factories and mines. The general conditions of all industries inspected was good, although some of the bakeries were reported to be very dirty, especially in Jersey City and Paterson. The year was one of unprecedented prosperity, and there was greater industrial activity than ever. The consequent increased demand for labor rendered special activity necessary for enforcement of the child-labor laws. Prosecutions of offenders were instituted in the local courts, and the penalties provided by law were imposed.

Agriculture.—The report of the Secretary of the State Board of Agriculture, filed in November, shows that the year 1902 was one of the most prosperous in the agricultural history of the State. The white-potato crop exceeded all previous records by about 3,000,000 bushels, and the financial yield to the farmer was far in excess of any previous year. The report says that "for so small a State, and with so much territory

taken up with truck-farming and market-gardening, the crops of grain have been remarkable. The increase in the production of corn and in the acreage devoted to its growing is indicative of an increase in the dairy business. The indication, when coupled with the fact that during the past year 17,127 cows were brought into New Jersey from other States, a number largely in excess of other years, confirms the conclusion."

The farming interests of the State represent a business with a capital of \$195,359,106. The only short crop was of hay, and this shortage is attributed to lack of rain. The yield is about 10,000 tons less than in 1901.

Of the various crops, the report says that oats were better than for some years past. Rye, an average crop. The acreage of buckwheat is being reduced each year. The production of sweet potatoes is being extended in the lighter soils of the southern part of the State. The crop is large and valuable.

The report places the total value of the farms of the State for 1902 at \$43,528,871. It gives the number of farms as 34,650, and the improved land, capable of profitable cultivation, is 1,977,042 acres. It says there is use of commercial plant food or fertilizers \$2,165,320 worth. Although farm-laborers seem hard to obtain, there is expended for this item \$6,720,030. The stock comprising the flocks and herds, horses, mules, and other animals, is valued at \$17,613,620.

Ceramics.—The Legislature at its last session passed an act providing for the establishment of a course in practical and scientific instruction in the art of clay-working and ceramics in the State Agricultural College, and appropriated \$12,000 for the organization and equipment of the department for the current year, and \$2,500 annually for its maintenance. The report of the Board of Visitors, issued in December, spoke very favorably of its progress. A laboratory, thoroughly equipped, had been erected and the work of instruction in ceramics is begun. The trustees received a gift of \$50,000 from Ralph Voorhees, a resident of New Jersey, for a library building, which is to be erected immediately.

Education.—The report of the School Superintendent, submitted in December, gives the statistics of the high schools of the State. As this was the first time that the data were collected, no comparison could be made with previous records. Of the 394 school districts in the State, 147 report full or partial high-school courses. In these 147 high schools and partial high schools were enrolled 12,980 pupils, 5,159 boys and 7,821 girls, or 3.8 per cent. of the entire school enrollment. In the 247 districts that have not established high-school courses there were 1,564 pupils which were doing high-school work. In the 147 high-school districts there were 603 teachers. They received \$511,281.19. The total cost of maintaining these schools was \$611,312.94. Sixty-nine schools maintain courses of study covering four years' work. Of these, 55 are on the "approved list," which means that graduates of these schools are admitted to the State Normal School without examination.

The State Librarian, in his annual report made in December, noted a great falling off of interest in the traveling-library system. At the close of the fiscal year 23 of the 62 traveling libraries were in use, against 42 in the preceding year. Twenty-two towns discontinued their use, while only 4 new towns applied for them.

The educational exhibit from New Jersey at the Charleston Exposition won both the gold and silver medals. The New Jersey Normal and

Model School, which had a separate exhibit, won a gold medal, as did the New Jersey School for the Deaf. The insect exhibit won a gold medal; it was said that the State had the finest collection of wood- and grain-destroying insects in the country. The State Museum won the whole set of medals—gold, silver, and bronze.

The registrar of Princeton University gave out the report of the entrance examinations for the university on June 25 as 229 for the academic course and 212 for the scientific, against 247 academic and 208 scientific the preceding year. The falling off was principally from the Middle States. The entrance rolls showed that New York city leads. Dr. Francis L. Patton resigned the presidency of the university July 31, and was succeeded, Aug. 1, by Woodrow Wilson, LL. D. Dr. Patton was elected president of Princeton Theological Seminary, Oct. 14. Three summer schools were in operation at the university during the summer.

Prisons.—In the annual report of the Board of Prison Inspectors it was stated that the striped-clothing, lock-step, and short-hair system should be abolished. It recommended that a separate institution for women should be built on the site of the present State arsenal adjoining the prison. There were 31 women in the prison, 20 of the number being white and 11 colored. It appeared from the supervisor's report, Nov. 1, that at the beginning of the fiscal year ending Oct. 31 the number of prisoners confined in the institution was 1,106. During the year 516 of these were removed. The number received in the year was 431, so that the number remaining Nov. 1 was 1,021, or 85 fewer than at the beginning of the year. The terms of 407 prisoners expired, 5 were discharged by the United States commissioner, 1 was pardoned by the President, 15 were removed to the insane asylum, 8 were pardoned by the Board of Pardons, and 61 were paroled.

Charities and Corrections.—According to the report of the Trustees for the State Home for Girls for the year ending Oct. 31, the number of girls committed to the home in the year was 24. The number sent out was 29, most of whom were doing well in good homes. The number of girls in the institution at the date of the last annual report was 119. At present there are 114. The addition of a new cottage has proved to be of great advantage, enabling more and better work to be done in all departments. There was 1 death. With this exception the health of the inmates has been good.

According to the superintendent's report for the fiscal year ending Oct. 31, the Home for Boys cared for 500 in the year. It received 160, and discharged 163. Boys were received from every county in the State, with the exception of 3. The health of the boys was very good. There were but 2 deaths. There seemed to be a more contented and happier feeling among them, due largely to the policy of making the boys understand that their release depended entirely upon their own behavior and individual merit, and not upon any outside influences. The blacksmith, carpenter, and mason shops were very successful, all these departments being as full as possible, and all the boys very much interested in their work. The results from the garden and factory were also very satisfactory; there was an abundance of fruit and melons for the boys during the season, and this contributed largely to the unusually healthy condition of the institution.

The Governor approved, in October, the erection of the Tuberculosis Sanitarium on Mount

Kipp, an elevation of 954 feet in the range of mountains near Glen Gardner. The site is unequaled in the State for this special purpose. It was decided to erect one large central building for the patients. A macadamized road from Glen Gardner was begun.

The annual report of the Board of Managers of the Insane Asylum, submitted in December, reiterated the recommendation for a separate asylum for the convict and criminal insane, and deprecated the failure of the State to provide for the removal of the epileptics from the Insane Asylum. It called attention to the fact that in several counties the places designated as "asylums," although receiving State aid, are without any organization, without adequate medical supervision or proper attendants or nurses. The total population of the 6 county asylums was 555, of whom 282 were males and 273 were females. The report referred to the overcrowded condition of the State Hospital in Trenton, which contained 1,137 patients, although the present buildings were designed for only 840. The total expenditure in the year was \$236,749.39, and the per capita expense per week for maintenance was about \$380.

The Epileptic Village.—The annual report of the Board of Managers of the State Village of Epileptics shows that, although the place is a model one in many respects, there is still much to be done. The village was opened in 1898, and since then 9 inmates have been discharged as cured, 4 transferred to other institutions, 4 removed by relatives, 2 died, and 3 have eloped. In the past year 25 male and 20 female epileptics were admitted, and the total population at this time is 75.

It is estimated that there is 1 epileptic to each 500 of the population. A conservative estimate would place the total number at more than 2,500. "There is a large number of epileptics confined in the hospitals for the insane and other institutions throughout the State that properly belong in the village."

Forestry.—Forest Bulletin No. 11, issued by the Geological Survey, tells of the first extensive, systematic, and successful experiment in forest cultivation made in the State, after eight years' practical work on a 3,000-acre tract along Ramapo river. The forest was divided into 10 parts, of 300 acres each, and every year one of these divisions was taken in hand. The result of the treatment of 2,400 acres has been most successful, both from a sylvicultural and a financial point of view, and is described at length in the bulletin. New Jersey has 3,324 square miles of forest area that could be subjected to this treatment. The forests of the State suffered great damage from fires in 1902.

Interstate Fair.—The Interstate Fair closed on Saturday, Oct. 4. Notwithstanding the bad weather, the fair was very successful. More than 89,000 persons attended it. The profits were less than in 1901, but there was a considerable remainder after paying all expenses. The exhibition of cattle, sheep, and swine exceeded that of former years. At a meeting of the Board of Directors of the association, Dec. 10, it was decided to pay a dividend of 7 per cent. on \$20,000 worth of preferred stock, and 2 per cent. on \$115,000 worth of common stock.

Disasters.—On March 3 a flood at Paterson placed the mill section of the city under water. The East Jersey Water Company was damaged to the extent of \$1,500,000, and the entire damage amounted to several millions. Only two lives were lost in the city, but several persons per-

ished at other points of Passaic river. The bridge from Passaic to Dundee island was destroyed, and 6 persons who were trying to get floating lumber were swept away and drowned.

The worst fire in the history of Atlantic City occurred on April 3, in which 11 of the principal hotels were burned to the ground. The direct property loss considerably exceeded \$1,000,000. Three other hotels were partially destroyed, and 30 business establishments of various kinds were burned out.

On March 19 the Phenix line pier, in Hoboken, and the steamer British Queen, besides a dozen lighters and barges, were burned. Two men were killed and 6 were injured. About \$2,000,000 worth of property was destroyed. The fire was due to defective electric-light wires.

A fire that started at midnight in Paterson, Feb. 8, burned unchecked for eighteen hours, and destroyed the heart of the business section, with a loss of property values at \$18,000,000, including the City Hall, 5 bank buildings, the public library containing 200,000 volumes, 5 churches, 2 hotels, 2 schoolhouses, police headquarters, 1 fire-engine house, 1 theater, the Hamilton Club, and more than 40 stores, office buildings, and public halls.

Legislative Session.—There were 295 bills passed by the Legislature. Of these, the Governor signed 280 and vetoed 15. Among the more important acts were these:

Providing for the study of ceramics in the State Agricultural College.

Allowing the State Board of Education \$45,000 for a manual training-school for colored youths.

The antianarchist bill, which forbids any attempt to destroy Government by writing or speech, or to be a member of any organization for this purpose. The penalty is \$2,000 fine, or fifteen years' imprisonment, or both. Any person that assails high Government officials or encourages such assault shall be put to death or imprisoned for life.

An act appropriating \$20,000 for a new dormitory at the Old Soldiers' Home at Kearny.

The general school act, which allows school boards to condemn land for school purposes, excludes teachers who have not been vaccinated, and renders parents and guardians liable to a fine of \$1 to \$25, or imprisonment for ninety days, if they fail to compel their children to attend school.

Appropriating \$250,000 for Trenton armory.

Creating a State Board of Architecture, and allowing only licensed architects to practise in the State.

Making it illegal to catch any food fish for the purpose of manufacturing therefrom any oil or fertilizing food.

Authorizing cities to borrow up to \$100,000 on bonds for purposes for which taxation may be raised.

Amending the corporation act, so that any stockholder who is dissatisfied with a merger may have his stock appraised.

Providing for the establishment of a State sanatorium for the treatment of tuberculous diseases.

Requiring that children who become a public charge shall be placed in care of some family of the same religious faith as that of the parents, or of an institution of that kind.

Limiting the money to be raised by cities for city purposes to \$2 on every \$100 assessed valuation.

Appropriating \$10,000 for a monument to the New Jersey men who fell at Antietam.

Political.—The election for members of the Legislature, in November, resulted in the return of 14 Republicans and 7 Democrats to the Senate, and of 38 Republicans and 22 Democrats to the Assembly. The Republicans elected 7 Congressmen; the Democrats, 3.

NEW MEXICO, a Territory of the United States, organized Sept. 9, 1850; area, 122,580 square miles. The population, according to each decennial census, was 61,547 in 1850; 93,516 in 1860; 91,874 in 1870; 119,566 in 1880; 153,593 in 1890; and 195,310 in 1900. Indians not taxed in 1900, 12,937. Capital, Santa Fé.

Government.—The Territorial officers in 1902 were: Governor, Miguel A. Otero; Secretary, J. W. Reynolds; Treasurer, J. H. Vaughn; Auditor, W. G. Sargent; Adjutant-General, William H. Whiteman; Attorney-General, E. L. Bartlett; Superintendent of Education, J. Francisco Chaves; Commissioner of Public Lands, A. A. Keen; Coal-Oil Inspector, John S. Clark; Public Printer, James D. Hughes—all Republicans. Supreme Court—Chief Justice, William J. Mills; Associate Justices, John R. McFie, Benjamin S. Baker, Frank W. Parker, and Daniel H. McMillan; Clerk, José D. Sena—all Republicans.

The Legislature meets biennially, in January of the odd-numbered years. The members are elected at the preceding general election in November. The Governor and Secretary are appointed by the President, and hold at his pleasure. The judges of the Supreme and District Courts are also appointed by the President, and hold under the same tenure. All other general officers of the Territory are appointed by the Governor, with the advice and consent of the Council, which is the upper branch of the Territorial Legislature, and consists of 12 members, elected by the people of the respective council districts. The only officer elected by the people of the Territory at large is the Delegate in Congress.

The Legislature elected in November, 1902, consists of 12 Republicans and no Democrats in the Council, and 20 Republicans, 3 Democrats, and 1 Independent in the House.

Political.—The Republican Convention to nominate a candidate for a delegate was held at Raton in October, and Bernard S. Rodey, then the sitting Delegate, was nominated for reelection. A platform was adopted approving all the general principles of the Republican party, declaring strongly in favor of the admission of New Mexico, Arizona, and Oklahoma to the Union as States, and giving cordial approval to the policies of the present national administration.

The Democratic Convention to nominate a candidate for delegate was held at Albuquerque in October, and nominated Harvey B. Fergusson, who was elected as delegate by the Democrats in 1896, and served one term. The platform declared in favor of the admission of the Territories to statehood, approved the general principles of the Democratic party, and vigorously condemned the expansion and tariff policies of the present national administration.

During the campaign the speakers and newspapers of both parties gave their attention chiefly to the statehood issue, all being equally earnest in its support, but the people of the Territory believed that the chances of admission would be better with a Republican Congress if the result of the election should show the existence of a predominant Republican sentiment in the Territory, and some believe that for that reason many Democrats voted for the Republican candidate as a matter of policy. How strong a hold this feeling had upon the voters of the Territory may be judged

by the fact that, while the normal Republican majority of New Mexico is not more than 3,000, Mr. Rodey was elected by a majority of almost 10,000 out of a total vote of only a little more than 38,000, and over a man who was personally very popular.

Finances.—The financial standing of the Territory is excellent. Careful and competent management of the public business has made it possible to accumulate a surplus in almost every fund in the treasury, enabling all obligations to be met promptly, leaving a handsome surplus to be used in the reduction of the interest-bearing debt.

The bonded debt of the Territory outstanding at the beginning of the fiscal year, June 1, 1902, was \$1,123,300. Since that time sinking-funds have been accumulated sufficient for the redemption of the bonded debt in the sum of \$89,246.26, leaving the net bonded indebtedness at this time \$1,034,053.74. For more than a year endeavors have been made by the Territory to buy unmatured bonds without success. Many orders have been filed to take up any bonds the Territory might issue, and there has been a wide demand for county and school-district bonds. The Territorial tax levy for all purposes is 13.99 mills, which is below the average in the Western States.

Banks.—There are 14 national banks in the Territory, an increase of 4 during the year. In addition there are 12 banks operating under the Territorial laws, a total of 26 banking institutions, having resources aggregating \$10,000,000, with deposits of more than \$7,500,000.

New Corporations.—The records of the Secretary's office show that the number of corporations chartered during the year was 205, and the aggregate capitalization was \$100,480,000. Of the corporations so organized, 110 were for the purpose of mining, milling, and smelting, having a combined capitalization of \$73,017,630; 63 were for manufacturing and other industrial pursuits, with a capitalization of \$4,796,500; 6 were bank, building and loan associations, with a capital of \$4,830,000; 6 were railway companies, with a capital of \$15,825,000 to construct 834 miles of new road; 10 were irrigation and land-improvement companies, with a capitalization of \$2,011,000; and 10 were benevolent and charitable associations. In 1901 there was a gain of 41 in the number of industrial corporations chartered over the previous year, and 1902 shows a gain of 55 over 1901. Among the important industries that have been operated during the year are the smelting of copper and lead ores, with a product valued at nearly \$1,000,000; flour-milling, with a product valued at \$551,108; the scouring of wool, with \$77,875 as the receipts for last year's work. The flour and grist mills number about 20, and there are numerous fruit-canneries, distilleries, and wineries in operation. There are 21 saw-mills in the Territory, with an invested capital of \$160,798, employing 243 men, earning \$80,851 a year, whose annual product is worth \$290,527. There are 13 planing-mills, employing 41 persons, which turned out work in 1902 valued at \$200,000.

There were but few failures in any of the industrial lines, the only one worthy of note being that of the Cochiti Gold-Mining Company.

Railroads.—The era of railroad building in New Mexico, which began in 1901, continued with unabated vigor through 1902. About 350 miles of new road have been added to the total mileage in operation, and work is now in progress on other new lines, which cover in the aggregate more than 800 miles.

Nearly all the immigration during the past year has been to points along the line of the newly

opened railway, running diagonally through the southeastern portion of the Territory. That section of New Mexico, a district a little larger than the State of Ohio, and embracing valuable natural resources, has remained practically unsettled because of the lack of communication with the outer world, but since the opening of the Rock Island Railroad last spring a large number of home-seekers have made homesteads upon the public lands, a score or more of new villages have sprung up in the district, and 23 new post-offices have been established.

Lands.—A little more than a million acres of the public domain in New Mexico was taken up by settlers under the United States land laws in 1902. Under the act of Congress, June 21, 1898, giving a limited area of the public lands to the Territory for the benefit of educational and other purposes, the United States Commission has selected, located, and entered for the various institutions 820,026.58 acres, including 79,693.25 acres of saline lands.

The United States Court of Private Land Claims practically completed in 1902 the duty assigned to it by the act of Congress under which it was created, and its term will expire by limitation in the summer of 1903. Since its organization this court has adjudicated the title to tracts of land in this Territory aggregating a little more than 28,000,000 acres, all of which, except about 1,000,000 acres, was found to be public land, and was restored to the public domain, thus adding 25,000,000 acres (the best lands in the Territory) to the area that will some time be open to entry under the United States land laws. At present all the lands of this great sum total are out of market—that is, they have not been surveyed and platted, and therefore can not be entered by home-seekers.

Immediately after the organization of this court one of the judges spent a year in Spain, and another spent an equal length of time in Mexico, examining the archives of those countries from the time the first grant of land in this Territory was made by Spain down to the time the country was acquired by the United States, and during their absence the other 3 members employed the time gathering testimony and examining the early records in this country, and when the court began to adjudicate the cases coming before it, its 5 members undoubtedly possessed a more comprehensive and accurate knowledge of the history and character of Spanish and Mexican land grants in New Mexico than any other 5 men in the world, and a good idea of the thoroughness and correctness with which they did their work is to be gained from the fact that none of their decisions has been reversed by the Supreme Court.

A large number of the pretended grants were found to be spurious and were thrown out in their entirety; and nearly all those that had some foundation in law or fact to rest upon had been so egregiously inflated by having their boundaries extended from time to time at the will of the grantee that some of them had come to claim a greater number of square miles than they had originally of acres.

Education.—The educational interests of New Mexico made gratifying progress in 1902. The school census for the year shows the school population to be 62,864; increase over the previous year, 9,856, or 18.6 per cent. The enrolment of pupils in all schools was 42,925; average daily attendance, 29,825; number of schools, 726; teachers employed, 1,046; number of higher Territorial institutions, 7; city high schools, 7; kindergartens, 4; private schools, 6. The average number

of months taught in all schools, 7.35. The total paid to teachers was \$412,340.23; annual receipts, \$838,018.70; annual expenditures, \$723,048.32; total value of school property, \$2,071,702.25.

There was expended in improvements on public-school property \$242,617.60. The average monthly salary of teachers in all schools was \$54.21. The average annual cost of educating pupils in all schools was \$17.07.

In 1902 the United States Government expended in New Mexico \$252,000 for educational work among the Indians. Thirty-three schools were maintained, and there was an average daily attendance of 2,114. The larger number of these institutions are day-schools, on the reservations or within the several pueblos, but about one-third of all the children included in the total enrolment attended the two large schools—one at Albuquerque and the other at Santa Fé. Both of these are manual training-schools and boarding-schools, and supply the pupils with clothing as well as board and lodging.

The annual meeting of the Teachers' Association of the Territory was held at Las Vegas on Dec. 22 and 23, and was well attended. The reports from the various districts were all very encouraging and went to show that the cause of popular education has been making gratifying progress.

Minerals.—A very large area of coal, iron, and oil-bearing lands has passed to private ownership during the year, and energetic operations have been inaugurated for their development. Oil-drill rigs are at work in 5 or 6 different districts, with every promise that New Mexico will become a producer of merchantable oil before many months. Several new and important coal camps contiguous to the new lines of railroad have been established, and notable gold and copper discoveries have been made. The coal and coke industry gives employment to 2,000 persons, and the machinery and operating plants are valued at \$715,000. The net output for the coal-mines for the year was 1,102,046 tons, valued at the mines at \$1,609,898.90. The coke production for the year amounted to 25,012 tons, valued at \$58,207. Of gold, silver, lead, and copper, the Territorial product for the year is estimated by the Governor between \$6,000,000 and \$7,000,000, and the turquoise mined in New Mexico is put by the same authority at about \$138,000.

Irrigation.—Some progress was made in the construction of irrigation works, though comparatively little, for the reason that practically all the natural openings for the construction of successful irrigation works on a small scale have already been utilized, and whatever is done hereafter to increase the area of irrigated land must be done by the construction of works too expensive and costly to be compassed by individual effort—such as the building of dams to conserve the flood waters of the streams and the construction of reservoirs to store the storm waters of the country, especially of the mountains. The total length of irrigation ditches in operation in the Territory is estimated by the Governor, in his annual report for the current year, at a little more than 3,000 miles, and he places the cost at \$6,000,000.

Live Stock.—The live-stock interests of New Mexico were fairly successful during the year; 133,835 head of cattle were inspected for removal from the Territory, and the revenues derived by beef-raisers from such shipments were about \$3,000,000. There are 1,248,237 head of beef cattle now on the range. The wool-clip for the year exceeded 20,000,000 pounds. The lamb crop in the spring was about 1,000,000 head, and there are

on the ranges of New Mexico nearly 5,000,000 head of sheep. The shipments for the year were 406,908 head. The Angora goat industry is enjoying great prosperity. At a conservative estimate, the live stock on the ranges of New Mexico has a value of \$40,000,000. The weather during the summer was very favorable, there was good feed on the range at the beginning of winter, and the season, up to the close of the year, was mild and comparatively free from snow except in the mountains.

Invalids.—A much larger number of invalids than usual came to New Mexico this year as a health resort, especially persons afflicted with diseases of the respiratory organs. To such an extent has this class of immigration increased that facilities for the special accommodation of such persons are being provided in various parts of the Territory. The Santa Fé Railway Company has expended \$100,000 on a hotel of this kind at Albuquerque, which was opened this year.

The Sisters of Charity opened a large sanitarium at Albuquerque, with a view to giving special care to persons of this class; but this is properly a hospital rather than a hotel.

In the summer an enterprising hotel-keeper put up at Santa Fé what he called a "tent city" for the entertainment of guests of this class. An eligible site was selected near the town, and was regularly laid off in streets, but instead of houses there were rows of tents on either side, about 100 feet apart, furnished with all the necessary comforts for camping out, while a central hotel tent served meals to such as did not prefer to do their own cooking.

There are also hotels for the special accommodation of health seekers at Las Cruces, Alamogordo, Deming, Silver City, and other places in the Territory.

The greater part of the immigration to New Mexico consists of health seekers, and fully 10 per cent. of the present population is composed of persons of this class.

NEW YORK, a Middle State, one of the original thirteen, ratified the Constitution July 26, 1788; area, 47,620 square miles, excluding water surface. The population, according to each decennial census, was 340,120 in 1790; 589,051 in 1800; 959,049 in 1810; 1,372,111 in 1820; 1,918,608 in 1830; 2,428,921 in 1840; 3,097,394 in 1850; 3,880,735 in 1860; 4,382,759 in 1870; 5,082,871 in 1880; 5,997,853 in 1890; and 7,268,012 in 1900. Capital, Albany.

Government.—The following were the State officers during the year: Governor, Benjamin B. Odell, Jr., Republican; Lieutenant-Governor, Timothy L. Woodruff; Secretary of State, John T. McDonough; Comptroller, Nathan L. Miller, who succeeded Erastus C. Knight, who resigned on Jan. 1 to become Mayor of Buffalo; Treasurer, John P. Jaeckel; Attorney-General, John C. Davies; State Engineer and Surveyor, Edward A. Bond; Superintendent of Public Instruction, Charles R. Skinner; Superintendent of Insurance, Francis Hendricks; Superintendent of Banking Department, Frederick D. Kilburn; Superintendent of State Prisons, Cornelius V. Collins; Superintendent of Public Works, Charles S. Boyd, who succeeded John N. Partridge, who resigned on Jan. 1 to become Police Commissioner in New York city; Commissioner of Labor Statistics, John McMackin; Railroad Commissioners, Ashley W. Cole, George W. Dunn, and Frank M. Baker; Chief Judge of the Court of Appeals, Alton B. Parker; Associate Judges, John C. Gray, Denis O'Brien, Celora E. Martin, Edward T. Bartlett, Albert Haight, and Irving G. Vann, together with

Edgar M. Cullen and William E. Werner, who are judges of the Supreme Court, sitting in the Court of Appeals.

The term of the State officers is two years. They are elected in November of even-numbered years. The Legislature meets every year in January.

Finances.—The State debt on Sept. 30 was \$10,075,660, and the sinking-fund \$1,866,526.94, leaving the net debt, exclusive of interest (to be paid by the usual annual appropriation), \$8,633,473.06. The appropriations made in 1901 for all purposes were \$22,307,608.75, the lowest since 1896, a decrease of \$1,600,000 over the figures of 1900. The principal receipts from indirect sources were as follows: Tax on corporations, exclusive of organization tax, \$4,966,680.93; tax on transfers, \$4,084,606.87; liquor tax, \$4,197,858.72. In the Corporation Tax Bureau there has been an increase in the last decade of 200 per cent. in the number of corporations taxed, and an increase of 147 per cent. in the amount collected. More than 6,000 corporations were taxed in 1901, the receipts from them having been nearly \$5,000,000, and the cost of collection but 0.6 per cent. Of the collections this year, \$2,104,132.42 was received from savings-banks and trust companies under the new law. The receipts from taxable transfers were the greatest since the passage of the original act, with the exception of the preceding fiscal year, when about \$250,000 more was collected. It will be remembered, however, that the year 1900 was remarkable for the payment by one estate of nearly \$2,000,000. The number of estates paying a tax in the past fiscal year was 3,059, and 368 of these were of non-resident decedents, whose estates paid a total tax of \$595,594.06. The holdings of State lands in forest preserves amounted, on Oct. 1, to 1,372,000 acres. About \$1,250,000 was expended for maintenance of the House of Refuge for Women, at Bedford, and the Hospital for the Care of Crippled and Deformed Children, at Tarrytown, during the first year that these institutions have come under the care of the Comptroller.

The State tax of 1902 was the lowest in the history of the State, $\frac{1}{16}$ of a mill, practically a total abolition of the direct tax, for if there had not been a constitutional provision compelling the payment of the canal-debt interest out of the money raised by direct taxation there would have been sufficient money to pay that also and leave a large surplus. The amount to be raised by the canal debt was \$748,071, based on the present State valuations and taxing them at $\frac{1}{16}$ of a mill.

Valuation.—The State assessors during the year were J. Edgar Leaycraft, George E. Priest, and Lester F. Stevens, each of whom receives a salary of \$5,000. According to the report of the Board of Equalization, the tax levy for the year beginning Oct. 1, 1902, was as follows: Albany, \$11,350; Allegany, \$1,881; Broome, \$4,268; Cattaraugus, \$3,021; Cayuga, \$4,205; Chautauqua, \$4,095; Chemung, \$3,263; Chenango, \$2,032; Clinton, \$1,198; Columbia, \$3,055; Cortland, \$1,528; Delaware, \$1,853; Dutchess, \$5,641; Erie, \$39,244; Essex, \$1,276; Franklin, \$1,387; Fulton, \$1,869; Genesee, \$2,995; Greene, \$1,642; Hamilton, \$376; Herkimer, \$2,669; Jefferson, \$4,195; Kings, \$98,613; Lewis, \$1,220; Livingston, \$3,316; Madison, \$2,000; Monroe, \$17,726; Montgomery, \$3,222; Nassau, \$3,554; New York, \$378,138; Niagara, \$5,120; Oneida, \$7,289; Onondaga, \$13,488; Ontario, \$3,737; Orange, \$5,428; Orleans, \$1,936; Oswego, \$3,421; Otsego, \$2,686; Putnam, \$929; Queens, \$13,387; Rensselaer, \$9,158; Richmond, \$6,814; Rockland, \$1,882; St. Lawrence, \$4,241;

Saratoga, \$3,292; Schenectady, \$2,691; Schoharie, \$1,398; Schuyler, \$869; Seneca, \$1,912; Steuben, \$4,033; Suffolk, \$5,663; Sullivan, \$755; Tioga, \$1,685; Tompkins, \$2,046; Ulster, \$3,331; Warren, \$973; Washington, \$2,319; Wayne, \$3,295; Westchester, \$19,597; Wyoming, \$1,880; Yates, \$1,353.

Taxation.—The Board of Tax Commissioners reported to the Legislature, on Jan. 29, that "it is probable in the current year it may be unnecessary to prepare an equalization table, as it is anticipated that the constitutional requirements of a small exaction for canal bonded indebtedness may be satisfactorily provided for without any direct tax levy." This will permit the State Board, in its annual conferences with the local assessors, to pay more attention to equalization between tax districts and to give instruction to assessors as to local duties. In 1902 the Tax Commissioners made 3,953 separate valuations of special franchises, aggregating \$268,017,770, an increase over the previous year of nearly \$12,000,000. On these valuations 164 writs of certiorari were issued, against 221 writs in 1901 and 278 writs in 1900.

Banks.—The superintendent's report on the condition of savings-banks for the year ending June 30, 1902, shows that these institutions hold \$1,051,689,186 for depositors, which is an increase of \$64,067,378. The aggregate resources of the savings-banks is \$1,167,683,337, and the amount of their surplus, figured on the market value of their stocks and bonds, is \$115,540,560, which is less by \$1,434,686 than on July 1, 1901. This decrease is believed to be due to a decrease in the estimated value of real estate, including banking-houses. The surplus on the par value of stocks and bonds is \$69,737,600, an increase of \$4,013,953. The number of open accounts increased by 99,871. The business of the banks shows a slight net loss in the ratio of growth. The total amount deposited was \$290,840,380, which was an increase of \$14,523,199. The amount withdrawn was \$259,674,822, an increase of \$16,503,185; thus the net result shows a greater gain by \$1,979,986 in the amount withdrawn than in the sums deposited. The figures show an increase from \$32,606,746 in 1901 to \$34,189,610, or \$1,582,864 increase in interest.

Insurance.—The annual report of the Superintendent of Insurance shows that the gross assets of life-insurance companies doing business in New York on Dec. 31, 1901, were \$1,879,624,546.08. Of this amount, New York State companies have \$1,139,511,409.27, an increase of \$97,193,577.38. The total liabilities of the companies, excluding gross surplus of \$159,718,603.04 and special funds of \$148,283,050.71, are \$1,571,622,910.33. The liabilities of the New York companies, as reported, are \$934,947,900.42; companies of other States, \$636,675,009.91. For New York companies the gross surplus (including \$3,290,000 of capital) is \$93,082,679.89; special funds, \$111,490,828.96. The aggregate receipts of New York companies were \$260,186,737.57; other States' companies, \$177,748,732.40, making the gross receipts \$437,935,469.97. The net excess of receipts over disbursements for 1901 was \$150,754,424.51. The total premium receipts for 1900 were \$316,846,293.11; for 1901, \$349,186,052.11. The disbursements of the year were \$287,181,045.46. In all \$135,674,468.11 was paid for claims, \$23,907,411.85 for lapsed and surrendered policies, \$23,811,648.62 in dividends to policy-holders, \$736,312.60 in dividends to stockholders, \$49,970,852.49 for commissions, \$25,123,885.91 for salaries and medical examiners' fees, and \$27,956,465.88 for miscellaneous purposes. This classification shows that \$183,393,

528.58 was paid to policy-holders, while the cost of management, including dividends to stockholders, was \$103,787,516.88. The New York companies issued 475,088 policies, insuring \$895,333,879, and terminated 227,929 policies, insuring \$516,329,117. The companies of other States issued 312,659 policies, insuring \$574,984,208, and terminated 164,137 policies, insuring \$311,973,047. The aggregate is 787,747 policies issued, insuring \$1,470,317,887, and 392,066 policies terminated, insuring \$828,302,164.

Excise.—The collection of the tax on liquors, or excise, is under the charge of a commissioner, and the incumbent during the year was Patrick W. Cullinan, who receives \$5,000, and whose term of office expires in 1905. His report, issued early in 1902, shows the total amount collected for the year ending Sept. 30, 1901, to be \$12,467,674.40. Of this amount the State's share was \$4,198,377.09, and the cities' and towns' share was \$8,126,669.05. The number of certificates issued was 30,585, the certificates surrendered numbered 3,750. The amount collected under the liquor-tax law from May 1, 1896, to Sept. 30, 1901, was \$73,604,425.93. Attention is called to the fact that the enforcement of the law and the prosecution of offenders rests upon local criminal authorities, as the 60 special agents of the department have no power of arrest, and their time is largely occupied in investigating matters relating to the collection of the liquor tax. Actions and proceedings have been brought and maintained in 43 counties, and the receipts resulting therefrom exceed \$58,000, being \$25,000 more than all expenses of litigation. In New York and Kings County the number of places claiming hotel privileges has been reduced from 3,514 to 2,187. The prevalence of sham hotels is shown to be due to local criminal authorities, who neglect or refuse to perform their duties, and therefore is not a cause for criticism of the law itself. Attention is called to the fact that persons holding liquor-tax certificates for short periods in the summer months at summer resorts, fairs, and picnics, and then surrendering them for rebates, do not pay a tax commensurate with the benefits received.

Education.—The Superintendent of Public Instruction is Charles R. Skinner, who receives a salary of \$5,000, and whose term of office continues until April 6, 1904. In 1902 1,191,110 children attended public elementary schools during some portion of the year, and the value of schoolhouses and sites was \$80,588,083.83. The secondary schools reported 91,583 students, and a total property of \$30,725,707.30. The institutions of higher learning, including professional, technical, and other special schools, reported 34,364 students, and a total net property of \$82,931,575.53. In 1902 the common schools and allied interests cost \$34,045,785.12, toward which the State appropriated \$4,929,101.49, a decrease of \$93,944.51 over 1901. The total expenditures for common schools and allied interests in 1902 increased over 1901 by \$30,437.21, while the cost of secondary education in 1902 was \$6,627,708.66, or \$924,991.14 more than in 1901. The total cost of higher education in 1902 was \$8,708,698.01, an increase of \$1,132,433.32. In the maintenance of the University of the State of New York, the cost was increased \$23,154.84. The total receipts other than appropriations were \$71,847.08, as compared with \$44,718.31 in 1901. Through the economies that have been practised, and through this increase of \$27,128.77, the regents were able to meet their most pressing needs. In 1902, excluding fees and unexpended balances, the increase in appropriations was \$36,812.13. Reports from New

York public high schools show that in 1901 \$143,288.92 was paid by 10,888 non-resident academic students.

Charities.—These are under the care of a board, consisting of 12 members, of which William R. Stewart is president. Their annual report is prepared from the sworn statements filed by the treasurers or other responsible officers of the charitable institutions under their supervision. According to the report, the number of beneficiaries in institutions subject to the inspection of the board on Oct. 1, 1902, was 60,804. The 14 State charitable institutions shelter 8,288 beneficiaries. The receipts of these institutions for the year ending Sept. 30, 1902, including balance on hand at the beginning of the year (\$66,577.72), amounted to \$1,374,886.21. Their expenditures aggregated \$1,265,795.01—\$994,525.35 for maintenance, \$244,015.96 for improvements—while \$27,253.70 was returned to the State Treasurer pursuant to the provisions of law. The private schools and institutions mainly supported by State appropriations and subject to the board's inspection care for 3,324 inmates. The receipts of these institutions for the year ending Sept. 30, 1902, were: From cash on hand, \$57,057.15; from public sources, \$691,216.42; from private sources, \$312,224.06; total receipts, \$1,060,497.63. Their expenditures aggregated \$917,259.63. In the year two special inquiries were conducted. The first of these, begun in May, 1901, has recently been completed. This had reference to compliance with those sections of the public-health law which relate to the better preservation of the health of children in institutions. The report says improved compliance with the law may be confidently expected as the result of the inquiry. Another investigation was the matter of examining the records of long-term inmates supported at public expense in children's institutions under private control. Of the 4,107 long-term inmates it was shown that the great majority are eligible for family life, either through placing out or adoption or by restoration to parents, relatives, or friends.

Labor Statistics.—The charge of matters pertaining to labor is under the care of a commissioner, who receives a salary of \$3,500. The present incumbent is John McMackin, whose term of office expires on Dec. 31, 1904. According to his report submitted to the Legislature for the year ending Sept. 30, 1901, the Bureau of Factory Inspection investigated 65,437 places, including 4,573 workshops in tenement-houses, resulting in orders for changes to conform to the law in 13,445 factories and bakeshops, and in orders for changes in appliances in 12,206 factories. A total of 1,034 complaints were investigated by the Department of Labor, of which 631 were sustained and 24 sustained in part, these complaints including charges of danger to employees by unsanitary conditions, unguarded machinery, and insufficient fire protection, illegal employment of women and children, and violation of the labor laws regulating the length of the working day and the rate of wages and methods of payment. Under the same head are reported the cases of 70 employers convicted and fined and 21 convictions where sentence was suspended. Concerning the maintenance of factories in tenement-houses, the report said most tenement-workers are employed in some branch of the clothing business, the only exception being 5,556 engaged in the manufacture of cigars, 140 on purses, and 105 on umbrellas; 62,030 were employed in the manufacture of men's and women's outer garments—clothing in the usual sense. Other branches were neck-

wear, 1,413; white goods, 675; artificial flowers, 870; feathers, 138; millinery, 436; hats and caps, 424; suspenders, 132; furs and fur goods, 366. Of the total number of workers whose sex was stated, 27,409 were males and 42,781 females; in New York city the proportion of women was smaller—27,859, compared with 20,896 men. The number of licenses revoked for illegal manufacture was 793. In 322 instances it was necessary to attach the tag "tenement-made" to goods that were being made under conditions prescribed by the law.

Prisons.—In his annual report for the year ending Sept. 30, Cornelius V. Collins, Superintendent of Prisons, says, with reference to the State prisons in Sing Sing, Auburn, and Dannemora, the health of the convicts was excellent, mortality was low; the industries were pursued diligently and with much more favorable financial results than in the preceding year. The most distinctive change in the method of administration in the treatment of the imprisoned population was the adoption and successful establishment of the system of paroling convicts. The daily average number of men in the three prisons was 3,235, against 3,384 in 1901, an apparent decrease of 149, but, counting as present the men on parole, there was an actual increase of 147. The separate figures showing the number of male convicts are: Auburn, 1,185; Clinton, 900; and Sing Sing, 998. The death-rate at Sing Sing was 0.58, at Auburn it was 0.85, at Clinton 1.60. The death-rate at Clinton is due to the fact that prisoners having consumption are transferred from other prisons to Clinton. Concerning the parole system, installed in October, 1901, the report says, of 757 initial applications for parole, 341 were granted. Of these, 48 were delinquent, 14 were returned to prison, 139 were discharged, and 154 paroles remained good at the end of the year. The results of the first year's operations of the parole law are very satisfactory, and seem to warrant the Legislature in extending the jurisdiction of the board so far as to embrace all first-term prisoners now confined in the State prisons and the Eastern New York Reformatory, except those under life imprisonment. The report says that the requisitions for the products of the prisons were more numerous in 1902 than in any other year since the present industrial system went into operation. The volume of the output was \$542,326.11, and the earnings \$94,755.03, and the superintendent provided employment for practically all the convicts in the prisons.

Canals.—The canals are under the charge of the Superintendent of Public Works, and the incumbent during the year was Charles S. Boyd. The failure of the Legislature to take favorable action on the canal bills left the condition of these waterways as they were a year ago. At a conference of the leaders of the dominant party in New York city in December it was agreed that the inner or Buffalo canal route should be recommended to the Legislature for 1903. It is estimated that the cost of improving the State waterways for a 9-foot 1,000-ton barge canal will be about \$80,000,000. According to Superintendent Boyd's report, the opening of the canals in 1902 was earlier than in twenty years previous, and navigation was maintained until Dec. 4, largely for coal shipments. In spite of the lengthened season, the total tons carried were 3,274,446, against 3,420,613 tons in 1901, a falling off of 146,167 tons. This loss is more than accounted for in through freight, for, whereas there was an increase in way freight east of 84,976 tons, the total decrease in through freight

was 210,219 tons, the loss being about equally divided between Eastern and Western shipments. The beginning of the shrinkage was coincident with the shutting down of the mines, for whereas May showed an increase in tonnage, in June there was a shrinkage from 522,980 tons in 1901, to 392,960 tons for 1902. There continued to be a falling off in coal shipments until November. There was a total decrease in six months of 406,109 tons. The settlement of the strike and the resumption of mining was directly reflected in shipments, the increase in coal shipments for November over the normal shipments of 1901 being 24,085 tons.

Railroads.—This department is cared for by three commissioners, each of whom serves five years and receives a salary of \$8,000. Their annual report for 1901 shows the length of electric lines of railroad in New York State to have been increased by 117.83 miles; 34 new street-railroad companies were incorporated, with an aggregate length of proposed railroad of 530½ miles, and steam-surface railroads increased their mileage from 28,843.30 miles to 32,119.42. The main lines of railroad were increased from 15,664.23 to 17,518.05. The passengers carried in New York State were 81,909,000; the freight carried in New York State was 123,561,749 tons; the train mileage was 191,487,808. The percentage of operating expenses to gross earnings increased from 66.99 in 1892 to 69.52 in 1896 and back to 68.80 in 1901. The accidents to persons were 2,345, resulting in the death of 795 and 1,550 injured. Of passengers, 16 were killed and 375 injured. The Railroad Commission has among its functions the investigation of the conditions pertaining to the railroads, and made an examination of the collision in the Park Avenue Tunnel, that occurred on Jan. 8, by which many lives were lost and several persons injured. They reported that the New York Central Railroad was responsible for the disaster, finding that the company had been negligent, derelict, and unprogressive in failing to take measures to increase its terminal facilities at the Grand Central station. Also, the company had been negligent in failing to examine more closely into the qualifications of new engineers, and failed to hold engineers to accountability for violation of running rules of the tunnel. Toward the close of the year the commissioners issued an order to the elevated railroad company, of New York city, to increase their passenger facilities by augmenting the number of trains.

National Guard.—The State militia is under the care of the Adjutant-General, on the Governor's staff, and the incumbent during the year was Nelson H. Henry, to whom Major-Gen. Charles F. Roe, the immediate commander of the Guard, reported its strength as follows: Commissioned officers, 859; enlisted men, 13,551; total, 14,410, divided as follows: General and staff officers, 62; signal-corps, 174; cavalry, 355; artillery, 1,395; infantry, 12,424; total, 14,410. Concerning the expulsion of National Guardsmen from labor-unions, Gen. Roe says: "In the course of the year it has been reported that two enlisted men have been expelled from labor-unions on account of their connection with the National Guard. On former occasions men have reported that they have been discharged by their employers on return from duties in aid of the civil authority. The welfare of the State and country demands that protection be afforded to the National Guard against actions so decisively against the best interests of the law-abiding and patriotic citizen, and it is recommended that, the law not

affording such protection, proper legislative action be taken to protect men who give services voluntarily for the welfare of the State."

State Library.—The State Library is in the Capitol in Albany, and is under the charge of Melvil Dewey. In his annual report it is shown that the library has grown from 461,740 volumes in 1902 to 482,697, of which 274,620 are in the State Library proper, 62,259 are in traveling libraries, and 145,818 are duplicates. The general appropriation for State Library and home education for 1902 was \$122,620, an increase of \$12,620. For maintenance \$103,589.90 was paid, an increase of \$8,005, and \$22,767 was granted to libraries, which is \$3,167.98 more than in 1901. For books \$15,138.83 was spent, \$4,610.72 for serials, \$5,383.17 for binding, and \$4,189.25 for pictures, etc. The library for the blind increases yearly, the circulation having risen to 1,903 from 1,820 in 1901. There are 407 active study clubs, of which 70 were added last year. There are in the university 209 libraries free for circulation, besides 107 registered libraries. The general summary for the year shows reports from 1,137 libraries, containing 6,975,540 volumes. They added 404,751 books in 1902. The 550 free lending libraries report 2,598,472 volumes, an increase of 173,212, or 7 per cent. In view of gifts accepted from Andrew Carnegie, these library payments will soon be considerably increased—in Amsterdam from \$400 to \$2,500, in Binghamton from \$2,311.39 to \$7,500, in Kingston from \$107.50 to \$3,000, in Gloversville from \$3,000 to \$5,000, in Johnstown from \$602.56 to \$2,500, in Schenectady from \$1,500 to \$5,000, and in Yonkers from \$2,000 to \$5,000. New York also, when her Carnegie branches are built, will advance from \$305,894.25 to \$520,000. Ninety-nine library gifts are reported for this State, \$124,780 in money, \$790,000 for buildings, 52,330 volumes, and 2,927 prints, etc. Of these, 24 gifts, amounting in value to \$671,000, were from Andrew Carnegie.

Stony Point Park.—On June 16, with appropriate ceremonies, occurred the dedication of Stony Point battle-field as a State reservation. This battle-field was purchased by the Legislature in 1897, and was placed in the custody of the American Scenic and Historic Preservation Society. The purchase was supplemented later by a large grant of money, which was placed at the disposal of the society, to be expended under its supervision for improvement of the battle-field. The exercises included a parade, which was reviewed by Gov. Odell; then the flag that first floated on July 4, 1900, from the top of the Eiffel Tower during the Paris Exposition was unfurled. Speeches were delivered, and there were present the West Point Cadets, with their band, a detachment of cavalry, a section of artillery, details from local organizations, and the National Guard.

Memorials.—On Sept. 1 there was erected in Watertown a memorial statue bearing the following inscription: "To Roswell Pettibone Flower. Born Aug. 7, 1835; died May 12, 1899; Representative in the Forty-seventh and Fifty-first Congresses, Governor of the State of New York, MDCCCXCIV." A granite slab leading from the entrance to the base of the pedestal contains the additional inscription: "Erected in Affectionate and Grateful Remembrance of His Noble Manhood, His Distinguished Public Service, and His Loving Kindness to All." The statue was designed by Augustus St. Gaudens, and cost \$25,000, which amount was raised by popular subscription. The granite pedestal was the gift of the late Mrs. Emma Keep-Schley, of New York.

On Sept. 19 there was unveiled a statue of heroic proportions on Culp's Hill, Gettysburg, to the memory of Henry W. Slocum, who commanded the right wing of the National army in that battle. The statue was erected by the State of New York, of which Gen. Slocum was a native. The pedestal is of granite, and from base to top the monument measures 31 feet. The model was executed by Edward C. Potter. The unveiling of the statue formed the principal feature of the thirty-third reunion of the Society of the Army of the Potomac.

Louisiana Purchase Exposition.—The Legislature authorized the appointment of a commission to take charge of the interests of the State in connection with the world's fair to be held in St. Louis in 1904, and appropriated \$100,000 for its expenses. The following twelve-named persons were appointed by the Governor to serve: Edward H. Harriman, of Manhattan, President; William Berri, of Brooklyn; Edward L. Bill, of New Rochelle; James H. Callanan, of Schenectady; Cyrus E. Jones, of Jamestown; Mrs. Harriet T. Mack, of Buffalo; Frank S. McGraw, of Buffalo; Lewis Nixon, of Manhattan; Louis Stern, of Manhattan; John K. Stewart, of Amsterdam; John C. Woodbury, of Rochester; and John Young, of Genesee.

Legislative Session.—The session of the Legislature began on Jan. 1, 1902, and continued until March 27. As elected, the Senate consisted of 35 Republicans and 15 Democrats, and the Assembly of 106 Republicans and 42 Democrats. Timothy E. Ellsworth was reelected President *pro tem.* of the Senate, and Samuel F. Nixon was again chosen Speaker of the Assembly. Among the more important measures enacted were the following:

Giving the United States authority to acquire land on Ward's island for a lighthouse station.

Giving the Board of Aldermen of New York city power over all terminals and stations, permitting the contractor to transfer his contract to operate the road, and changing the method of advertising in connection with condemnation proceedings.

Authorizing the Board of Taxes and Assessments of New York city to reduce an assessment found to be excessive.

Amending the law relative to the selection of trial jurors in New York County to insure the placing of non-voters on such lists.

Providing that New York city may spend annually \$3,000,000, instead of \$2,000,000 for repaving streets.

Authorizing New York city to appropriate \$5,000 annually for the Benefit fund of the former Volunteer Fire departments of the former towns of Flatbush, New Utrecht, Gravesend, and Flatlands.

Giving preference for appointment to the regular department to volunteer firemen whenever the paid Fire Department of New York City is extended into any part of Westchester County.

Appropriating \$80,000 to replace State property destroyed in the Seventy-first Regiment Armory.

Appropriating \$20,000 to replace property of the Seventy-first Regiment and the other military organizations destroyed in the fire of the Seventy-first Regiment Armory.

Authorizing the procuring of new grounds for the College of the City of New York, the cost not to exceed \$55,000.

Authorizing New York to appropriate \$25,000 for the American Museum of Natural History.

Authorizing Buffalo to issue bonds to the amount of \$350,000 for improving Buffalo river,

the city ship-canal, and Peck Slip, and lodging with the Common Council the power to determine the extent of such improvement.

Making an appropriation for the New York Zoological Society for the support of the New York Aquarium.

Reappropriating \$550,000 for the Sixty-fifth Regiment Armory at Buffalo.

Incorporating the Buffalo Zoological Garden.

Incorporating the city of Plattsburg.

Appropriating \$21,650 for enlarging the Forty-seventh Regiment Armory.

Authorizing the selection of Ausable Chasm as a part of the Adirondack State Park.

Providing for the appointment of a commission of three to examine wild and forest lands in Suffolk County, with a view of locating thereon a public park.

Appropriating \$500 for a survey of a proposed canal between Hempstead Bar and Jamaica Bay, Long Island.

Consolidating the Chautauqua Assembly, Chautauqua University, and the Chautauqua School of Theology under the title of the Chautauqua Institution.

Amending the university law relative to the establishment of public and free libraries.

Providing that medical students admitted to preliminary State medical examination must be nineteen years of age.

Providing for a new apportionment of the State school moneys, so that each city shall receive \$800; each village of a population of 5,000 employing a superintendent of schools, \$800; and each union school district with a population of 5,000 employing a superintendent of schools, \$800.

Placing the Knights of Columbus among the organizations recognized by the insurance laws.

Appropriating \$16,000 for a State monument on the Vicksburg battle-field.

Appropriating \$50,000 for the promotion of sugar-beet culture.

Providing for the appointment of 12 additional fish and game protectors.

Prohibiting the taking of shell-fish in the waters of the State by persons who have not been actual residents for at least six months.

Extending the close season for black and gray squirrels in Rensselaer County fifteen days, from Aug. 31 to Sept. 15.

Providing that the laws prohibiting the possession of game during certain seasons in this State shall apply to game taken outside of this State.

Permitting the use of other than brass baggage-checks by railroad corporations.

Providing that garbage crematories shall be operated with fuel that will dispose of the noxious gases arising from the consumption of garbage.

Making it a violation of law to throw rubbish on highways.

Prohibiting the sale of oleomargarine.

Providing for the management of the 14 State charitable institutions by the appointment of a fiscal supervisor, who shall receive \$6,000 per annum, and who shall be the purchasing and fiscal agent for all the charitable institutions.

Authorizing the State Superintendent of Prisons to expend \$3,000 a year in the maintenance of the bureau for the identification of criminals.

Imposing a penalty of not more than ten years' imprisonment or more than \$5,000 fine, or both, on persons who advocate anarchistic doctrines by speech, writing, or otherwise; also making it a misdemeanor, punishable by a fine of not more than \$2,000 or imprisonment of not more than two years, or both, upon editors or publish-

ers who permit the publication of books, newspapers, or serials advocating anarchy, and upon owners, agents, or occupants who harbor avowed anarchists.

Allowing deputy sheriffs to act as constables in enforcing the side-path laws.

Providing that no decree of divorce shall become final until three months after the date of the filing of the original judgment.

Providing that it shall be a misdemeanor to advertise, offering to appear or act as an attorney in divorce cases.

Providing that a married woman shall have a cause of action in her own right for labor or services performed by her.

Providing that trust funds may be invested in the securities in which savings-banks are now authorized to invest, and in mortgages to the extent of not more than 50 per cent. of the value of the property.

Extending the scope of insurance policies upon the lives of minors.

Repealing the amendment to the agricultural law which barred county fairs from State aid if held during the time of the State Fair.

Appropriating \$250,000 for extraordinary repairs to the canals.

Amending the Code of Civil Procedure relative to the lien of a judgment against real property.

Making uniform the public-health law relating to local boards of health.

Amending the agricultural law in relation to the prevention of disease in fruit-trees.

Amending the benevolent orders' law relative to joint corporations and their powers.

Providing that a society for the prevention of cruelty may operate in a county adjacent to that in which it was organized.

Regulating the speed of automobiles by providing that they shall not be run on country highways at a rate of speed greater than 20 miles an hour, or in villages or cities faster than 8 miles an hour, and making the first offense punishable by a fine not exceeding \$50, and each subsequent offense punishable by imprisonment or a fine, or both.

Defining the rights of minority stockholders in case of consolidation of corporations.

Providing for the appointment of a commissioner of jurors in Kings County by the two county judges, who are Republican, and the Democratic surrogate of Kings County. The commissioner is to serve five years at a salary of \$6,000.

Providing that the State Racing Commission shall pass upon the certificates of incorporation of all racing associations which intend to conduct running races.

The Governor authorized the appointment of a commission to inquire into the delays and expenses in the administration of justices in the counties of New York and Kings in the First and Second Judicial Districts, and to suggest legislation thereon, the commission to consist of seven persons and to make a final report to the Governor for transmission to the Legislature on or before Dec. 31, 1902, and submit such bill or bills as it may deem necessary to carry its recommendations into effect.

Political.—The Republican State Convention was held in Saratoga Springs on Sept. 23-24, which was called to order by State Chairman George W. Dunn, who nominated Lemuel E. Quigg as temporary chairman, while for permanent chairman Timothy E. Ellsworth was chosen later. The platform said concerning roads and canals: The canals provide a channel for com-

merce and enable New York city to hold the first rank both as the exporting and importing center of our country, while better highways bring the markets closer to the doors of the farmer. The two are equally important. The one obstacle to the successful consummation of necessary improvements is the constitutional prohibition against long extensions of the bonded debt of the State. The alternative is direct yearly taxation upon the people. The Republican party, having already, through economies and legislation, rendered a direct tax almost unnecessary, believes that these improvements should not be the cause of again imposing such a tax upon the people, and that without imposing unnecessary burdens upon individuals of other interests there should be an extension of time in which payment of the principal and the money for the payment of the yearly interest should be provided. With reference to trusts, it declared that, while we would encourage business enterprises which have for their object the extension of trade and the upbuilding of our State, we condemn all combinations and monopolies, in whatever form, having for their purpose the destruction of competition in legitimate enterprise, the limitation of production in any field of labor, or the increase of cost to the consumer of the necessities of life; and we pledge the party to the support of such legislation as will suppress and prevent the organization of such illegal combinations.

The following candidates were then nominated by acclamation: For Governor, Benjamin B. Odell, Jr.; Lieutenant-Governor, Frank W. Higgins; Secretary of State, John F. O'Brien; Treasurer, John G. Wickser; Attorney-General, Henry B. Coman; Comptroller, Nathan B. Miller; Engineer, E. A. Bond; Judge of the Court of Appeals, W. Edward Werner.

The Democratic State Convention was held in Saratoga Springs on Sept. 30, and was called to order by John B. Stanchfield, who subsequently yielded the chair to Martin W. Littleton, permanent chairman. The platform declared a belief in the revision of the tariff, and opposition to those corporate combinations, called trusts, that establish monopolies, destroy competition, control raw material, and increase the price of finished product. While the Philippine policy of the present administration was condemned, a recognition was announced of territorial expansion—the expansion of Jefferson and of Polk—and in the honorable acquisition of desirable territory that can be erected into States in the Union, and whose people are willing and fit or capable of becoming fit for American citizenship. Trade expansion by every peaceful and legitimate means was favored, but opposition to the seizing or purchasing of distant lands to be held as colonies was expressed. It advocated the national ownership and operation of the anthracite coal-mines by the exercise of the right of eminent domain, with just compensation to owners. It said: "Fuel, like water, being a public necessity, we advocate national ownership and operation of the mines as a solution of the problem which will relieve the country from the sufferings which follow differences between labor and capital in the anthracite mines."

The following-named candidates were then nominated: For Governor, Bird S. Coler; Lieutenant-Governor, Charles N. Bulger; Secretary of State, Frank Mott; Attorney-General, John Cunnene; Comptroller, Charles M. Preston; State Treasurer, George R. Finch; State Engineer and Surveyor, Richard P. Sherman; Judge of the Court of Appeals, J. Clinton Gray.

The election took place on Nov. 4, when the Republican candidates for Governor, Lieutenant-Governor, Secretary of State, Comptroller, Treasurer, and State Engineer and Surveyor were chosen by pluralities respectively of 8,803, 10,134, 11,890, 13,029, 11,541, and 11,977, while the Democratic candidates for Attorney-General and Associate Judge of the Court of Appeals were elected by pluralities of 9,466 and 14,821. Thirty-seven Representatives to Congress were elected, of whom 20 were Republicans. Of the 17 Democrats chosen, 16 were from New York city and 1 from Buffalo. A new Legislature was chosen, including in the Senate 28 Republicans and 22 Democrats, and in the Assembly 89 Republicans and 61 Democrats, a gain of 7 Democrats in the Senate and 26 Democrats in the Assembly.

NORTH CAROLINA, a Southern State, one of the original thirteen, ratified the Constitution Nov. 21, 1789; area, 52,250 square miles. The population, according to each decennial census, was 393,751 in 1790; 478,103 in 1800; 555,500 in 1810; 638,829 in 1820; 737,987 in 1830; 753,419 in 1840; 869,039 in 1850; 992,622 in 1860; 1,071,361 in 1870; 1,399,750 in 1880; 1,617,947 in 1890; and 1,893,810 in 1900. Capital, Raleigh.

Government.—The following were the State officers in 1902: Governor, Charles B. Aycock; Lieutenant-Governor, W. D. Turner; Secretary of State, J. B. Grimes; Treasurer, B. R. Lacy; Auditor, B. F. Dixon; Attorney-General, R. D. Gilmer; Superintendent of Education, T. F. Toon, who died in February and was succeeded by James Y. Joyner; Commissioner of Agriculture, S. L. Patterson; Commissioner of Insurance, James R. Young; Adjutant-General, B. S. Royster—all Democrats; Geologist, Joseph A. Holmes; Librarian, M. O. Sherrill; Commissioner of Labor and Printing, H. B. Varner; Chemist, B. W. Kilgore; Corporation Commission, Franklin McNeill, Samuel L. Rogers, D. H. Abbott; Chief Justice of the Supreme Court, David M. Furches, Republican; Associate Justices, Robert M. Douglas, Republican, Walter Clark, Democrat, W. A. Montgomery, Democrat, Charles A. Cook; Clerk, Thomas J. Kenan, Democrat.

The State officers are elected for terms of four years, at the time of the presidential elections. The Legislature meets biennially in January of the odd-numbered years. The length of the session is not limited, but legislators are not paid for more than sixty days.

Finances.—The fiscal year ending Nov. 30 began with a balance from the previous year of \$18,262.52. From Dec. 1, 1901, to Nov. 30, 1902, there was received into the Treasurer's office \$1,907,958.68. This includes the \$200,000 loaned by the Park National Bank, of New York city. The disbursements in the fiscal year amounted to \$1,863,849.79, leaving a balance in the treasury on Dec. 1, 1902, of \$62,371.41. Outstanding warrants brought the actual balance down to \$30,213.59.

Among the larger items of expenditure in 1902 were: For interest on bonds, \$299,999; State hospitals, \$317,950; public schools, \$180,664; Agricultural Department, \$66,143; Judicial Department, \$69,539; deaf-mute and blind institutions, \$115,911; pensions, \$200,046.50; Soldiers' Home, \$12,000; university, \$37,500; Normal College, \$35,000; orphan asylums, \$15,000; experiment station, \$15,000; Agricultural College, Raleigh, \$64,511; Colored Agricultural College, Greensboro, \$23,250; normal schools, \$20,250; Corporation Commission, \$12,400; printing, \$20,568; Shell-Fish Commission, \$18,713.

Valuations and Taxes.—From the figures given out by the Corporation Tax Commission in

December it is learned that the value of real estate was fixed in 1901 for taxation at \$175,366,240, and of personal property at \$108,075,569, giving a total of \$283,441,809. On this the tax at 21 cents on the \$100 was \$595,227.79.

Other valuations were: Railroad companies, \$42,448,799; telephone companies, \$355,357.22; steamboats, canals, ferries, \$220,471.63; street-railways, \$756,360; electric-light and gas companies, \$93,623.46; telegraph companies, \$904,200; sleeping-car companies, \$181,720; express companies, \$189,573.69; water companies, \$84,429; corporate excess, \$5,837,442; building and loan stock, \$560,521; bank stock, \$6,147,703; total, including the above, \$341,222,009, and the total tax, \$716,566.21. The pension tax amounted to \$136,488.80; and the tax on 267,687 polls to \$32,122.44. Income and license and other taxes brought the total for the State to \$1,169,024.53. The school taxes, payable to county treasuries, amounted to \$1,139,219.03; the county taxes, to \$1,593,254.45; municipal taxes were \$1,149,902.68; total of all taxes, \$5,051,400.69. The State debt amounts to \$6,527,770. The bonded debts of the counties amount to \$1,195,817, and their floating debts to \$321,222; the bonded debt of the towns was \$4,091,659, and current liabilities, \$274,818.51.

Education.—The number of illiterates in the State, by the last census, was 386,251. In the percentage of children from ten to fourteen able to read and write, the State stands forty-third in the list, with 78.25 per cent.

An educational conference was held at Raleigh in April for the purpose of devising means for improving the public schools and awakening greater interest in education throughout the State. The superintendent named as the 3 greatest needs, improvement of the schoolhouses; consolidation of school districts; increase of the public-school fund by local taxation. About 57 per cent. of the school districts in North Carolina have a school population of fewer than 65 children, the minimum number prescribed by law. The work of consolidation of districts has been begun; in December the number had been reduced from 8,115 to 7,853. It was decided at the conference to hold educational rallies in all sections of the State, to have at these rallies inspiring educational addresses, and to have in attendance, in addition to the general public and all friends of education, the county superintendents of the 15 or 20 surrounding counties, and to conduct an institute and conference of these superintendents.

A comparison of the number of teachers at the beginning and at the end of the last decade shows that there was a movement toward the employment of more women as teachers in proportion to the number of men. In 1890 there were 2,659 white male teachers and 1,883 white female teachers. Of colored teachers there were male 1,513, and female 1,010. In 1900 there were only 2,428 white male teachers and 2,591 white female teachers. The colored male teachers numbered 1,131 and the colored female teachers 1,276. The average monthly salary was given as \$26.18 for men and \$23.14 for women. The receipts of the school fund for the year ending June 30, 1902, were \$1,311,301, and the disbursements \$1,276,036.

The State Normal and Industrial College, at Greensboro, graduated a class of 34 in May. The receipts from Oct. 1, 1900, to Sept. 15, 1902, were \$174,015.02, and the disbursements \$173,983.88.

The Board of Examiners of State Institutions found the conditions at the Normal Schools for Colored Teachers, at Plymouth, Goldsboro, and Franklinton very unsatisfactory, and censured the directors for neglect. Similar criticisms were

made upon the Colored Agricultural and Mechanical College. The examiners said:

"We next note that since the exclusion of girls the number of boys enrolled as students has somewhat increased, until now it is said to be as many as 95. We have tried to learn the actual average attendance, but have not been able to do so because no books have been kept. We have heard reports that it was as low as 40 and as high as 50."

The Executive Committee of the college praises its work, saying: "We believe that the college is offering the kind of education best suited to the colored people, and is doing a great work for them and for the State. It is not true that no books are kept at the college from which the attendance can be learned. There are now [November, 1902] in actual attendance 114 students and an enrolment of 121, which is growing almost daily. Every room in the college, including those formerly occupied by the girls, is full, none having less than 2, and some as many as 5 boys."

The regular appropriations are as follow: United States appropriation, \$8,250; North Carolina appropriation, \$7,500. In addition to this, the last Legislature appropriated \$5,000 for two years to help pay for the farm and help pay debts.

There were 369 students at the Agricultural College, at Raleigh, in May, and 450 in November. The Legislature appropriated \$20,000 for a textile building. The oldest student was sixty-nine years of age, the youngest fifteen. Nearly \$4,000 was earned by students in the year; the largest amount was \$161.95, and the smallest 15 cents, the average being \$16.95.

The State University had an enrolment in 1901-'02 of 565, the largest in its history. It has been decided to establish in Raleigh a college of medicine in connection with the university.

The Joseph K. Brick Agricultural, Industrial, and Normal School, to which Mrs. Julia Brick, of Brooklyn, N. Y., has given \$500,000, is on a farm between Whitakers and Enfield, near the Atlantic Coast Line. The Brick school is located in the heart of the largest negro population in the State. This is the only large sum of money given for negro education of late years that has come to any institution except those at Hampton and Tuskegee.

There are published in the State 293 newspapers. Only 28 are dailies; 180 are weeklies; 20 semi-weeklies; and 44 monthlies. In politics 142 are Democratic, and 17 Republican; many of the weeklies are religious, and some are technical.

Charities and Corrections.—A school for white deaf children is located at Morganton, and one for the colored at Raleigh. In the school at Morganton are 221 pupils. The number taught by the oral method is steadily increasing. The yearly per capita is \$174.67.

The board finds that while there are about 900 insane persons in the eastern district, there are only 404 patients in the Raleigh asylum. The others are either in the jails, in the county homes, or in charge of their relatives. The cost of maintenance per capita is \$15.13 a month.

The number of white blind children in the Raleigh institution is 160; of colored deaf and dumb and blind, 173. The annual per capita is \$175.18.

There must be in the western district about 1,548 insane persons. But there are only 782 in the Morganton hospital. There are on file 490 applications for admission, not one of which has been granted for lack of room. The annual cost per capita is \$151.40.

The hospital for insane negroes, at Goldsboro, has 470 patients. The cost per capita is \$9.16 a month.

There are 41 patients in the hospital for the dangerous insane, which is in the State Prison building. The cost per capita is \$114.98 a year.

In April there were 850 convicts in the charge of the State. Of these, 439 were at work on the Ohio River and Charleston Railroad. There are among the convicts 55 women, of whom 3 are white; 155 of the men are white, and 2 are Indians.

The net profit of the present administration has been \$20,643.28. In 1901 the prison failed of being self-supporting by the sum of \$32,773.

From July 1, 1901, to July 1, 1902, the number of criminal cases in the courts was 9,301—males 8,634, females 667—against whites 4,951, against negroes 4,339, against Indians 11. Convictions and submissions 6,418, acquittals 1,183, nolle prossed 1,594, otherwise disposed of 106.

Railroads.—The Corporation Commission this year reduced the passenger-fare rate over the Atlantic Coast Line Railroad, the Seaboard Air Line Railroad, and the Southern Railway. The commissioners' standard rate of 2½ cents a mile for second-class fare and 3½ cents a mile for first-class fare is now applied, in fact, to nearly every road in the State.

There are 3,681.95 miles of railroad in the State, an increase of 30.82 miles over last year. There were, however, 66.63 miles of new road built, but 35.81 miles were abandoned.

The aggregate earnings of the railroads were \$16,476,173.56; the operating expenses, \$10,187,100.64; the cost of roads, \$104,864,959; bonded debts, \$52,697,380; capital stock, \$77,877,115; taxes paid, \$547,262; number of employees, 11,401; amount of wages, \$4,452,590; accidents, 87 killed, 1,068 injured.

The gross earnings of the street-railways were \$531,019; operating expenses, \$408,338; number of passengers carried, 5,741,046.

The Supreme Court decided that the law passed by the last Legislature should not be construed to mean that the franchises were to be taxed separately from the tangible property.

Banks.—In 1899, when the banks were placed under the supervision of the Corporation Commission, there were 65 in the State. There are now 120—83 State, 23 private, and 14 savings. In 1902 the capital stock was \$3,513,564; deposits, \$14,046,775; gold, silver, and national-bank notes on hand, \$1,158,810; total resources, \$20,725,288.

Building and Loan Associations.—There are 30 building and loan associations, with assets amounting to \$2,020,676.

Insurance.—In the year ending Dec. 31, 1900, the total of premiums received by North Carolina companies was \$208,021.03, and the amount of losses paid \$52,817.98. For companies of other States doing business in North Carolina, the premiums received were \$765,082.49, and the losses paid were \$350,336.65. Premiums received by foreign companies doing business in the State amounted to \$369,162.16, and the losses paid were \$176,137.95.

Industries and Products.—Following are census statistics on farms in the State: Number, 224,637; value, \$194,655,920. Of the valuation 27 per cent. was in buildings and the remainder in land and other improvements than buildings.

The tobacco-crop of 1899 was 127,503,400 pounds, valued at \$8,038,691.

The cotton-crop of 1901-'02 was 550,000. The estimate for 1902-'03 was 650,000.

This State showed the largest yield of sweet potatoes in 1899. From 68,730 acres the product was 5,781,587 bushels, valued at \$2,119,956.

The wooded area of the State is 35,300 square miles.

The textile mills of the State show an increase for the year 1901. The number of mills enumerated is as follows: Cotton-mills, 226; woolen-mills, 11; knitting-mills, 41; carpet-mill, 1; jute-bagging mill, 1; silk-mills, 3; total, 283.

In 1900 the number of spindles in use was 1,481,771; it is now 1,694,163.

In the knitting-mills there are in use 3,814 machines, against 2,048 in 1900. The hours of labor for the operatives run from ten in the knitting-mills up to twelve and a half in the cotton-mills.

The number of operatives employed is as follows: 18,171 men, an increase of 21 per cent. over 1900; 18,377 women, an increase of 15 per cent.; 7,996 children under fourteen, an increase of 5 per cent.

In flour and grist mills \$2,905,310 was invested in 1900, and the product was valued at \$8,867,462.

The value of gold produced in 1901 was, approximately, \$55,500, and of silver \$12,180. The preliminary estimate for 1902 gives the gold value as \$91,713, and the silver as \$11,418. The agent in charge of precious stones says that in 1901 the deposit of rhodonite garnet in the Cowee valley, Macon County, was worked extensively. Mining for dark blue, green, and yellow beryl, for amethysts, and for emerald matrix was carried on in the State.

Highways.—A good-roads congress was held in Raleigh in February, and a State association was formed. Among the resolutions passed were one advocating greater use of convict labor on roads, one favoring instruction in road-building at the State colleges, and one asking for the creation of the office of highway commissioner, with an appropriation for supervision.

The State Fair.—The first State fair of North Carolina was held in 1862; the fiftieth anniversary this year was marked by an unusually fine exposition.

Historic.—A celebration was held on Guilford battle-ground, July 4, when a monument to Nathaniel Macon was unveiled and an oration on his character and services was delivered by the Hon. T. S. Pittman.

Elaborate preparations are making for celebrating, on Roanoke island, the landing and settlement of Sir Walter Raleigh's colonies and the birth of Virginia Dare (in August, 1587), the first Anglo-American.

Federal Appointment.—Considerable excitement has been raised over the question of the reappointment of Sam Vick, a colored man, postmaster at Wilson. The people of the town testify freely to his good character and capacity, and place their opposition frankly on the ground of his color. It is said there is not a white Republican in the town.

Lawlessness.—Reports have been published of the lynching of 4 negroes, 1 for criminal assault and 3 for murder. The negro lynched at Washington in March had poisoned the whole family of Dr. D. T. Tayloe, none of whom died. The Governor offered \$400 reward for the arrest and conviction of each member of the mob that lynched 2 negro brothers at Salisbury in June; they were believed to have murdered a young lady who had ordered them off her premises, though there seems to have been some room for doubt of the guilt of the younger, who was but fourteen years old. In the case of the negro lynched for criminal assault at or near Kinston, the coroner's jury found that he came to his death at the hands of parties unknown to the jury, and added: "In view of the enormity of the crime committed by said Tom Jones, alias Frank Hill,

we think they would have been recreant to their duty as good citizens had they acted otherwise."

Legal Opinions.—The justices of the Supreme Court contend that their salaries are not liable to taxation on the ground that the Constitution declares that their salaries are not to be diminished during their term of office, and the Attorney-General agrees with this opinion, which applies to the salaries of other State officials as well.

The decision against the antitrust law of Illinois probably invalidates that of this State as well.

Political.—At the State election, in November, a Chief Justice and 2 Associate Justices of the Supreme Court were to be chosen, for terms of eight years, succeeding Judges Furches, Clark, and Cook, and a member of the Corporation Commission to succeed D. H. Abbott, for a term of six years; also a Superintendent of Public Instruction.

The Democratic Convention, in Greensboro, July 16, nominated Walter Clark for Chief Justice and Henry G. Connor and Platt D. Walker for Associate Justices. Eugene C. Beddingfield was named for Corporation Commissioner and James Y. Joyner for Superintendent. The platform declared allegiance to the national platform of the party; congratulated the people upon the adoption of the suffrage amendment; commended the State administration; denounced the policy of "imperialism"; condemned trusts and Congress for not restraining them; favored the establishment of the Appalachian park; and favored nominations by primaries.

The Republican Convention met in Greensboro, Aug. 28, and nominated Thomas H. Hill for Chief Justice, D. H. Abbott for Corporation Commissioner, and D. A. Long for Superintendent of Instruction.

After approving the national administration and affirming allegiance to the party principles, the platform accused the Democrats of violating their preelected pledges in regard to reductions in expenses, number of offices, and salaries, and said further:

"They promised, by affidavit and otherwise, that no white man would be disfranchised under the amendment to our Constitution, but instead of observing their pledge with respect to this matter, the Democratic State chairman is now forced to admit that 18,000 white men will be denied the right to vote at the approaching election.

"We condemn them for their unwarranted effort to impeach 2 of our Supreme Court justices for purely partizan purposes, for following precedents established by the Supreme Court of this State in a long line of decisions covering a period of more than sixty years.

"We further condemn them for the enactment of legislation appropriating the money of the people for the purpose of defraying the expenses of persons indicted for violation of laws which they had sworn to obey, and for granting amnesty to such persons from prosecution in the State courts."

The convention was composed entirely of white men; contesting delegations of negroes were not seated in any instance.

Negro Republicans held a convention in October; they made no nominations, but adopted a set of resolutions condemning the treatment accorded them.

All the Democratic candidates for State offices were elected. For Chief Justice, Clark, Democrat, had 132,239 votes, and Hill, Republican, 71,275. All the 10 representatives in Congress are Democrats. The Legislature stands on joint ballot 144

Democrats, 22 Republicans, and 4 Independent Democrats. There was a tie in the Thirty-fourth Senatorial District, each candidate having 3,816 votes.

NORTH DAKOTA, a Northwestern State, admitted to the Union Nov. 2, 1889; area, 70,795 square miles. The population was 182,719 in 1890 and 319,146 in 1900. Capital, Bismarck.

Government.—The following were the State officers in 1902: Governor, Frank White; Lieutenant-Governor, David Bartlett; Secretary of State, E. F. Porter; State Auditor, A. N. Carlbloom; State Treasurer, D. H. McMillan; Commissioner of Insurance, Ferdinand Leutz; Attorney-General, O. D. Comstock; Superintendent of Public Instruction, J. M. Devine; Commissioner of Agriculture and Labor, R. J. Turner; Commissioners of Railroads, C. D. Lord, J. F. Shea, J. J. Youngblood; secretary, C. C. Hammond; State Land Commissioner, D. J. Laxdahl; Adjutant General, E. S. Miller; Geologist, Frank A. Wilder; Oil Inspector, L. W. Schruth; Superintendent of Public Health, H. H. Healey; State Examiner, R. E. Wallace; Veterinarian, J. W. Dunham; Chief Justice of the Supreme Court, Alfred Wallin; Associate Justices, N. C. Young, D. E. Morgan. All are Republicans.

The State officers are elected for terms of two years in November of the even-numbered years. The Legislature meets biennially in January of the odd-numbered years. The length of the session is limited to sixty days.

Finances.—The Governor says in his message: "I desire particularly to draw your attention to the improved condition of our State treasury and the reduction made in our State debt. On Jan. 1, 1901, there was less than \$10,000 in the general fund. The accounts against the State were six months past due, upon the Auditor's table were \$80,000 of funding warrants issued to pay current expenses, and more than \$150,000 of vouchers awaiting payment. It had been a common practice for the Legislature each two years to authorize the issuing of short-time warrants to square accounts. These warrants drew a high rate of interest, were not considered good by investors, and were often only sold upon the personal assurance of the officers issuing them that they would be taken care of. During the past two years \$270,000 of these warrants were issued. All these warrants have been gradually paid off, all other obligations of the State have been promptly met, and the biennial period closed with practically all bills paid and with a small balance in the general fund. During the same time, by a special tax, \$153,000 of asylum bonds have been paid off and the bonded debt reduced to that extent. This has been accomplished principally by reason of increased revenues. Our assessed valuation and tax levy for general purposes have grown very materially."

Valuations.—The valuation of all property in the State for purposes of taxation is \$133,880,414. The valuation in 1901 was \$124,592,521. The principal increase in valuation is in real property, which as equalized this year was more than \$7,000,000 above the value in 1901. The value of real property is \$85,195,928. In 1901 the total was \$77,858,024. Reduction of the assessed valuation of live stock kept down the total of personal property. Railroad property is valued at \$19,970,000. Telegraph property is equalized at \$219,465, telephone property at \$125,865, and express companies at \$143,665.

The rate of the general State tax is 4 mills; that of the bond interest tax, $\frac{1}{2}$ mill; for State institutions, 1 mill; and for schools, 2 mills. The

collections of taxes in the two years amounted to \$935,654.46 for general purposes.

Education.—The number of illiterates in the State in 1900 was 12,719. In the percentage of children from ten to fourteen able to read and write, this State stood twenty-ninth on the list, with 97.65 per cent.

The school census, 1902, shows a total of 103,728 children of school age, an increase of 7 per cent. over 1901. The support of the schools in 1901 cost \$1,670,093.28. There were 3,262 schools and 4,319 teachers in that year. The value of school property in 1901 was \$2,750,313.52. The public schools of the State have a land endowment worth \$50,000,000. The land endowments of the State educational institutions are: Agricultural College, at Fargo, supported largely by Congress, grant of 130,000 acres; State University, at Grand Forks, with school of mines in connection therewith, 126,080 acres of land; normal school at Valley City, with grant of 50,000 acres; normal school at Mayville, with a grant of 30,000 acres; School of Forestry, at Bottineau, no land grant; Scientific School, at Wahpeton, with a grant of 40,000 acres. Nearly 100 traveling libraries are in use in the schools.

Charities and Corrections.—The following are the State institutions with the extent of their land endowments; Hospital for the Insane, at Jamestown, a land grant of 20,000 acres; Soldiers' Home, at Lisbon, a grant of 40,000 acres; Blind Asylum, at Bathgate, a grant of 30,000 acres; Industrial School and School for Manual Training, at Ellendale, a land grant of 40,000 acres; Institution for Feeble-Minded, at Grafton, has a congressional appropriation of \$150,000, which with interest amounts to about \$31,000; State Penitentiary, at Bismarck, no land grant; State Reform School, at Mandan, a land grant of 40,000 acres; Deaf and Dumb Asylum, at Devil's Lake, a grant of 40,000 acres.

The new institution at Grafton is nearly finished. It will open with about 150 patients, many of whom will be transferred from other institutions.

Banks.—In the year the number of State banks increased from 138 to 176. The total deposits increased from about \$7,000,000 to more than \$10,000,000. The resources in September, 1901, were \$9,603,699.96; and in September, 1902, \$13,437,076.88; the loans and discounts increased from \$5,820,436.89 to \$6,482,721.64.

Building and Loan Associations.—There were of these in 1901 6, with 2,000 members and assets amounting to \$428,684.

Railroads.—Statistics show an addition of 120.72 to the railroad mileage of the State in 1901, and 98 miles in 1902. The total mileage is 3,330. The Soo road was extended this year from Braddock to Bismarck, a great advantage for the capital city. The opening of the road was celebrated there with enthusiasm Aug. 23. The line passes through an unusually productive country.

Insurance.—The life-insurance claims paid in the State in 1901 amounted to \$260,661.

Industries and Products.—From statistics given by the Commissioner of Agriculture for 1901, and a review of the progress of the State, are taken the following: Number of flouring-mills, 70; lignite-coal mines, 33; cheese factories, 8; creameries, 20; farms, 38,808; ranches, 6,150; combined farms and ranches, 20,150; tons tame and wild feed made, 926,005; acreage lost by hail, 1900, from one-fourth to total, 812,482; estimate of flax per acre, 10.15 bushels; estimate of wheat per acre, 12.25 bushels. The returns show a most

remarkable increase in such grains as corn, flax, barley, and rye, and the garden produce was nearly doubled in 1901 over 1900.

The estimates of crops in 1902 were: Wheat, 55,000,000 bushels; oats, 20,000,000; flax, 25,000,000; corn, 2,000,000. North Dakota is the leading State in the production of flax.

Tests of lignite for use on railroads, which were made this year, are reported to have proved that with engines constructed for the consumption of lignite this fuel is available for use on the road at a great saving over the fuel now used. The principal objection in the past, when tests of lignite have been made in railroad locomotives, has been that the draft has lifted the fire out of the fire-box and carried the live coals through the flues and out of the stack, rendering it difficult to keep a fire. This has been overcome in the construction of the engine with which the recent test was made. This engine has a brick arch over the fire-box, which prevents the lifting of the fire, which passes around the end of the arch, and then through the flues, keeping a steady and hot flame. All gases from the coal rise to the top of the arch, where they are consumed.

Land.—In North Dakota there are 15,071,477 acres of unappropriated lands, of which 10,121,977 acres are surveyed and 4,949,500 acres are unsurveyed. The reserved area embraces 8,325,490 acres, and the appropriated lands 26,513,113.

The wooded area is estimated at 600 square miles. In 1901 the State Land Commissioner sold lands that brought in cash payments of \$282,000 and represented a total cash value of nearly \$1,500,000. The common-school fund receives about \$200,000 in cash.

The State institutions received \$79,239, placed to the credit of their permanent funds, as follows: Agricultural College, \$16,160.23; Blind Asylum, \$4,522.18; Capitol building, \$9,813.09; School for the Deaf, \$6,144.98; Insane Hospital, \$2,496.12; Industrial School, \$4,935.96; Valley City Normal School, \$4,862.52; Mayville Normal School, \$2,817.52; Reform School, \$5,085.78; Scientific School, \$2,461.55; School of Mines, \$3,642.16; Soldiers' Home, \$4,585.90; university, \$11,063.07.

Fort Lincoln.—This new military post near Bismarck has been in progress of construction more than two years, but it is far from complete; when finished it will comprise 62 buildings. Only 3 are finished. These are the officers' quarters, the barracks, and the engine-house and water-works. All the buildings are of brick.

Grand Forks.—This city is to have a Carnegie library as soon as the subscription list for the lot, furnishings, etc., which is now nearly complete, is finished.

Legal Decision.—A law of 1901 which aimed to give those counties that had not taken advantage of the provisions of the Wood's bill for the collection of delinquent taxes by tax judgment and sale opportunity to act under the old law has been held unconstitutional by the Supreme Court, on the ground that it is special legislation.

Political.—At the Republican Convention, which met in Fargo July 23, the following candidates were nominated for the State election in November: For Governor, Frank White; Lieutenant-Governor, David Bartlett; Judge of Supreme Court, John M. Cochrane; Secretary of State, E. F. Porter; State Auditor, H. L. Holmes; State Treasurer, D. H. McMillan; Attorney-General, H. C. Frick; State Superintendent, W. L. Stockwell; Commissioner of Insurance, Ferdinand Leutz; Commissioner of Agriculture, R. J. Turner; Railroad Commissioners, J. F. Shea, C. J. Lord, and Andrew Schatz.

The Democratic nominations, made at Fargo Aug. 1, were: For Governor, Joseph E. Cronan; Lieutenant-Governor, Samuel K. McGinnis; Secretary of State, John Quarum; Auditor, John F. Morrison; Treasurer, James McDonald; Attorney-General, Michael J. Barrett; Superintendent of Instruction, Vilhjalmur Stevenson; Commissioner of Insurance, Frank A. Wilson; Commissioner of Agriculture, Oscar H. Will; Railroad Commissioners, Peter L. Pritchard, Charles P. Peterson, Oliver Knudson.

For Justice of the Supreme Court, the Republican candidate, John M. Cochrane, was adopted.

The platform declared strongly against the so-called railroad merger, pledged a resubmission of the prohibition law, favored initiative and referendum, demanded the repeal of the fellow-servant law, and called for the equal taxation of corporations.

The Prohibitionists met in small number at Hillsboro Aug. 6 and nominated J. G. Giverson for Governor and Charles H. Mott for Lieutenant-Governor; but the names were not on the ballot.

Representatives of the Socialists met at Fargo in July, and nominated the following State ticket: For Governor, Robert Grant; Lieutenant-Governor, Ralph W. Simpkins; Secretary of State, William Lamb; Auditor, L. P. Munter; Treasurer, William Olson; Superintendent of Public Instruction, William Ballou; Commissioner of Insurance, P. T. Sande; Commissioner of Agriculture and Labor, L. F. Dow; Railroad Commissioners, W. J. Bailey, Soren Madson, S. E. Haight.

The election resulted in the success of the entire Republican State and congressional ticket. For Governor the vote stood: White, Republican, 31,613; Cronan, Democrat, 17,576; Grant, Socialist, 1,245.

The Legislature will have 117 Republicans and 23 Democrats. For State Superintendent of Public Instruction there were cast about 4,000 more votes than for the other State officers, indicating that number of women's votes. If the vote of women in the State is comparatively the same as the male vote, only about one woman in twelve voted.

OHIO, a Central Western State, admitted to the Union in 1803; area (according to the Geological Survey), 41,060 square miles, of which 300 are water surface. The population, according to each decennial census since its admission, was 230,760 in 1810; 581,295 in 1820; 937,903 in 1830; 1,519,417 in 1840; 1,980,329 in 1850; 2,339,511 in 1860; 2,665,260 in 1870; 3,198,062 in 1880; 3,672,316 in 1890; and 4,157,545 in 1900. It ranks fourth among the States in point of population. Capital, Columbus.

Government.—The State officers during 1902 were: Governor, George K. Nash; Lieutenant-Governor, C. L. Nippert, and H. L. Gordon, vice Nippert, resigned; Secretary of State, L. C. Laylin; Treasurer, I. B. Cameron; Attorney-General, J. M. Sheets; Judges of Supreme Court, J. F. Burket, J. A. Shauck, J. L. Price, W. T. Spear, William Z. Davis, William B. Crew (appointed July 19 to fill vacancy caused by death of Marshall J. Williams, July 9); Clerk of Supreme Court, L. E. Emerson; Commissioner of Common Schools, Lewis D. Bonebrake; Dairy and Food Commissioner, Joseph E. Blackburn; Board of Public Works, Frank A. Huffman, Charles A. Goddard, Washington G. Johnston. All the State officers were Republican.

The term of the Governor, Lieutenant-Governor, Treasurer of State, and Attorney-General is two years, beginning in January of the even-numbered

years; of the Secretary of State, two years, beginning in January of the odd-numbered years; of the Dairy and Food Commissioner, two years, beginning in February of the odd-numbered years; of members of the Board of Public Works and Clerk of the Supreme Court, three years, beginning in February; of the Commissioner of Common Schools, three years, beginning in July; of the Auditor of State, four years, beginning in January of even-numbered years; of Judges of the Supreme Court, six years, beginning in February. All are elected in November. The Legislature meets biennially in January of the even-numbered years; there is no limit to the length of the session.

Finances.—The balance in the treasury to the credit of the general revenue fund at the beginning of the fiscal year, Nov. 16, 1901, was \$1,226,664.46; total receipts of general revenue fund during fiscal year, \$5,206,170.91; amount paid for revenue fund during year, \$5,269,098.42; total receipts of sinking-fund during year, including balance from previous year, \$804,781.72; total disbursements from sinking-fund, \$550,212.49; receipts of State common-school fund, including balance from previous year, \$2,111,735.80; expenditures from State common-school fund, \$1,829,924; receipts to credit of university fund from taxes, \$374,720.47; aggregate payment to universities during fiscal year, \$322,329.58; payments for support of other State institutions, \$3,148,571.91; total assessed value of real property in State, \$1,396,180,471; total assessed value of personal property, \$594,704,917; debt of State, bonded and other, \$200,000; unredeemable debt (school fund), \$4,729,936; aggregate debt of counties, municipalities, and school districts, \$106,368,137.

Military.—At the close of the fiscal year, Nov. 15, the total strength of the Ohio National Guard was 6,466, of which 26 were staff-officers, 5,667 in 2 brigades of infantry, 310 in naval brigade, 143 medical department and signal-corps, 220 artillery; 110 cavalry.

Railroads.—The report of the Commissioner of Railroads shows that in all classes of railroad business it was the greatest year in Ohio's history. At the end of the fiscal year, Nov. 15, the length of main line was 9,059 miles. With new second, third, and fourth tracks, the increase over the preceding year was 361 miles. The increase of capital stock was \$10,644,536.25. The total increase in capital stock per mile was \$564. Cost of equipment on lines operated in Ohio increased by \$14,739,959 for the entire lines and \$6,884,971 on the part operated within the State. Total earnings for the entire lines was \$240,407,738.18, an increase of \$20,193,927.34 or 9.17 per cent. Total earnings in Ohio from all sources, \$101,001,341.37, an increase of \$11,302,063.62, or 12.6 per cent. The percentage of earnings in Ohio to entire earnings is 42.42 per cent. There was an increase of \$7,591,567.53, or 12.39 per cent., in operating expenses on the entire lines, and \$3,711,215, or 13.01 per cent., in that part of the lines running through Ohio. Total number of passengers carried in Ohio, 1902, was 28,499,313, an increase of 1,989,021, or 7.50 per cent. Number of tons of freight transported, 1902, 132,113,976, an increase of 14,485,124 tons, or 12.31 per cent. Average receipts per ton, 54.5 cents, an increase of 1 cent. Freight earnings per mile, \$6,990.13, an increase of \$1,018.83, or 17.06 per cent. The total number of persons injured in 1902 was 8,092, an increase of 1,114, or 15.96 per cent. Of the 52 operating corporations within Ohio, 21 paid dividends.

Legislative Session.—The General Assembly was opened on Monday, Jan. 6, and closed its

regular session Monday, May 12. The Republicans had a majority of 9 in the Senate and 14 in the House. Several important laws affecting taxation and corporations were passed. Among them are these:

Requiring domestic and foreign corporations other than quasi-public corporations to file annual reports and pay annual fees of one-tenth of 1 per cent. on invested capital stock.

An amendment to the law relating to electric-light, gas, natural gas, express, telephone, telegraph messenger, railroad, pipe-line, waterworks, street, suburban, and interurban railroads and other corporations increases their annual tax from $\frac{1}{2}$ to 1 per cent. of the gross receipts for the business done in Ohio in the year next preceding the 1st day of May.

An addition to the Dow tax law providing for a stricter enforcement of the tax on the sale of liquors.

Providing that an action upon the liability of stockholders of corporations can only be brought within eighteen months after the date the obligation shall become enforceable against said stockholders.

Giving the Governor and the Secretary of State the power to remit penalties against foreign corporations for failure to comply with the corporation laws where good cause is shown for such failure or neglect; also providing that where two-thirds of the property or business of the foreign corporation is invested in Ohio, and the corporation pays one-tenth of 1 per cent. upon its authorized capital stock, the shares of stock of such corporation held in Ohio need not be returned for taxation.

Providing that a corporation may purchase or otherwise acquire and hold shares of stock in kindred, but not competing corporations, whether domestic or foreign.

Requiring owners of bank stock outside of Ohio to list their stock for taxation in Ohio.

Among the enactments of other character the most important are the following:

Providing that the action of a political party convention on a proposed amendment to the State Constitution may be expressed by affirmative or negative expression printed with the party ticket on the official ballot.

Establishing State normal schools at Ohio and Miami Universities.

Defining schools and colleges.

Authorizing an Ohio commission and building at the St. Louis fair and appropriating \$75,000.

Redistricting the State for congressional elections.

Making burglary of an uninhabited house a crime punishable by imprisonment for life.

Perfecting the child-labor law and fixing the age at fourteen years.

Providing stringent punishment for assault on a President, Vice-President, Cabinet officer, governor, or lieutenant-governor.

Requiring the registration of union labels.

Making safe-blowing a crime punishable with five to fifteen years' imprisonment.

Making it an offense to desecrate the United States flag.

Providing an official State flag for Ohio.

Providing that grade-crossings in cities may be abolished, the cost to be divided equally between the city and the railroad company.

Several "ripper" bills affecting municipalities were passed, but the subsequent action of the Supreme Court nullifying special enactments and the adoption of a general municipal code disposed of some of them.

The Legislature provided for the submission of amendments to the Constitution to the vote of the people at the November election, 1903: Giving the General Assembly greater powers in the matter of classifying subjects for taxation under the general laws of the State; the stockholders' liability amendment, which in effect abolishes the double liability laws of the Constitution; and providing for single legislative districts.

A special session was called by Gov. Nash, and was held from Aug. 25 to Oct. 22. The cause was the necessity for the enactment of a municipal code and the correction of an error in an act passed at the regular session, the effect of which was to prevent cases being appealed to the Supreme Court. Both objects were effected after nearly two months of discussion, and, in addition, a resolution was adopted submitting to the people in 1903 a constitutional amendment permitting the classification of cities into 3 divisions of over 100,000; between 25,000 and 100,000; and below 25,000.

Corrupt Practises in Elections.—A previous Legislature enacted a law to prevent corrupt practises in elections. After each election candidates were required, under penalty, to make sworn returns of their election expenses. The law was evaded by many candidates, and at last was openly violated by one candidate, who declared it to be unconstitutional. The case was taken to the Supreme Court, which, Jan. 28, sustained the constitutionality of the law. A few weeks later the Legislature repealed the enactment.

Court Decision.—A complete revolution in legislation for municipalities was effected by the decisions of the Supreme Court in cases coming before it from Cleveland and Toledo. These decisions destroyed a system that had grown up year by year for half a century, and reversed the position which the court had held from the beginning until recently. The Constitution provides that "the General Assembly shall pass no special act conferring corporate powers," and in another section that "all laws of a general nature shall have a uniform operation throughout the State." Immediately after the adoption of the Constitution the Legislature classified the municipalities into cities of the first and cities of the second class—those having a population of more than 20,000 being of the first class, and the remainder with a population of over 5,000 being in the second class—incorporated villages, and incorporated villages for special purposes. Successive Legislatures subdivided these classes, and finally substituted a policy of isolation instead of classification, while the courts sanctioned many of the acts, but this "was done with reluctance and on the grounds of public policy." Recently the Supreme Court, in some minor cases, showed a disposition to check the progress of special legislation, and in the cases brought to oust the Police Board of Toledo and the entire municipal government of Cleveland, except the mayor, on the ground that the acts creating them were applicable to the respective cities only, a position was taken that left every municipality in the State without a legal government. In the decision made in the latter part of June the court declared the present classification of the municipalities of the State to be repugnant to the Constitution and that the entire municipal code of Ohio must be revised and brought into harmony with the fundamental law of the State. This was followed, four months later, with a decision in a school case which practically destroyed all the special school laws of the State and made necessary the enactment of a general school code as well as a general municipal code. In both in-

stances execution of judgment was suspended that the Legislature might have time to act.

The Municipal Code.—The new municipal code provides for the government of cities and villages. All municipalities of 5,000 and over are cities. All others are villages. The organization of a city includes a mayor, president of council, or vice-mayor, treasurer, solicitor, and auditor. The last-named official is elected for a three-year term. The others are elected for two-year terms. Part of the council are to be elected on a general ticket and the greater number from wards of a specified population. Councilmen are elected for two-year terms, but half of them are retired each year. The real government of the city is practically vested in two boards, the board of public service and the board of public safety. The latter has charge of the police and fire departments, and the former of all the other departments of public service. The board of public safety is to be bipartisan and composed of 2 or 4 members, as the council may determine. The appointment is vested in the mayor, subject to confirmation by two-thirds of the council. If not so confirmed, the Governor appoints. The board of public service, of 3 or 5 members, as the council may provide, is elected by the people on a general ticket for two-year terms. This body is given unchecked control, the power of the council being, with the exception of confirming the board of public safety, exclusively legislative. Civil service is expressly limited to the fire and police departments. In addition there is a board of health of 5 members appointed by the mayor, who is president of this board, and a bipartisan sinking-fund and tax commission of 4 members, also appointed by the mayor.

Political.—The Republican State Convention was held in Cleveland, May 28. The following ticket was nominated after a sharp contest: For Secretary of State, Lewis C. Laylin; Judge of Supreme Court, William B. Crew; Member of Board of Public Works, William Kirtley, Jr.; Dairy and Food Commissioner, Horace Ankeney. The platform adopted was of great length, but was almost wholly devoted to national affairs.

The Democratic State Convention was held at Cedar Point, near Sandusky, Sept. 3. The candidates, with 1 exception, were nominated by acclamation, there being 1 ballot for the office of Dairy and Food Commissioner. The nominations were: For Secretary of State, Herbert S. Bigelow; Judge of Supreme Court, Michael Donnelly; Member of Board of Public Works, Joseph J. Pater; Dairy and Food Commissioner, Philip H. Bruck. The platform—after a preamble in which "continued allegiance to the Democratic party of the nation" was declared, and "the principles laid down in the last national platform adopted at Kansas City, and faithfully and ably represented in the presidential campaign of 1900 by William Jennings Bryan," were reaffirmed and approved—dealt exclusively with State affairs, the several resolutions setting forth the principles of "home rule and just taxation," and pledging the party to the accomplishment of these purposes in municipal and State affairs.

The Socialist party held its State convention in Columbus, May 30, and nominated a full State ticket as follows: For Secretary of State, Max S. Hayes; Judge of Supreme Court, George P. Maxwell; Member of Board of Public Works, William C. Edwards; Dairy and Food Commissioner, George Flummerfelt. The platform called for municipal ownership, reduction of hours and increase of wages, governmental insurance of working people against sickness or accident, compul-

sory education, woman suffrage, and the initiative and referendum.

The Socialist-Labor party held its State convention in Cleveland, May 30, and nominated a ticket as follows: For Secretary of State, Theodore Adams; Judge of Supreme Court, Samuel Borton; Member of Board of Public Works, John R. Fraser; Dairy and Food Commissioner, William Garritty. The platform called for the recognition of no class but the laboring class, and denounced the present methods of capital. It said no good can come from a political party to the laboring classes except it be a revolutionary party.

The Prohibitionists put the following ticket in nomination: For Secretary of State, Andrew L. White; Judge of Supreme Court, Albert L. Talcott; Member of Board of Public Works, Samuel W. Dunlap; Dairy and Food Commissioner, George W. Mace.

The contest between the 2 leading parties was of unusual interest and had some novel spectacular features. It was regarded as a trial of strength between Mayor Tom L. Johnson, of Cleveland, who had dominated the Democratic Convention and directed the campaign, and United States Senator Marcus A. Hanna, of Cleveland, who held the same position toward the Republican Convention and campaign. Mayor Johnson visited all parts of the State with an immense circus tent and a red automobile, making addresses, in which he confined himself to State issues and almost wholly to the subject of unequal taxation and the under-assessment of quasi-public corporations. The peculiar feature of these addresses was the severity with which he scored Democratic as well as Republican officials for what he declared to be unfaithfulness to the public interests. Senator Hanna followed him over part of the route, scoring him for what the Senator asserted to be gross misrepresentations of the facts. The result of the campaign was the election of all the Republican candidates, Laylin's plurality being 90,465; Crew's, 93,939; Kirtley's, 95,209; Ankeney's, 86,135. For the head of the ticket the Republican vote was 436,171; the Democratic, 345,706; the Prohibition, 12,336; the Socialist, 14,270; the Socialist-Labor, 2,983.

OKLAHOMA, a Territory of the United States, organized in 1890; area, 38,715 square miles. The population in 1890 was 61,834; in 1900 it was 398,331. In 1902 it was estimated at 600,000. Capital, Guthrie.

Government.—The following were the Territorial officers during 1902: Governor, Thompson B. Ferguson (from Dec. 9, 1901); Secretary, William Grimes (from May 14, 1901); Treasurer, Cassius W. Rambo (from Oct. 1, 1901); Auditor and Superintendent of Public Instruction, L. W. Baxter; Bank Commissioner, Paul F. Cooper; Chief Justice of the Supreme Court, John H. Burford; Associate Justices, B. F. Burwell, Clinton F. Irwin, Bayard T. Hainer, Frank Gillette, James K. Beauchamp, and J. L. Pancoast; United States Marshal, William D. Fossett; Delegate to Congress, Dennis T. Flynn; his successor, B. S. McGuire, was elected Nov. 4. All are Republicans.

The chief executive officers of the Territory are appointed by the President. A Territorial election is held in November of the even-numbered years, when the voters elect a Delegate to Congress and members of the Legislature, which holds biennial sessions, beginning in January of odd-numbered years.

Finances.—The report of the Territorial Treasurer, on Nov. 30, showed a balance on hand of \$648,440.15; the total receipts during the year, \$1,426,900.19; total expenditures, \$778,460; the

interest on Territorial funds amounted to \$27,074.06; balance on hand Dec. 1, 1901, \$372,105.32; increase for 1902 of \$276,334.83. The total amount of warranted indebtedness on Nov. 30 was \$684,176.69; deducting the balance on hand in treasury would leave only \$35,799.39 indebtedness, or about 6 cents per capita. The year was the first in the history of the Territory in which the income from taxation was sufficient to pay the running expenses of the Government and a portion of the accumulated debt. During the year \$168,414.33 of warrants were redeemed; the interest paid on these was \$28,894.89. Territorial funds are deposited in banks which have been made depositories under authority of law. Funds are protected by securities required by law. Warrants were issued on the treasury for \$406,989.68. The delinquent Territorial tax, covering eleven years, amounts to \$232,597.55. The assessed valuation of the Territory is \$72,677,423. This amount represents only about one-fourth of the real value of the property when estimated on a cash basis, which would be about \$300,000,000.

Education.—The amount spent by the Territory from various school funds in the treasury in the year for educational purposes amounted to \$246,850.19; for two years past, \$465,828.61; for all other purposes in the two years, \$362,692.97. In the year 2,278 public schools were taught, with an aggregate enrolment of 116,971, and \$502,277.65 was paid to teachers. There were 1,802 pupils graduated from common schools. There was apportioned during the year among the counties, as a Territorial common-school fund, \$267,105.14. The fund for common schools arises from the leasing of Territorial school lands, and in the year the receipts amounted to \$614,905.55 for that fund.

The new building for the State University, at Norman, has been completed at a cost of \$90,000. The main building, completed several years ago, was burned recently, with but \$35,000 insurance. The total enrolment in 1902 was 359. The faculty consists of 30 members. A gymnasium, costing \$10,000, is under way. The geological department has reported on the geology and flora of the Territory, and is now collecting material for a report on gypsum and salt deposits. The university geologist has been designated a federal geologist.

The Agricultural and Mechanical College, at Stillwater, has resources amounting to \$53,000 annually; of this, \$37,500 comes from the Government out of the Hatch and Morrill funds; \$15,000 goes exclusively to the experiment station, solely for experimentation and the publication of results; the enrolment was 435, with 20 graduates. In the year \$45,000 was expended in additional buildings and equipment.

The Territorial Normal School, at Edmond, had an enrolment of 483. Three additional buildings have been necessary to accommodate the school's growth.

The Northwestern Normal, at Alva, had an enrolment of 593. It has an income of \$40,000 annually, and much new equipment has been added.

The Southwestern Normal School has been located at Weatherford, and bids are asked for the erection of the building, costing \$53,000.

The University Preparatory School, at Tonkawa, began its first year Sept. 1, with an enrolment of more than 200.

Throughout Oklahoma a system of separate schools is maintained.

The Colored Agricultural and Normal School,

at Langston, had an enrolment of 211. It is also partially supported from the Government Hatch and Morrill funds.

At Chillico the Government has an industrial school for Indian children, the attendance being about 400. Government schools for Indians are also maintained at Absentee, Arapaho, Cheyenne, Fort Sill, Kaw, Osage, Otoe, Pawnee, Ponca, Rainy Mountain, Cantonement, Red Moon, Riverside, Sauk and Fox, and Seger, with a total enrolment of more than 2,000.

There are also 4 mission Indian schools, with an enrolment of 225.

The fund for the School for the Blind amounts to \$7,193, remaining in the treasury inactive; the number of persons who would be beneficiaries of this fund is too small to warrant any attempt toward an institution for them.

Railroads.—In 1902 568 miles of railway were constructed in Oklahoma, the greatest number in any State of the Union for that year. Important extensions are being made by several roads. There were 1,413.23 miles of railroad returned for taxation in March; also 179 miles of side-tracks. The assessed valuation of railroad property amounted to \$6,339,462. The building of 5 railroads simultaneously into Guthrie is an illustration of the amount of work that is being done. Twenty-three railroads were chartered in Oklahoma in 1902, with capital stock exceeding \$25,000,000.

Commerce.—There were shipped out of the Territory in the year 6,442 car-loads of cattle, 18,593 of wheat, 210 of corn, 308 of oats, 65 of castor-beans, 2,252 of hogs, 700 of cottonseed, 1,209 of hay, 4,842 of flour, 391 of horses and mules, 1,846 miscellaneous, and 164,653 bales of cotton. The imports amounted to 1,091 car-loads of farm machinery, 1,862 of flour, 2,883 of home-seekers' goods, 7,225 of coal. Oklahoma annually exports thousands of car-loads of flour and wheat to Europe and South Africa.

Live Stock.—There were returned for taxation in March 280,939 horses, 58,142 mules, 959,816 cattle, 38,308 sheep and goats, and 189,218 swine.

Population.—The assessors' returns for 1902 show Oklahoma to have 541,480 population, an increase of 153,149 over 1901. Estimates now place the population at 600,000.

Public Lands.—This year 3,068,502 acres of public lands were homesteaded, leaving 3,777,883 acres still open for settlement under the homestead laws; more than 3,000,000 acres of that are in Beaver County. Congress will be asked to extend the free-home measure over all these lands.

All the 2,055,000 acres of school lands, the property of the Territory for the support of schools, are now leased, the rentals for 1902 amounting to \$300,000.

Agriculture.—The wheat-crop of 1902 amounted to 30,000,000 bushels; corn, 65,000,000 bushels; cotton, 10,000,000 bales; potatoes, 150,000 bushels; melons, 170,000 crates; peanuts, 50,000 bushels; oats, Kafr-corn, sweet potatoes, broom-corn, alfalfa, sorghum, timothy, clover sugar-beets, and all manner of fruits are grown in abundance.

Farm Lands.—There were listed for taxation in 1902 6,344,662 acres of farm lands, an increase of 1,792,815 over 1901.

Resources.—The Wichita mountains produce copper, lead, zinc, gold, silver, magnesia, calcium, cobalt, nickel, manganese, barium, antimony, arsenic, aluminum, sulfur, and oil. Extensive oil developments have been made at Granite and in

the Osage Indian reservations; immense deposits of salt are found in Blaine, Woods, and Woodward Counties, where are several Government saline reserves; granite is found in great beds near Granite and in Blaine County; and cement beds are inexhaustible in the Keechi hills and near Sterling. The oil strata are heavily charged with gas. Plants for developing mineral products have been erected at Granite, Wildman, Lawton, Okeas, and Bartlesville, Indian Territory, near the Osage reservation.

Portions of Oklahoma are heavily timbered with oak, elm, walnut, pecan, hickory, sycamore, cottonwood, ash, cedar, etc. Within the year walnut timber has become one of the leading products of the Territory. Oklahoma furnishes a large part of the world's pecan-crop.

Indians.—The number of Indians in Oklahoma is 12,893, a decrease of 26 from 1901. Nearly 300 Arizona Apaches are held at Fort Sill by the Government as prisoners of war. Numbered by tribes, there are 1,800 Osages, 220 Kaws, 557 Poncas, 370 Otoes, 54 Tonkawas, 638 Pawnees, 479 Sauks and Fox, 91 Iowas, 1,722 Pottawatomies, 509 Shawnees, 2,808 Cheyennes and Arapahoes, 1,134 Kiowas, 1,407 Comanches, 164 Apaches, and 940 Wichita and affiliated tribes. The Osages are the only Indians unallotted at present. They own 1,400,000 acres, and the annual interest on their fund in the Government Treasury is \$150,000, making them the richest people on earth, the per capita wealth being about \$18,000.

Cities.—There are 20 cities of the first class in Oklahoma, with a population 36 per cent. greater than in 1900. The valuation of town property returned for taxation in 1902 was \$11,629,198.

Manufactures.—There are 10 cottonseed-oil mills and 250 cotton-gins in Oklahoma; 2 cotton compresses; 228 grain-elevators, with a total capacity of 2,857,000 bushels; 48 flouring-mills, with a total daily capacity of 8,760 barrels. There are 231 manufactories of all kinds in the Territory.

Penitentiary.—Under contract the Oklahoma convicts are cared for by the State of Kansas at 35 cents each daily. There were 287 convicts from Oklahoma in the Kansas prison the last week in December. The Governor has asked an annual appropriation of \$40,000 for this purpose for 1903-04.

The Insane.—Under contract the insane of the Territory are cared for by the Oklahoma Sanitarium Company, at Norman, at a cost of \$200 per annum for each patient; the past year cost the Territory \$65,000 for this purpose. The average number of patients was 299.

Deaf-Mutes.—These are cared for and educated under contract with H. C. Beamer, at Guthrie, at a cost for the year of \$14,206.48. The highest attendance in the year was 60.

National Guard.—The Oklahoma National Guard consists of 12 companies of infantry, 1 battery, and 1 troop of cavalry, with a total strength of 825 men. The annual encampment was at Kingfisher in August.

Banks.—The consolidated report of the State banks at the close of business on Dec. 13, 1902, showed 202 banks reporting, a total of 206 doing business in the Territory; average reserve held, 50 per cent.; loans and discounts, \$4,913,095; overdrafts, \$360,410; stock and bonds, \$212,541; due from banks, \$2,926,689; cash on hand, \$816,233; cash items, \$197,356; furniture and fixtures, \$352,474; real estate and mortgages, \$22,378; total resources, \$9,801,399; capital stock paid in, \$1,647,932; surplus, \$186,432; undivided profits, \$403,138; deposits, \$6,701,334; demand certifi-

cates, \$589,505; cashier checks outstanding, \$39,074; due to banks, \$153,314; bills payable, \$59,721; bills rediscounted, \$20,743. The number of national banks is 66; average reserve held, 18.47 per cent.; total deposits in national banks, \$11,028,635.23; average deposit per capita in national banks, \$22; average deposits in both national and Territorial (State) banks, \$37.67; total deposits in all banks in Oklahoma, \$17,729,969. The excessive amount of deposits held by the 66 national banks over the amount held by the State banks may be accounted for to a large extent from the fact that many national banks of the Territory are used as reserve agents by the Territorial (State) banks.

Statehood.—Oklahoma is claiming eligibility to statehood. The claims are based on population, education, and wealth. The Republican party in Oklahoma made the campaign of 1902 on the issue of statehood for Oklahoma alone and at once. The Democratic party made the issue single Statehood for Oklahoma and Indian Territory. The Indian Territory is alleged to be unfitted for statehood at this time, because the lands are still largely held in common by the Indian tribes. Legislation looking to statehood in the Fifty-seventh Congress was handicapped by the conditions that grew out of the uniting of the remaining Territories in one bill. There were objections against Arizona and New Mexico, which militated against Oklahoma. Recognizing that ultimate single statehood with Indian Territory is inevitable, the advocates of immediate statehood for Oklahoma are not radical in their demands.

Political.—Gov. William M. Jenkins retired at the close of 1901, and was succeeded by Thompson B. Ferguson, an original Oklahoman, of those who made the run for homes. The "home-rule" idea has been followed by the Government in the appointment of all officers in the Territory. Congress created two more places on the Oklahoma Supreme bench, and Associate-Justice M'Attee retired. Associate-Justices Gillette, Beauchamp, and Pancoast (all Oklahomans) were nominated by the President. C. H. Thompson resigned as United States marshal, and was succeeded by another original Oklahoman, William D. Fossett.

OREGON, a Pacific coast State, admitted to the Union Feb. 14, 1859; area, 94,560 square miles. The population was 13,294 in 1850; 52,465 in 1860; 90,923 in 1870; 174,768 in 1880; 313,767 in 1890; and 413,536 in 1900. Capital, Salem.

Government.—The following were the State officers in 1902: Governor, Theodore T. Geer; Secretary of State and Auditor, Frank I. Dunbar; Treasurer, Charles S. Moore; Attorney-General, R. D. N. Blackburn; Superintendent of Public Instruction, J. H. Ackerman; Adjutant-General, C. U. Gantenbein; Chief Justice of the Supreme Court, Charles E. Wolverton; Associate Justices, Robert S. Bean and Frank A. Moore; Clerk, J. J. Murphy—all Republicans.

The term of the State officers is four years, and they are elected in June of even-numbered years—alternating with the presidential elections. In June of all the even-numbered years members of Congress, the Legislature, and a justice of the Supreme Court are elected. The Legislature holds biennial sessions, beginning in January of odd-numbered years, and continuing forty days. It consists of 30 Senators, elected for four years, and 60 Representatives.

Finances.—The valuation of property for taxation at the end of 1902 was \$150,000,000. The State tax levy amounted to 6.51 mills. Hereafter

the taxes will be assessed by the several counties at a ratio fixed by law.

The receipts of the treasury for 1901 were \$2,867,746.60; disbursements, \$1,889,134.64; balance Dec. 31, \$828,297.25.

The Treasurer's report for the six months ending June 30, 1902, gives the receipts for that time, including the balance at the close of 1901, as \$2,031,534.62; disbursements, \$762,269.32; balance July 1, 1902, \$1,269,265.30. The receipts of the general fund were \$633,696.32; disbursements, \$426,832.92. The receipts of the common-school fund were, principal, \$380,458.08; interest, \$119,909.98; disbursements from the principal, \$244,706.38; and from the interest, \$6,189.54. The other principal item, which marked a considerable increase over the income from the same source of the preceding year, was \$15,133.55 added to the 5-per-cent. United States land-sale fund.

The Treasurer's report covering the six months ending Dec. 30, 1902, gave the receipts for that period, including the balance on hand July 1, as \$2,135,998.72; disbursements, \$1,013,202.61. The balance on hand Jan. 1, 1903, was \$1,122,796.11, of which \$234,687.76 was in the general fund and \$724,772.25 in the common-school fund, the money in the general fund being sufficient to pay all warrants up to the time of the receipt of the spring taxes. The receipts of the general fund in the second half-year were \$341,137.98; disbursements, \$396,084.40. The common-school fund receipts were, principal, \$351,197.05, interest, \$117,721.04; disbursements from the principal, \$323,300.04; and from the interest, \$220,901.94.

Resources and Products.—An estimate of the increase of wealth accruing to the State from five of its principal industries—lumber, wheat, wool, hops, and salmon—reaches \$25,000,000. This amount, together with the results from other smaller industries, marks 1902 as the most prosperous year in the history of the State.

A report on the forests by Henry Gannett, of the Geological Survey, estimates the timber in the State to be 213,398,000 feet, board measure, an average stand per acre of timbered land of 12,200 feet. A wide difference exists between the sections west and east of the crest of the Cascade mountains, the former being 17,700 feet per acre and the latter but 4,700 feet. Red fir constitutes 66 per cent. of the Oregon timber, while of pine, including the yellow and sugar varieties, there is 18 per cent.; of spruce, 5 per cent.; hemlock, 5 per cent.; and cedar, 2 per cent. The report gives a startling estimate of the loss sustained by the State through forest fires. The areas of burned timber (not including those of 1902) comprise not less than 6,095 square miles, where approximately 54,000,000,000 feet of timber has been destroyed. The burned sections west of the Cascades, which are well watered, are in some stage of reforestation. Other sections, burned from twenty-five to fifty years ago, bear no vegetation larger than brush and ferns.

No authoritative report of the lumber-cut of 1902 has been published, but a conservative estimate places the cut at 1,000,000,000 feet, valued approximately at \$10,000,000.

Statistics published by the Department of Agriculture of the United States giving the acreage, production, and value of the principal farm-crops of the United States in 1902, give the following for Oregon: Of winter wheat, from an acreage of 398,845, the production was 8,774,590 bushels, with a total value of \$5,878,975. Spring wheat—acreage, 378,532; production, 6,737,870 bushels; total value, \$4,514,373. Oats—acreage, 281,955; production, 8,092,108 bushels; total value, \$3,

317,764. Barley—acreage, 281,955; production, 8,092,108 bushels; total value, \$3,317,764. Corn—acreage, 17,045; production, 398,853 bushels; total value, \$263,243. Rye—acreage, 11,026; production, 147,748 bushels; total value, \$107,856. Potatoes—acreage, 35,724; production, 3,679,572 bushels; total value, \$2,023,765. Hay—acreage, 343,537; production, 700,815 tons; total value, \$5,242,096. Flaxseed—acreage, 2,300; production, 15,640 bushels; total value, \$19,081.

On June 1, 1900, the farms of the State numbered 35,837, and were valued at \$132,337,514. Of this amount 14.5 per cent. represents the value of buildings and 85.5 per cent. the value of land and improvements other than buildings. The number of farms in 1900 was 40.4 per cent. greater than in 1890, while the gain in acreage was 45.8 per cent. The value of all live stock on farms and ranges June 1, 1900, was \$33,917,048, of which 32.6 per cent. represents the value of meat cattle other than dairy cows; 25.5 per cent. that of horses; 22.3 per cent. that of sheep; 12.1 per cent. that of dairy cows; 3.1 per cent. that of swine; and 4.4 per cent. that of all other live stock.

Increase was reported in the dairy industry, the production of milk showing an increase of 94 per cent., the quantity of butter increasing 69.4 per cent., and that of cheese 75.9 per cent. The production of wool has gained 83.8 per cent. in ten years, the improvement in the grade of sheep being shown in the increase in the average weight of fleeces from 6.3 pounds in 1890 to 8.6 pounds in 1900. The increases in the acreage devoted to the several cereals in the last decade were: Wheat, 57.9 per cent.; oats, 19.5 per cent.; buckwheat, 60.8 per cent.; barley, 60.1 per cent.; rye, 47.4 per cent.; and corn, 40.4 per cent. Since 1890 the total number of orchard trees in the State has increased from 1,757,893 to 5,314,232. Of this increase, 49.8 per cent. has been in plum- and prune-trees, and 32.2 in apple-trees. Small fruits, vegetables, and sugar-beets showed a satisfactory increase.

In 1900 15,434 acres devoted to hops produced 14,675,577 pounds. The product of hops for 1902 was unofficially estimated at 80,000 bales, which would add \$2,500,000 to the wealth of the State.

The salmon product of Columbia river and the coast streams for 1901 amounted to 21,123,739 pounds. Of this amount, Columbia river, State of Oregon side, yielded 16,752,121 pounds. The waters of the State also yield sturgeon, shad, smelt, catfish, tomcod, bass, herring, flounders, perch, and carp. Of those species, the product for 1901 amounted to 572,990 pounds. The yield of oysters, clams, and crawfish was 837,550 pounds.

The growth of manufacturing industries along the rivers and the attention given to land irrigation has resulted in the building of barriers, dams, and other obstructions that prevent the salmon from ascending the rivers to their spawning-grounds, and restrict the feeding areas of the young fish, which remain several months in fresh water after being hatched.

The estimated value of the salmon pack for 1902 was \$2,500,000.

The fruit-crop for 1901 was the best in the history of the State, and was valued at \$2,375,000; that of 1902, falling somewhat below the high mark, still yielded \$2,239,000. Apples and prunes were the largest and most valuable products, each yielding more than \$800,000. The finest Oregon fruits are shipped to the Atlantic States, England, and France. Large sales of prunes were made this year to French buyers, owing to the almost total failure of the crop in France.

The Food and Dairy Commissioner's biennial report shows the value of the butter and cheese output in 1902 to be \$1,897,000. Of creamery butter 4,000,000 pounds were produced; 3,500,000 pounds of dairy butter; and 2,225,000 pounds of cheese. The output has increased 50 per cent. in two years. Cheeses are sold in California at an advance of 3 to 5 cents over the native product. Butter is sold along the Alaskan coast. Economical administration of the department resulted in a saving of \$1,500 out of the \$7,800 appropriated by the Legislature.

At the end of October approximately 10,000 tons of beets had been cut, and the sugar product amounted to 23,000 sacks, with a further product of 2,000 sacks made from brown sugar. This yields 2,500,000 pounds of high-grade sugar.

In May \$15,113.55 were disbursed to the various counties of the State, this amount being the 5-per-cent. fund derived by the State from the Government in the sale of public lands within the State for the year ending June 30, 1901. The division of the fund is made in proportion to the respective acreage of the counties. Multnomah County, with one-fourth the population of the State, received the smallest amount, only \$69.90, since its area is but 281,920 acres.

Progress in manufacturing is noted by C. H. McIsaac, secretary of the Manufacturers' Association, who estimates the value of goods made in Oregon in 1901 to be about \$60,000,000. Portland manufactures most of the furniture for the Pacific-coast towns. The value of the output of woolen-mills in 1901 was more than \$1,000,000. The ship-building industry has doubled in ten years. Exports of sashes, doors, and blinds reached the value of \$1,000,000 in 1901.

The people of western Oregon are giving increased attention to grazing, believing that their section is better adapted for the production and maintenance of live stock than for either fruit-growing or general farming. The shortness of the season does not afford the farmer time to develop his crops, and makes it difficult for him to compete with sections of the country where conditions are more favorable. The plentiful rains which last late in spring and come early in autumn, provide a forage crop ample for the maintenance of large herds. The recent rapid growth in the dairy industries and the production of beef and pork for exportation attest the wisdom of this change.

The output of gold in Oregon in 1902 amounted to \$1,860,465; that of silver, \$63,600.

Insurance.—The annual report of the Secretary of State as *ex officio* Insurance Commissioner, issued on April 1, showed that there were doing business in Oregon 59 fire and marine, 35 life and accident, 6 plate-glass, and 2 steam-boiler insurance companies, and 9 surety companies. Under the law requiring the payment of a 2-per-cent. tax on net premiums, \$33,988.40 were collected. Licenses amounted to \$5,927.36. Prior to 1901 the receipts from insurance companies went into the common-school fund, but an act of the Legislature of that year directed that this money be turned into the general fund.

Education.—In 1902 there were 138,466 children of school age in the State, an increase of 2,648 over the previous year: The number enrolled in the public schools was 100,659, an increase in one year of 2,914. The total enrolment for 1902 at the State Agricultural College, at Corvallis, was 488, an increase of 52 over the previous year. Of this number, 29 students come from other States and countries. Portland had about 750 more school-children in 1902 than in

1901; the number of pupils registered Nov. 8 was 11,799.

A statement from the Secretary of State shows that Oregon has raised in taxes for the State University and the Agricultural College in the past fourteen years \$709,001.32; in addition to this, \$226,359.18 accruing from the interest fund gives a total of \$935,360.50, as the cost of these institutions. The amount raised by taxes in 1901-'02 was \$183,717.08.

A scarcity of teachers was reported by the Superintendent of Education, owing to the fact that teachers' wages had not kept pace with the increased wages in other occupations. Young men particularly have abandoned teaching in the past few years. The average wage of male teachers is \$47.58 a month; of female, \$37.61 a month. These amounts are an increase of a little less than \$2 over 1901, but the cost of living has increased in a higher proportion.

The illiteracy statistics of the Census Bureau shows that 99.58 per cent. of the children of Oregon between ten and fourteen years of age were able to read and write in 1900. This places Oregon third in the Union in this respect.

Indian-War Veterans.—The veterans of the Indian wars of 1855-'56 have petitioned the Legislature for back pay to the amount of \$300,000, asking that bonds be issued to that amount on the credit of the State. The Constitution specifies that the "Legislative Assembly shall not loan the credit of the State, nor in any manner create any debts or liabilities which shall, singly or in the aggregate, with previous debts or liabilities, exceed the sum of \$50,000, except in case of war, or to repel invasion, or to suppress insurrection." It is maintained that this provision of the Constitution is inapplicable in the present case, since the obligation to the volunteers was assumed under Territorial law, and the Federal Constitution prohibits any State making a law that shall impair the validity of contracts. The contrary argument maintains that, if the obligation is not already outlawed by the statute of limitations, it is binding upon the National Government, since Oregon was a Territory and not a State when the debt was incurred, and the Government has already met somewhat less than a fourth part of the pay offered to volunteers, which was at the rate of \$2 a day. The petition, which has received signers in all parts of the State, assumes that the United States will redeem the \$300,000 bonds.

Rivers and Harbors.—At the first session of the Fifty-seventh Congress the bill passed providing for work on rivers and harbors contained an appropriation of \$2,589,000 for Oregon and Columbia river. The annual report of the Chief of Engineers relative to Oregon river and harbor works contains the following as most important among its items: The amounts expended on the projects of 1884 and 1893 toward the improvement of Columbia river at its mouth was \$1,968,753.14; that expended on the present project \$233,474.47, making a total of \$2,202,227.61 to June 30, 1902. Work carried on the past year has been done with the view to facilitating early operations under additional appropriations, such as repairing the washed-away parts of the jetty tramway and making surveys to determine the changes in the course of the river channel.

Two hundred and twenty-five thousand dollars was appropriated toward the "Portland-to-the-Sea" project, which proposes a 25-foot channel to the sea by construction of controlling works and dredging. The estimated cost is \$2,796,300, with \$175,000 as the cost of a new dredge and

accessories, and \$50,000 for maintenance. Dredging at various shoal places was the only work done in the year. The channel depth between Portland and Astoria has been increased 5 feet, with good navigable width. The maximum draft that could be carried on June 30, 1902, at mean low-water over the shallowest part of the river was about 19 feet.

The Navigation Committee of the Chamber of Commerce of Portland reported in January the unsatisfactory condition of the pilot and towage service at the mouth of Columbia river. The pilotage is all done by 9 men, who pool their earnings and control a pilot schooner, which they monopolize. They pay 10 per cent. of the pool's earnings to the Oregon Railroad and Navigation Company for transportation. The rate on all tonnage that passes the bar, whether piloted or not, is compulsory and is fixed by law. The chamber asserts that the inefficiency of the service would be corrected by competition, and recommends that the pilot commissioners grant licenses to all applicants who prove themselves competent, and also appoint a competent man to act as superintendent of pilots.

Fire and Frost.—Destructive forest fires occurred in September in Oregon and Washington, involving a total loss of \$12,767,100 as estimated by a field agent of the United States Bureau of Forestry. Of this amount, \$3,910,000 was sustained by Oregon. The estimate includes the value of timber, farm property, and sawmills and their products which were destroyed. Eighty-six families were made homeless and 200 others suffered partial losses. Farm property worth \$315,000 and sawmills aggregating \$149,000 were burned. The burned area covered 170,000 acres, and 2,124,000 feet of standing timber was destroyed. Unextinguished camp-fires of berry-pickers and hunters, the careless burning of slashings, and in one instance the sparks from a locomotive, were the causes. The Cascade forest reserve, which is patrolled by rangers, escaped damage.

Severe frosts occurred in February, with immense damage to winter wheat. Umatilla County suffered to the extent of 100,000 acres killed, necessitating reseeding.

Legal Decisions.—In a suit to restrain public officers from collecting interest as part of a claim against a suspended bank where public funds had been deposited, the Supreme Court ruled that it is a felony for a public officer to loan public funds, with or without interest, but this does not inhibit a mere deposit in a bank for safe-keeping, the money being at all times subject to order. Where funds so deposited are lost by the failure of the bank, the claim against the bank becomes a personal one when the officer makes the loss good from his personal funds, and until this is made good the claimant has no right to interest.

State Fair.—The fair of 1902 was the most successful on record of these exhibitions, promoting the live-stock industry as well as other agricultural work. The receipts were \$29,240.56; the disbursements, \$26,282.79; leaving a net profit of \$2,957.77. After paying \$1,530.54 for improvements and \$1,086.43 on old outstanding warrants, the treasury had \$393.60.

Scalp Bounty.—Between March, 1901, and June, 1902, the appropriation of \$50,000 by the Legislature of 1901 for the payment of coyote-scalp bounties was exhausted, and additional claims to the amount of \$13,965 were audited and allowed. At the present rate, the bounty law will cost the State \$117,197 in two years. The law requires the counties to pay one-third of the

bounty; but Baker County decided to discontinue the payment of the bounty on the ground that the destruction of the coyote removes the deadly enemy of the jack-rabbit, whose ravages to crops are worse than those of the coyote.

Public Lands.—In the first nine months of 1902 the receipts from payments on State lands amounted to \$264,636.21. Of this amount, \$240,937.85 resulted from the sale of school lands alone; the remaining \$23,698.36 was received from sales of land taken on foreclosure of mortgage loans from the school fund. Nearly all the school land disposed of is sold on the instalment plan, one-fifth of the purchase price being paid down, the remainder drawing interest at the rate of 6 to 8 per cent.

Two classes of public land exist in Oregon—Government land and State land. Government land is further classified as agricultural, timber, desert, or mineral, with specific terms for the acquisition of each; State land, though similar to the Government land, is acquired at the uniform rate of \$1.25 an acre.

About 6,000 square miles in the Strawberry and Blue mountain regions of eastern Oregon have been temporarily withdrawn from settlement or entry of all public lands, with a view to their ultimate creation into a forest reserve. This action is taken not only to preserve the timber, but to secure an adequate water-storage and conservation in view of the increasing number of irrigation projects.

Indians.—The Indian appropriation bill passed by Congress in February contained \$104,650 for the school at Chemawa, of which \$91,850 goes to the support of the 550 pupils, \$1,800 for the superintendent's salary, \$6,000 for sewerage, and \$5,000 for general repairs.

The Indians of the Umatilla reservation refused to obey the orders of Indian Commissioner Jones that they should cut off their long hair and lay aside their brilliant blankets for the clothes of the whites, looking upon the order as an infringement of their legal rights. They cite the case of an Indian who a few years ago recovered \$200 damages for the loss of his hair, cut by order of the Court of Indian Offenses, as a penalty for drunkenness.

Labor Day.—The first Labor Day proclamation in the history of Oregon was issued by Gov. Geer, Aug. 13.

Political.—The election of State officers in June resulted in a Republican victory for all nominees but that of Governor. In this case, George E. Chamberlain, the choice of the Democrats, won by a narrow majority. The other officers elected are as follow: Supreme Judge, Robert E. Bean; Secretary of State, Frank I. Dunbar; State Treasurer, Charles S. Moore; Superintendent of Public Instruction, J. H. Ackerman; Attorney-General, A. M. Crawford; State Printer, J. W. Whitney; Representatives to Congress, Thomas H. Tongue and J. N. Williamson.

The vote on a proposed amendment to the State Constitution, providing for the initiative and referendum, was carried by a vote of 62,024 in favor to 5,668 opposed.

The platform adopted by the Republicans at their convention, April 2, contains the following planks: A demand and insistence upon the passage by Congress of the Mitchell-Kahn Chinese exclusion bill; a recognition of the right of labor to organize and combine for mutual protection under the law, and a recommendation that the Legislature enact all necessary legislation to protect labor in all its rights and privileges, with a further recommendation that Congress create a

department of labor in charge of a secretary, with a seat in the Cabinet; a demand that the next Legislature pass a law placing all public officers of the State upon reasonable salaries, not to be increased during incumbent's term of office, and a prohibition of any further compensation or fees; a call for the creation of a mining bureau to promote the development of the mineral resources of the State; a recommendation to Representatives and Senators to endeavor to secure the speedy opening of Columbia river between The Dalles and Celilo, the clearing of all obstructions in the river from its mouth to the head of navigation, and the improvement of coast harbors and streams within the State; a protest against the entertainment of any plan, scheme, or proposition for leasing the public domain either to individuals or to corporations, believing that the public lands should be held in trust for the use and benefit of all the people under the homestead laws; a request for legislation to foster and support the fishing industries; a demand and insistence upon the passage by Congress of the Grout oleomargarine bill; a declaration of approval of the primary law passed by the Legislature in 1901, and a request that it be extended so as to apply to primary elections in all election precincts throughout the State; a recommendation that United States Senators be elected by popular vote.

The convention passed resolutions urging upon Congress immediate action on the bill to pension Indian war veterans of Oregon and Washington.

The recent growth of the Socialists as a party may be seen by a comparison of the vote for President in 1900 with the vote this year for Secretary of State, viz., Socialist vote in 1900, 1,466; in 1902, 5,589. The Prohibition vote increased from 2,536 in 1900 to 4,935 in 1902.

The plank relating to salaries of State officers brings again into notice a matter that has been agitated for a number of years at each succeeding election. The Constitution of the State, framed when there were hardly 50,000 people in Oregon, fixed a limit to the salaries of officials. The salary of the Governor, for instance, is \$1,500. In recent years no men could be found to serve for the small salaries named by the Constitution, and these amounts have been increased by allowances and fees, passed by successive Legislatures as compensation for "extra services." The Governor actually receives \$4,250 per annum, and for clerical assistance he has \$1,200; his secretary receives \$1,800. The new Governor, in order to force the Legislature to fix reasonable salaries for all officers of the State, threatens to veto any measure providing for fees or perquisites; and, moreover, insists that, should the Legislature not repeal the laws now in force which give fees to State officers, he will take whatever may be necessary to prevent the collection of the money allowed by law in violation of the Constitution.

The initiative and referendum amendment to the Constitution was passed at the November election. Every bill for an act must be introduced with the words "Be it enacted by the people of the State of Oregon." If the bill meets the approval of the people, it may stand as law after the Legislature enacts it; if they disapprove, they may reject it under the referendum clause of the amendment. Moreover, should the Legislature fail to pass any law that the people want, they may enact it themselves at the polls. The same power which enables the people to pass a law also enables them to amend the Constitution independently of Legislative action. By the

amendment just voted, it only requires that any proposed amendment shall receive, in order to become a part of the Constitution, a majority of all the votes cast in reference to it, instead of, as formerly was the case, a majority of the votes cast at the election. The minority rule in cases of the application of the referendum, for it requires but 5 per cent. of the voters to compel the submission of a measure enacted by the Legislature. The consequence is, that an act which really meets with favor from a majority of the voters may be held up as long as eighteen months because 5 per cent. of the voting population wish to express their opposition.

PENNSYLVANIA, a Middle State, one of the original thirteen, ratified the Constitution Dec. 12, 1787; area, 45,215 square miles. The population, according to each decennial census, was 434,373 in 1790; 602,366 in 1800; 810,091 in 1810; 1,047,507 in 1820; 1,348,233 in 1830; 1,724,033 in 1840; 2,311,786 in 1850; 2,906,215 in 1860; 3,521,951 in 1870; 4,282,891 in 1880; 5,258,014 in 1890; and 6,302,115 in 1900. Capital, Harrisburg.

Government.—The following were the State officers in 1902: Governor, William A. Stone; Lieutenant-Governor, J. P. S. Gobin; Secretary of the Commonwealth, William W. Griest; Secretary of Internal Affairs, James W. Latta; Treasurer, James E. Barnett; Auditor-General, E. B. Hardenbergh; Attorney-General, John P. Elkin; Adjutant-General, Thomas J. Stewart; Superintendent of Public Instruction, N. C. Schaeffer; Insurance Commissioner, Israel W. Durham; Commissioner of Banking, Frank Reeder; Secretary of Agriculture, John Hamilton; Commissioner of Forestry, J. H. Rothrock; Dairy and Food Commissioner, Jesse Cope; Zoologist, H. T. Fernald; Factory Inspector, James Campbell; Veterinarian, Leonard Pierson; Librarian, George E. Reed; Superintendent of Public Buildings and Grounds, T. L. Eyre; Chief Justice of the Supreme Court, J. B. McCollum; Associate Justices, J. Hay Brown, James T. Mitchell, William P. Potter, John Dean, D. Newlin Fell, and S. L. Mestrezat; Prothonotaries, Charles S. Greene, William Pearson, and George Pearson; Justices of the Superior Court, C. E. Rice, J. A. Beaver, William D. Porter, George B. Orlady, P. P. Smith, William W. Porter, and John I. Mitchell. N. C. Schaeffer and Judges McCollum and Smith are Democrats; the others are Republicans.

The Governor, Lieutenant-Governor, and Secretary of Internal Affairs are elected in even-numbered years for a term of four years; the Treasurer in odd-numbered years for a term of two years. The Secretary of the Commonwealth, the Attorney-General, and the Adjutant-General are appointed by the Governor at pleasure, and the Superintendent of Public Instruction for four years. The Legislature holds biennial sessions, beginning in January of odd-numbered years. Senators are elected for four years, and Representatives for two years.

Finances.—In September, 1901, the Treasurer reported a balance in the general fund of \$10,789,956.54. The public debt, Dec. 1, was \$6,815,299. The appropriations for 1900 and 1901 amounted to \$10,617,765.78, and for 1901 and 1902 to \$13,975,877.46. The receipts at the treasury from Nov. 1, 1900, to Nov. 1, 1901, were \$17,727,432.46; total expenditures, \$16,669,399.05, leaving a balance, including the general and sinking funds, of \$7,708,022.18. The amount collected and expended for the support of the poor was \$2,946,732; construction and repair of streets and roads, \$10,936,410; maintenance of common schools, not including the money received from the State treasury,

\$13,001,441; for other purposes, \$30,856,147; total amount of taxes collected for all purposes, \$58,740,731. Personal property yielded a tax of \$3,608,415.

Valuation.—The value of all real estate Nov. 30, 1901, was \$3,218,593,792, including both taxable and exempt from taxation, the valuation of real estate exempt from taxation being \$527,461,732. The aggregate value of all property subject to taxation for county purposes was \$3,063,047,023, and the amount of tax derived therefrom \$23,316,707. The aggregate value of property subject to State taxation was \$761,337,664, from which the State derived a tax of \$3,055,208.

Education.—In the year ending June 2, 1902, the number of pupils enrolled in the State was 1,163,509; teachers employed, 30,640; directors in charge of schools, not including Philadelphia, 15,289; graded schools, 17,162; superintendents, 139. The average daily attendance was 871,958; wages paid to teachers, \$11,831,871.38; cost of text-books, \$825,477.77; total expenditures, \$23,027,678.82; State appropriation for the school year, \$5,550,000. There was a net increase of 17 districts, 537 graded schools, and 1,205 female teachers, with a decrease of 609 male teachers. The increase in the number of pupils was 1,985. In the State normal schools the elementary course has been extended from two to three years. The compulsory-education law of 1901 appears to be more effective than any similar law previously enacted in the State. In February the twenty-third anniversary and fourteenth commencement of the Carlisle Indian Industrial School were held. The school had an enrolment of 1,050, of whom 355 were on farms in the State. The graduating class included 42 boys and girls.

Building and Loan Associations.—For 1900 and 1901 the number of building and loan associations in Pennsylvania was returned as 1,115, with a total membership of 281,980, and assets amounting to \$110,493,510. For 1901 and 1902 the number of associations is given as 1,168; membership, 299,573; assets, \$110,817,281. Pennsylvania has a far greater number of these associations than any other State in the Union, Ohio, which ranks next, having 757.

Banking.—The annual report of the Banking Department for 1901 shows the number of State banks to have been 107; trust companies, 155; savings institutions, 16; total, 278, an increase of 50 since 1900. The increase for the year of cash on hand and due from banks and bankers was \$13,373,072.92; increase of loans, \$54,233,104.56; increase of investment securities, \$34,885,183.41; increase of capital, \$15,135,580.17; increase of surplus, \$11,476,022.82; increase of undivided profits, \$5,867,757.85; increase of deposits, \$76,093,989.36. The amount of trust funds invested was \$483,819,432.04; uninvested, \$12,082,631.97; total, \$495,902,064.01. The average of deposits to each depositor, for all institutions, was \$516.03; the number of deposit accounts was 836,319.

Insurance.—From the annual report of the Insurance Commissioner it appears that in 1901 the companies of the State issued 9,951 policies, insuring \$26,198,743 upon the lives of residents of the State, an increase over the preceding year of 471 policies and \$2,635,772 insurance. Companies of other States issued 654,415 policies in this State, insuring \$206,292,735.12, making an aggregate by all companies of 664,366 policies, insuring \$232,491,478.12, an increase of 17,942 policies and \$13,763,303.12 insurance. The total of losses paid by all life companies in this State in 1901 was \$14,161,749.61, of which home companies paid \$1,797,864.16, and companies of other States \$12,-

363,885.45. Pennsylvania companies had in force at the close of 1901 200,850 policies, insuring \$491,844,590, against 178,624 policies, insuring \$446,206,264 at the close of the year 1900, and a total net premium income of \$18,795,725.67, against \$17,148,353.82 in 1900. The total income from all sources was \$24,064,016.84 in 1901, against \$21,607,397.38 in 1900. The entire expenditures of Pennsylvania life companies in 1901 were \$15,175,770.84, of which \$10,341,534.12 was paid to policyholders. The entire income of assessment life companies of Pennsylvania for 1901 was \$149,169.89. The expenditures were \$134,491.33. The assessment companies of other States doing business in this State, and reporting, showed in 1901 a total income of \$18,910,871.70 and expenditures amounting to \$18,868,669.80. The fire and marine companies in 1901 numbered 32, with assets of \$45,490,199; liabilities, \$25,204,980; capital, \$10,902,875; surplus, \$9,382,334; total receipts, \$21,901,647; losses paid, \$11,632,381; dividends paid, \$1,183,581; total disbursements, \$20,779,589; risks in force, \$2,852,180,526.

Railroads.—The annual report of the president of the Pennsylvania Railroad for 1901 showed that the road was never in better financial condition. With all the improvements made and \$5,000,000 set aside for others, the company was able to declare its regular 5-per-cent. dividend and an extra dividend of 1 per cent. It also ordered to be built 19,000 new cars. The gross earnings of all lines east and west of Pittsburgh for 1901 were \$198,626,878, an increase over 1900 of \$23,390,524. The net earnings were \$64,913,491, an increase over 1900 of \$10,175,414. After all expenses and deductions there was left a balance of \$10,857,672, which was distributed among the stockholders in a 6-per-cent. dividend. In 1902 the company made a substantial advance of wages to its employees.

Industries.—Pennsylvania produced 7,364,295 gross tons of pig-iron in 1901, an increase over 1900 of 992,607 tons. The market or realized value of the production for 1901 was \$106,883,000, against \$105,449,923 in 1900. The average yearly earnings for all wage-earners, skilled and unskilled, \$586.24, was an increase over 1900 of \$47.74.

The production of 7,959,720 gross tons of all kinds of steel for 1901 was an increase over 1900 of 1,702,945 tons. The 4,319,144 tons of Bessemer was an increase over 1900 of 830,575 tons. The production of 1,406,532 gross tons of rails in 1901 was an increase over 1900 of 208,434 tons.

The capital invested in the tin-plate works manufacturing their own black plate was \$10,525,000 for 1901, an increase over 1900 of \$753,112. The production of 435,628,000 pounds of black plate for tinning was an increase over 1900 of 123,626,000 pounds.

Fourteen firms or ownerships in the State had active cement plants in 1901, with a capital invested of \$19,271,981, and a total production, based on barrels, of Portland, natural, and improved cement, of 7,955,669, the market or realized value of which was \$7,334,891.

In 1901 Pennsylvania had 200 active tanneries. The 12 bituminous coal districts of the State in 1901 produced 80,914,236 tons of coal. The 8 anthracite districts have more than 30,000 more employees than the 12 bituminous districts, though the bituminous districts have more mines and produced more coal. This as well as the greatly increased ratio of machinery and cost in all departments is accounted for by the difficulty in mining anthracite compared with bituminous coal.

Coal-mining in 1902 was seriously interrupted

by the great strike of miners in the anthracite region. (See **STRIKE OF THE COAL-MINERS.**)

About 70 per cent. of the entire coke product of the country is credited to Pennsylvania, which, in 1901, produced 14,355,917 short tons, an increase of nearly 1,000,000 tons over 1900.

Charities and Corrections.—On Sept. 30, 1901, the number of insane under commitment was 11,748, of whom 6,121 were men and 5,627 women. At the corresponding date in 1900, the aggregate number of insane in all institutions in Pennsylvania was 11,249, an increase of 499. The private institutions and sanitariums contained 729 patients at the close of the year, 290 of whom were men and 439 women. Of the insane persons, in all classes of institutions, on Sept. 30, 1901, 11,380 were white and 368 colored.

The number of convicts in the penitentiaries Oct. 1, 1900, was 1,911; to which were added in the year 1902, being 29 more than the commitments of the previous year. Number discharged, 1,040; leaving on Sept. 30, 1901, 1,595, being 316 fewer than at the corresponding date of the previous year. The number of juvenile delinquents residing in the reformatories on Sept. 30, 1901, was 1,459, a decrease of 94 from the number at the corresponding date of the previous year. Of the 724 convicts sentenced to the penitentiaries in 1901, 518 were convicted of crimes against property, and 206 of crimes against persons.

Lawlessness.—Besides the numerous acts and outbreaks of lawless violence during the coal strike of 1902, other deeds of lawlessness were reported. At the end of January 2 murderers, under sentence of death, escaped from the jail at Pittsburg by overpowering and wounding the guards. They were assisted in escaping by the wife of the warden, who fled with them, and was herself injured by the officers who killed the convicts while they were resisting recapture.

At Chester, in February, a mob attacked the police station in an attempt to lynch a negro who had killed a policeman. The attack of the mob was repelled by the police.

In June a mob at Harrisburg stoned the police and aided a negro prisoner to escape from their custody.

A desperate attempt to lynch a prisoner by a mob in Butler County, on Sept. 13, was foiled by officers of the law, who repelled the mob's attack upon the jail.

In September riots occurred at Lebanon, growing out of labor troubles, and it required the presence of militia to quell the disturbances.

Mining Disaster.—More than 100 men lost their lives in July at Johnstown, through an explosion in the mine where they were at work. The explosion was caused by fire-damp, and all but a few of the deaths were due to effects of the after-damp.

The New Capitol.—The contract for building the new State Capitol has been executed, and ground was broken in November. The cost agreed upon was \$3,505,656.

Political.—The Republican State Convention, which met in Harrisburg, June 11, nominated for Governor Samuel W. Pennypacker, of Philadelphia, whose chief competitor for the nomination was John P. Elkin, Attorney-General of the State. The other State officers nominated were William M. Brown for Lieutenant-Governor and I. B. Brown for Secretary of Internal Affairs. The platform declared hearty approval and support of President Roosevelt, and pledged the convention to his nomination in 1904; it favored immigration laws whereby anarchy shall be driven from this country and the American working man be pro-

tected against unfair labor from abroad; and it approved the recommendation of President Roosevelt that the United States should enter into reciprocal trade relations with Cuba. The Philippine policy of the Government was strongly commended; adherence to the protective policy was demanded "in so far as it protects and tends to develop the industries and interests of the American people"; and the convention recommended "proceedings to check the growth of unlawful combinations intended to raise the price of commodities at the expense of the consumer."

The State Convention of the Democrats was held in Erie, June 25. Robert E. Pattison, who twice since 1883 had been elected to the office, was nominated for Governor, George W. Guthrie for Lieutenant-Governor, and James Nolan for Secretary of Internal Affairs. The platform was restricted to State issues, ignoring all national questions. Honesty in administration, deliverance of the State from the evils of lobbying, bribery, corrupt franchises, "pinch" legislation for blackmailing, etc., was promised in the event of Democratic success. The conduct of the Republicans while in recent control of the State was severely denounced, and the charge was made that "the selection of a United States Senator (at the session of the Legislature in 1901) was accomplished in a carnival of corruption and bribery."

The candidate of the Socialist-Labor Party for Governor was William Adams, the Prohibitionists nominated S. C. Swallow, and there were other minor tickets in the field. The tickets nominated by the Union party at rival factional conventions were both declared invalid by a legal decision. Owing to lack of campaign funds the chairman of the State Committee of the People's party announced, on Sept. 30, the withdrawal of that party's ticket.

At the November election Judge Pennypacker was elected Governor by a plurality of 156,410, and the other Republican candidates received large majorities, while a Legislature was elected with 144 Republican majority on joint ballot. Three-fourths of the congressional delegation elected are Republicans.

A commission appointed by the Legislature of 1901 to compute the vote cast at the November election of that year for State Treasurer announced in January, 1902, that Frank G. Harris was elected to that office by a vote of 435,040 and a plurality of 45,570 over E. A. Coray, the Fusion nominee. Mr. Harris assumed office the first Monday in May, 1902, to serve for two years.

A noteworthy event was the retirement, at the close of the last Congress, of the venerable Galusha A. Grow, of Pennsylvania, at the age of seventy-nine, after a public career of more than half a century. In the early days of the civil war he served with success as Speaker of the House. The first important bill drawn by him was the free-homestead act giving land to actual settlers of Government territory. He retired from Congress in 1863, and was returned to the House thirty years afterward as Congressman at Large, and in this capacity has served his State for ten years.

RHODE ISLAND, a New England State, one of the original thirteen, ratified the Constitution May 29, 1790; area, 1,250 square miles. The population, according to each decennial census, was 68,825 in 1790; 69,122 in 1800; 76,931 in 1810; 83,015 in 1820; 97,199 in 1830; 108,830 in 1840; 147,545 in 1850; 174,620 in 1860; 217,353 in 1870; 276,531 in 1880; 345,506 in 1890; and 428,556 in 1900. Capital, Providence.

Government.—The following were the State officers in 1902: Governor, Charles Dean Kimball;

Lieutenant-Governor, George L. Shepley; Secretary of State, Charles P. Bennett; General Treasurer, Walter A. Reed; Attorney-General, Charles F. Stearns; Auditor and Insurance Commissioner, Charles C. Gray; Commissioner of Education, Thomas B. Stockwell; Adjutant-General, Frederick M. Sackett; Railroad Commissioner, E. L. Freeman; Commissioner of Industrial Statistics, Henry E. Tiepke; Record Commissioner, R. Hammett Tilley; Factory Inspectors, J. Ellery Hudson, Helen M. Jenks; Surgeon-General, George H. Kenyon; Inspector of Beef and Pork, James R. Chase; Inspector of Lime, Herbert Harris; Commissioners of Sinking-Funds, John W. Danielson and Henry B. Metcalf; Inspector of Cables, S. B. Hoxsie, Jr.; Inspector of Scythe Stones, W. H. Comstock; Chief Justice of the Supreme Court, John H. Stines; Associate Justices, Pardon E. Tillinghast, George A. Wilbur, Horatio Rogers, W. W. Douglas, Edward C. Dubois, and John T. Blodgett; Clerk, B. S. Blaisdell. All the State officers are Republicans.

Charles Dean Kimball, elected Lieutenant-Governor, succeeded Gov. William Gregory, who died on Dec. 16, 1901. George L. Shepley, having duly qualified as the Deputy Chief Executive of the State, took the oath of office as Lieutenant-Governor on Feb. 18.

The State officers are elected annually in November, the term beginning in the following January. The Legislature holds annual sessions, beginning in January. The length of the sessions is not limited, but the legislators can draw pay for only sixty days.

Legislative Session.—On the last day prior to the recess, April 4, the following laws were passed: A ten-hour law for street-railway employees, a free transfer-ticket act, a fifty-eight-hour law for women and children.

A law was passed providing for the building of State roads, and in pursuance thereof the State Board of Public Roads was organized on April 16. The "merger" bill was passed, creating the Rhode Island Company, which is expected to acquire and control the local traction, gas, and electric lighting corporations.

The divorce law, as amended by the General Assembly, went into effect on July 1. It requires of petitioners a domicile in the State of more than two years, instead of one year as before, and contains several other provisions tending to render divorces more difficult.

Amendments of the Constitution were submitted to the electors, the most important of which were Article XII, relieving the Governor and Secretary of State, respectively, from the duty of presiding over and keeping the records of the Senate, and Article XIII, securing to the minority party in the city of Providence a representation in the Legislature through the election of Assemblymen by wards or voting districts, in the same manner that aldermen or councilmen are chosen. These articles were defeated at the November election.

Judicial Decision.—One of the most important opinions from the United States Circuit Court for the district of Rhode Island in recent years was given by Judge Arthur L. Brown on the subject of the condemnation of lands in the town of Jamestown for Government purposes. The plaintiffs, James W. Newlin and Annie Ruff, owned neither the land taken by the United States nor the land adjoining it. But as the restrictive provision of the deeds of land in the Ocean island plat (including their lands and the lands appropriated for military purposes) forbade the location of any slaughter-house, forge, places for selling or compounding liquors, etc., on the plat, they con-

tended that their restrictive rights and "negative easements" were destroyed; and, furthermore, if the United States should abandon its use of the lands taken and convey its title to private individuals, its grantees would have the right to carry on any of the offensive trades mentioned in the Highland deeds. The claim for compensation was about \$350,000. Judge Brown held that the claimants had no property rights under their deeds to prevent such a use as the United States intends to make of the lands. "There is a clear distinction," he said, "between injurious acts done by private individuals for their own benefit and working injurious consequences, and acts, perhaps equally injurious, done for a public purpose in the execution of a public duty."

LUIGI F. G. GARVIN,
GOVERNOR OF RHODE ISLAND.

Industries.—The Providence Ice Company, which was organized over a year ago, and which took up the active operation of the majority of the ice interests in Providence about Jan. 1, has been absorbed by the New England Consolidated Ice Companies, the capitalization of which is \$14,000,000. The new company is made up, to a considerable extent, of the same men who were identified with the organization of the Providence Ice Company.

The American Screw Company, of Providence, has absorbed the Massachusetts Screw Company, of Holyoke, Mass. The new plant will be removed to Providence and run in connection with the two large plants that the company already operate there. The producing capacity of the new plant will be at least 200,000 gross daily, though it is far smaller than either of the plants already in operation.

The largest foundry in the State is being erected by the Brown & Sharpe Manufacturing Company. The buildings will cover an area 380 by 380 feet. When the foundry is completed, 300 men will be added to the 2,000 already employed.

The census report shows Providence to be first in jewelry, silverware, and screws, and second in worsted goods, oleomargarine, and flies. The other towns of Rhode Island compare favorably in special industries among the leading manufacturing centers of the nation, Pawtucket ranking seventh and Warwick tenth in cotton goods, Attleboro fourth and North Attleboro fifth in jewelry.

Coal.—Coal was discovered at Phillipsdale, East Providence, some years ago. But the mine was neglected until the recent high price of coal made mining in this locality advisable. The mine has been proved to contain an abundance of good hard coal, and mining will be undertaken on an extensive scale as soon as the engine which has been erected has pumped out the water.

The Cranston coal-mine, which has been worked at intervals since 1864, is also about to be developed by the New England Briquette Coal Company, which has erected an extensive plant. All Rhode Island coal findings are said to develop better coal the deeper it is obtained from the surface.

Real Estate.—A summary of real-estate transactions in Providence and Pawtucket, based on the Providence City Hall records, reflects the general prosperity of the community. Conveyances show a gradual increase for the past five years, 1901 being 20 per cent. in excess of 1897. Real-estate mortgages, though fewer in number and amount in 1901 than in 1899, gain 5 per cent. in number and 11 per cent. in amount over 1898, and exceed those of 1900 by \$50,000, excluding several trust mortgages recorded in that year. Discharges of real-estate mortgages show an increase of 14 per cent. in number and 30 per cent. in amount over 1898. Chattel mortgages were larger than in 1900, but were less than in 1898 by 20 per cent. in number and 22 per cent. in amount. There were 2,580 real-estate conveyances recorded in 1901. The total number recorded in 1900 was 2,375.

A total gain of \$5,071,140 in the real and personal property valuation of Providence was reported by the tax assessors, whose labors for the year were completed Sept. 2. Of this total gain \$2,177,920 was in real estate and \$1,893,220 in personal property, a contrast to the valuation of 1901, in which there was a gain in real estate of \$2,439,100, and a loss in personal property of \$1,754,480.

Insurance.—In his report for the year, dated Feb. 15, 1902, the Insurance Commissioner recommended the creation of the office of State fire marshal, and urged other reforms. The report gives a summary of the condition of Rhode Island stock companies, which shows that while their admitted assets have increased by \$41,456, their liabilities have increased by \$256,631, and their surplus shows a decrease of \$215,176. The report shows that 60 per cent. of the total amount of premiums collected in the State from both fire and marine business last year was paid for losses. The report contains a statement of the condition of other insurance companies doing business in the State, showing a decided improvement over the figures of the preceding year for United States branches of foreign fire-insurance companies, the percentage of losses incurred to premiums received being materially reduced. The business of the mutual fire companies shows a decrease of \$66,198,257 in the amount of risks written, \$422,813 in the amount of premiums received, and an increase of losses incurred of \$104,109. The business in the mutual fire companies of other States reporting shows an increase of more than 100 per cent. over the figures of 1900.

Education.—The school census shows a material gain over the figures of 1901. The enumeration was as follows: Public schools, 25,207; Catholic schools, 4,569; select schools, 583; no school, 3,922; total enumeration, 34,922. This was a gain over 1901 of 4.8 per cent. The attendance showed a gain of 4.5 per cent. in the public schools, of 9.1 per cent. in the Catholic schools, and 21.7 per cent. in the select or private schools. The number attending no school was exactly the same in 1901, viz., 3,922.

The Rhode Island Institute of Instruction held its annual meeting in Providence, Oct. 23, 24, 25, and attracted more than the usual number of visitors from the New England and Atlantic States. The proceedings were of more than ordinary interest, the exhibit of educational methods being particularly important.

Brown University.—The opening of the academic year, Sept. 17, was marked by a large number of new courses of study, showing a wider range and broader selection in electives than heretofore; among them a new course in mineralogy, a course

of research work in economic problems, in which the laboratory method is applied to economics, a new course in Greek and Roman life, and several new courses in history and advanced German. Extensive additions were made during the summer to the equipment of the chemical laboratory. The entering class was the largest in the history of the institution.

The university received \$100,000 from the estate of George L. Littlefield for the establishment of the George L. Littlefield professorship. All the estate, exceeding \$500,000, was to go, after certain bequests were paid, to Brown University to establish a fund to be known as the George L. Littlefield fund.

At the beginning of the year John D. Rockefeller offered to give the college \$75,000 for a building for social and religious purposes, provided \$25,000 were raised before the next commencement. This sum having been collected, a suitable site on the university ground was selected for the building.

The university celebrated, June 17, the one hundredth anniversary of the graduation of Henry Wheaton, a native of Rhode Island; distinguished as a lawyer, author, diplomat, and writer on international law.

Rhode Island Hospital.—The deficiency account of the hospital stood at \$110,815.07. This was the excess of the expenditure over the income since Sept. 30, 1880. The patients admitted in 1901-'02 numbered 3,282. The hospital received a bequest of \$4,000 from the George L. Littlefield estate.

Harbors.—By the river and harbor bill Rhode Island secured \$100,000 for improving Point Judith harbor, \$30,000 for a harbor of refuge at Block island, and \$50,000 for Great Salt Pond harbor, Block island.

The work on the naval coaling station at Portsmouth Grove was so far advanced in December that it was expected to be in commission next summer. The framework for the great steel shed was already in place. The pier was built and used as a landing-place for material, and the work of putting on the T-head was in progress. Along this head there will be room for the largest and heaviest ships of the navy to be tied up.

Foot and Mouth Disease.—Immediate action was taken by the State Board of Agriculture, at a meeting on Nov. 23, to check the foot and mouth disease, which had suddenly made its appearance among the cattle, sheep, and hogs of northern Rhode Island. As the disease had established itself in a very virulent form, attacking whole herds, the board decided to take prompt measures for its extirpation, anticipating the next appropriation.

Political.—At the Democratic State Convention, in Providence, Oct. 4, the following nominations were made: For Governor, Lucius F. Garvin; Lieutenant-Governor, Adelard Archambault; Secretary of State, Frank E. Fitzsimmons; Attorney-General, Dennis G. Holland; General Treasurer, Clark Potter. A State platform was alone recommended by the State convention, which left national issues to be taken up by the congressional convention that was to follow. The platform declared that the paramount issue was "the redemption of the State of Rhode Island from the hands of those who have used, and still intend to use, the executive and legislative branches of the State government for their own personal aggrandizement"; that legislation "has been in the interest of the quasi-public corporations, and has gone so far as even to divide with these corporations the sovereign power of the State." It declared that the truest principles of government require

the initiation and referendum; demanded the abolishment of all property qualification for voting; home rule for cities and towns; municipal ownership of public utilities, street-railroad, electric and gas lighting plants; education by enforcement of the laws of compulsory education and providing of sufficient funds to allow every child eligible to attend school; equal taxation of corporate and private property, and the enforcement of the factory-inspection law. It opposed government by injunction and favored the election of Senators of the United States by the people. It censured the amendment to the Constitution, because it was a special law, appertaining solely to the city of Providence, but declared the readiness of the Democratic party to cooperate with the Republican party in giving the State a district representation, not only of the cities but of the towns.

At the Republican State Convention in Providence, Oct. 9, these candidates were nominated: For Governor, Charles Dean Kimball; Lieutenant-Governor, George L. Shepley; Secretary of State, Charles P. Bennett; Attorney-General, Charles F. Stearns; General Treasurer, Walter A. Read. The platform indorsed the administration of President Roosevelt, especially "his wise attitude with reference to our relations with the new republic of Cuba"; declared his record merits nomination for President in 1904; praised the army's work in the Philippines; reaffirmed the wisdom of the American protective system; called for summary treatment of evils growing out of trusts; said tariff readjustment should be left to a Republican Congress; commended the scheme of education and ultimate self-government established in the Philippines; and referred at length to what the party has done for the State. It commended to the electors the articles of amendment of the Constitution submitted to them by the Legislature, and accused the Democracy of opposing the articles, although conceding them to be meritorious. It approved the administration of Gov. Kimball and applauded "his action in calling to the assistance of the civil authorities the militia of the State for the protection of citizens and property from lawlessness and mob violence."

The Prohibitionists held their convention on Sept. 21, and nominated for Governor William E. Brightman; Lieutenant-Governor, Cyrus A. Aldrich; Secretary of State, William G. Lawton; Attorney-General, James A. Williams; General Treasurer, John W. P. King.

At the election, Nov. 5, the Democratic candidates for Governor and Lieutenant-Governor, Lucius F. C. Garvin and Adelard Archambault, were elected. Dr. Garvin's total vote was 32,279. His plurality over Gov. Kimball, who received 24,541 votes, was 7,738. The rest of the nominees for State offices on the Republican ticket were elected. The House remained Republican, with a decreased majority, 37 Republicans to 35 Democrats. The Senate contains 27 Republicans and 11 Democrats.

SOUTH CAROLINA, a Southern State, one of the original thirteen, ratified the Constitution May 23, 1788; area, 30,570 square miles. The population, according to each decennial census, was 247,073 in 1790; 345,591 in 1800; 415,115 in 1810; 502,741 in 1820; 581,185 in 1830; 594,398 in 1840; 668,507 in 1850; 703,708 in 1860; 705,606 in 1870; 995,577 in 1880; 1,151,149 in 1890; and 1,340,316 in 1900. Capital, Columbia.

Government.—The following were the State officers in 1902: Governor, Miles B. McSweeney; Lieutenant-Governor, J. H. Tillman; Secretary of State, Marion R. Cooper; Treasurer, R. H. Jennings; Comptroller, J. P. Derham; Attorney-

General, G. Duncan Bellinger; Superintendent of Education, John J. McMahan; Adjutant-General, J. W. Floyd; Geologist, Earle Floam; Directors of the Dispensary, Leon J. Williams, H. H. Evans, A. F. H. Dukes; Railroad Commission, J. C. Wilborn, chairman, and Messrs. Garris and Wharton; Liquor Commissioner, H. H. Crum; Chief Justice of the Supreme Court, Henry McIver; Associate Justices, Y. J. Pope, Eugene B. Gary, Ira B. Jones; Clerk, U. R. Brooks. All are Democrats.

The State officers are elected in November of the even-numbered years, for terms of two years. The Legislature meets annually in January; it consists of 41 Senators and 124 Representatives.

Finances.—The Governor's message to the Legislature of 1903 gives the following as to financial conditions: The income to the State for the year ending Dec. 31 was not sufficient to meet its obligations. The Governor and the State Treasurer were forced to borrow the full amount of the \$300,000 authorized by the last Legislature.

The following statement furnished by the State Treasurer shows the condition of the finances of the State at the close of the fiscal year, Dec. 31, 1902: The cash receipts for the fiscal year ending Dec. 31, 1902, were: Cash balance, Dec. 31, 1901, \$237,743.25; back taxes, \$1,601.12; general taxes, 1901, \$693,023.22; general taxes, 1902, \$325,709.51; railroad assessments for Railroad Commission, \$7,468.45; income tax, \$413.90; fees from office of Secretary of State, \$12,160.02; incorporation fees, \$70; annual insurance license fees, \$12,150; graduated insurance license fees, \$16,345.28; privilege fertilizer tax, \$81,749.94; loans (borrowed on notes of Governor and Treasurer), \$349,420.14; insurance sinking-fund, \$4,385.25; State permanent school fund, \$2,203.82; State special school fund (dispensary), \$142,755.91; Morrill fund (from United States Government), \$25,000; commissioners sinking-fund (ordinary); Loans returned, \$33,860.75; interest on loans, \$1,812.20; agent Sinking-Fund Commission, \$11,106.49; sinking-fund reduction, \$138,042.44; dispensary, South Carolina, \$2,113,821.75; refunds, sundry accounts, \$2,659.52; total, \$4,214,402.76.

The disbursements included: Legislative expenses, \$44,255.47; educational and charitable institutions, \$297,300.94; Colored Normal, Industrial, Agricultural, and Mechanical College, \$29,617.93; pensions, \$200,108.80; artificial limbs, \$1,999.26; State permanent school fund, \$2,247.05; State special school fund (dispensary), \$82,224.73; public printing, \$21,064.73; quarantining the State, \$7,041.02; maintaining militia, \$7,688.86; South Carolina Interstate and West Indian Exposition, \$17,955.97; election expenses, \$21,523.45; interest on public debt, \$274,066.68. The total expenditures were \$3,783,605.05; cash balance Dec. 31, 1902, \$430,797.71.

DUNCAN G. HETWARD,
GOVERNOR OF SOUTH CAROLINA.

Valuations.—The total valuations for assessment in 1902 were \$195,537,061, of which \$107,010,298 was real, \$61,018,560 personal, and \$27,508,203 railroad property. The total increase for the year is \$6,203,952.

Education.—The number of illiterates in the State by the last census was 338,659. In the percentage of children from ten to fourteen able to read and write South Carolina stands forty-ninth in the lists of States and Territories, with 70.44 per cent. The compulsory-education bill did not pass the Legislature. The average number of weeks of the school term in 38 out of 40 counties was twenty-one for the white and 14.27 for the colored schools. The average value of schoolhouses is \$178. The average monthly salary of teachers is given as \$25.78 for men and \$24.29 for women.

In the session of 1901-'02 of South Carolina College 215 students were matriculated. Of these, 23 pursued the classical course, 47 the literary course, 33 the scientific course, 38 the normal course, 34 the special course, 32 the law course, 10 the graduate course. The men students numbered 186; women, 29.

The report of the Citadel Military Academy shows an enrolment of 129, with 36 graduates in June. The estimate for support for the year is \$25,000.

The attendance at Clemson Agricultural College has grown from 350 in 1896 to 530 in 1902. In April 69 of the 74 members of the sophomore class left the college because their petition for the reinstatement of a classmate who had been suspended for breaking a rule was not granted. The dissatisfaction spread to other classes, and the trustees, after a hearing, reinstated the suspended student. The president then resigned, but the trustees voted not to accept the resignation. He did, however, retire, and the college year 1902-'03 began with a new administration.

The State College for Colored Students, at Orangeburg, had an enrolment of 624 students. The estimated cost for the year 1902-'03 is \$23,320.27, of which the income covers \$18,315.15, leaving only about \$5,000 for the State to contribute; \$5,000 more is needed to finish and equip the new building on which \$5,000 has so far been spent.

In Winthrop Normal and Industrial College for Girls the number of officers, teachers, and assistants was 43, compared with 38 for the previous session, and the enrolment in the college, not including 90 pupils in the model school and kindergarten, was 456, against 372 for the previous year. The amount required for ordinary expenses is \$63,539; tuition and other fees amount to \$10,974, leaving more than \$52,000 to be provided by the State.

Other colleges in the State sent out graduates as follow: Newberry, 11; Erskine, 11; Due West Female College, 26; Furman University, 14; Greenville Female College, 17.

The State Medical College gives 7 free scholarships to young men and women appointed by the Governor, one from each congressional district.

Charities and Corrections.—In 1902 506 new patients were admitted to the State Insane Hospital; the daily average was 1,134, and the whole number under treatment 1,611. The institution is overcrowded.

At the State Penitentiary 183 new convicts were received, 194 were discharged, 30 were pardoned, 11 escaped, and 45 died. Dec. 31 there were remaining 701.

The total receipts, including balance, were \$84,-

069.21; the current expenses, \$62,657.07; for permanent improvements, \$4,300 was expended. The balance, Dec. 31, was \$17,112.14, in addition to which \$6,300 had been earned but not collected, and \$12,000 worth of farm-products were on hand.

Militia.—The numerical strength of the volunteer troops, including all branches of the service, rank and file, is 3,060, composed as follows: Three regiments of infantry, 1 regiment of cavalry, 1 company of artillery, and 3 divisions of naval reserves.

The Dispensary.—Of this institution the Governor says:

"For the first time since the dispensary law was enacted it was not an issue in the political campaign for the governorship the past year, as all the candidates for Governor were pledged to its support and to the strict enforcement of the law. The greatest opposition to the system of State control of the sale of liquors is in the larger cities. As a result, there is illicit sale of liquor in these cities, and there will continue to be until public sentiment in these communities grows more strongly in favor of the dispensary system and jurors regard more sacredly their oath and convict persons who are proved guilty of the violation of the law. The business the past year has increased, which may be taken as an evidence that the people are becoming more in sympathy with the law, rather than that the consumption of whisky is increasing.

"The amount to the credit of the school fund on Nov. 30, 1902, was \$652,829.22, but not available, as it was in stock. The stock on hand Nov. 20 was: In county dispensaries, \$406,195.05; in State dispensary, \$324,328.12; total, \$730,523.17. Under the act of the last Legislature requiring the directors to pay to the State Treasurer quarterly the profits to the credit of the school fund three payments have been made aggregating \$92,755.91. The same act requires that the profits to the credit of the school fund carried as stock shall be reduced by semiannual payments to \$400,000 by Jan. 1, 1904. Under this requirement \$100,000 have been paid to the State Treasurer the past year. The following figures show the total net profits for the year ending Nov. 30, 1902, from the sale of liquor and beer: From whisky to towns and counties, \$382,688.36; from beer to towns and counties, \$60,515.40; total, \$443,198.76; net profit to the State, \$123,699.07; total net profit, \$566,897.83."

In connection with the dispensary, the State has a claim against the Government for taxes alleged to have been illegally collected. The contention is that the Government can not tax the agencies of a State government.

Industries and Products.—According to the census reports of 1900, there were 155,355 farms in South Carolina, averaging 90 acres. The average farm of the white farmer was 145.7 acres, that of the negro farmer, 44.4 acres. There were 69,954 white farmers and 85,401 negro farmers; 31,120 whites owned their farms, and 15,503 negroes could show titles for theirs; 2,934 whites were part-owners, and so were 3,376 negroes; 393 whites were owners and tenants, as also were 91 negroes. There were 874 white managers of farms and 180 negro managers. The white cash tenants numbered 14,612, the negro cash tenants 42,434; the white share tenants were 14,021 in number, the negro share tenants 23,817. Fifty-five per cent of South Carolina's farmers were negroes.

The total value of the farms was \$153,591,159, of which \$99,805,860 represented the value of land

and improvements, excepting buildings; \$26,955, 670, value of buildings. The labor to work the farms cost \$6,107,700.

Of the farms, a large majority, 112,822, were devoted to cotton-raising, and these were worked by 46,137 whites and 66,885 negroes. The growth of the mill industry, drawing labor away from the fields, has retarded progress in farming.

The report of the cotton-crop of 1901-'02 credited this State with 925,000 bales, against 911,000 the year next preceding. The consumption in the State mills was 614,066 bales, an increase of 103,579. The number of mills was 134, with 57,852 looms and 2,179,328 spindles.

The tobacco-crop of 1899 was valued at \$1,297,293, the State standing tenth in the value of the crop. The value of the sweet-potato crop the same year was \$1,528,205.

South Carolina claims to have the only tea plantation in America, and its product is said to bring the highest price of any sold here.

From a view of mill construction in 1901 it appears that there were established here 6 textile mills, with 1,200 looms and 62,748 spindles. In the first eleven months of 1902 the Secretary of State issued charters and commissions to 18 new cotton-mills, with a total capitalization of \$3,880,000.

In the first half of the year 4 new cottonseed-mills were established, with \$110,000 capital.

The question of child labor in the mills is attracting much interest. The growth of the cotton-mill industry has been phenomenal—from \$2,500,000 capital in all textile industries twenty years ago to \$35,000,000 at present. And this has drawn attention and raised the question how much cheap labor has had to do with the rapid progress. Naturally those interested in the prosperity of the mills do not credit the opponents of child labor with motives of unmixed philanthropy. So far it seems that there has been no State legislation against it; a bill introduced at the session this year was defeated. According to the mill-owners, the number of children under twelve employed is less than 4 per cent. Twelve years is, however, a rather low age limit.

The royalties from the phosphate industry this year were a little less than those of 1901—about \$25,000.

The State-House.—This building, so long unfinished, was completed and accepted in May. The recent outlay upon it was \$173,623.

Railroads.—The mileage of the railroads is more than 3,000, the gross earnings nearly \$12,000,000, and the income, less operating expenses and taxes, near \$4,000,000.

The alleged discrimination of the Southern Railway Company against the city of Charleston had a thorough hearing and investigation, resulting in a decision not wholly in favor of either side.

The Southern Railway has taken in four roads, all but one of which were already operated by it. The Atlantic Coast Line and the Plant system were consolidated also.

Banks.—The aggregate capital of new banks organized this year, up to Dec. 13, is \$671,000.

Insurance.—The preliminary report of the American insurance companies doing business in the State shows a total of premiums in 1901 of \$941,746, and of losses paid \$534,712. The foreign companies received \$316,117.80 in premiums, and paid \$198,826.47 in losses.

Lawlessness.—Four negroes were implicated in the murder of a woman at New Road, near Charleston, in June. One was killed while trying to escape arrest; two of the others were lynched.

An atrocious murder was committed near Troy

in December. W. K. Jay, a young farmer, was shot in his own yard by a negro or his wife, both of them living on the place. Both of the negroes were lynched at midnight.

Legislative Session.—The General Assembly was in session from Jan. 14 to Feb. 22. W. F. Stevenson was Speaker of the House.

At the opening of the session the Governor sent in vetoes of two of the acts of the session of 1901. One was a local bill; the other was the act repealing the antifree-pass act.

The dispensary officials were all reelected: H. H. Crum for Commissioner, Leon J. Williams for chairman, and H. H. Evans and A. F. H. Dukes members of the Board of Control.

Ira B. Jones was reelected Associate Justice of the Supreme Court. For Circuit Judges, Charles G. Dantzler, James Aldrich, R. O. Purdy, R. C. Watts, G. W. Gage, and J. C. Klugh were elected.

W. B. Love and W. D. Mann were reelected directors of the Penitentiary; and John T. Sloan and Robert MacFarland trustees of the South Carolina College; J. E. Breazeale and Willie Jones were elected trustees of Winthrop College; and for trustees of Clemson College, L. A. Sease, Augustine T. Smythe, W. D. Evans, and John S. Garris were elected; and for trustees of the State Colored College A. L. Dukes and Cole T. Blease. Miss L. H. Laborde was elected to fill the unexpired term of the former State librarian.

The acts and joint resolutions of the session numbered 175.

The congressional districts were redivided.

A constitutional amendment was proposed. It is for the relief of townships that issued bonds for railroads that have not been built or have been abandoned. The amendment provides for destroying the corporate existence of the townships, abolishing all township affairs, and removing all corporate agents. The United States courts have held that the obligation is legal, so that the townships saw no other way to obtain relief. Eight townships were affected.

An act "to further define connecting lines of common carriers and fix their liabilities" was passed. The object of the act is to facilitate the collection for loss or damages to freight by shippers and consignees, by requiring the delivering carrier to make settlement, instead of compelling the one who claims from finding out the particular carrier by which the loss or damage was sustained.

Other acts affecting railroads were: To provide the measure of damage to which any common carrier may be held for the conversion to its own use of any property held by it on consignment or in course of consignment; to incorporate the French Broad and Southern Railroad Company; to authorize the consolidation or merger of the capital stocks, franchises, and properties of the Asheville and Spartanburg Railroad Company, the South Carolina and Georgia Railroad Company, the South Carolina and Georgia Railroad Extension Company, and the Carolina Midland Railway Company under the laws of this State, and to authorize and empower such consolidated company to make a lease of its railroad properties and franchises to the Southern Railway Company; and to require electric street-railway companies to provide cars with vestibules for the protection of motormen.

The existing road law having been pronounced unconstitutional, in that it had different service on the roads for different counties, an amendment left the exact number of days to the county commissioners, and fixed a maximum and a minimum service.

Among the acts affecting corporations were: An antitrust bill prohibiting the formation of pools, trusts, combinations, confederations, etc., to regulate prices, and declaring those entering such combinations to be guilty of conspiracy to defraud; providing for an unlimited number of directors for banking and trust corporations and to enable such corporations to divide the same into two classes—active and advisory—and prescribe distinct duties for each class; and empowering cities and towns to give exclusive franchises to persons or corporations furnishing water or light thereto, respectively, under certain conditions.

The House passed a resolution calling for a commission to examine into the advisability of establishing a State fertilizer plant to be operated by convicts. The object, or one object, was to establish competition against the Virginia-Carolina Chemical Company, now controlling most of the fertilizer factories and regulating the prices.

The amount for Confederate pensions was raised to \$200,000. Bills were passed to regulate county aid to ex-Confederate soldiers, and to prevent their disfranchisement; the office of county pension commissioner was created, and the duties of county pension boards defined and regulated. The act exempting ex-Confederate soldiers and sailors from taking out licenses as hawkers or peddlers was amended by making it apply to towns and cities. Certain broken granite columns lying on the State-House grounds were given to women's organizations to be used for Confederate memorial purposes. The wearing of the Southern Cross by others than those entitled to wear it was prohibited. The purchase of 300 volumes of *The Confederate Woman's Book*, to be placed in the libraries of the public institutions and colleges of the State, was ordered.

A concurrent resolution declaring "that the thanks of every true American citizen is due to that great naval chieftain Winfield S. Schley, his officers and men, for their gallant conduct in the harbor of Santiago, on July 3, 1898," was passed.

Other enactments were:

Declaring the code as submitted by the Code Commissioner the only general statutory law of the State.

To define train-robbing and fix the punishment therefor.

To establish Lee County.

To amend an act to regulate the carrying, manufacture, and sale of pistols, and to make a violation of the same a misdemeanor.

To regulate the qualifications of non-resident executors.

To require certain agricultural investigation and experimentation in the coast region by Clemson College.

To provide for the running of public schools on a cash basis.

To amend the act to regulate the rate of interest upon contracts arising in this State for the hiring, lending, or use of money or other commodity.

To require municipalities to provide drains for surface water.

To provide for the preservation of valuable documents and papers of the State.

To regulate the catching and sale of oysters, clams, and terrapins, and to provide a county inspector.

To amend the statute prohibiting sale and shipping of partridges for five years, so as to include deer and wild turkeys in its provisions.

Fixing the State tax levy at 5 mills.

Extending the provisions of the statute on kidnapping so as to make it applicable to any case of taking away a minor without the consent of the parent or guardian.

Appropriating \$2,000 for artificial limbs for veterans.

The Governor recommended the enactment of a compulsory education law.

A bill to that effect was introduced in the Senate, but failed by 2 votes.

A bill to abolish child labor was defeated in the House by the same majority—2 votes. Most of the votes in favor came from outside the mill counties. A ten-hour labor law was defeated also.

A resolution for a constitutional amendment making the legislative sessions biennial was lost.

The Quarrel of the Senators.—The incident related on page 761 of the *Annual Cyclopædia* for 1901 had as a sequel the fight between the two Senators from this State on the floor of the Senate, Feb. 22, which is given in the article Congress in this volume.

The Lieutenant-Governor.—This official has come prominently before the public in two instances in which his official responsibility was not concerned, but which have had greater notoriety from the fact of his holding a State office. Early in the year he had raised money to present a sword to Major Micah Jenkins, a soldier who served with distinguished gallantry with the Rough Riders and was highly praised by the President in his written history and in a letter to Lieut.-Gov. James H. Tillman, who had a sentence or two from the letter engraved upon the scabbard of the sword. It was arranged that the President should present the sword during his intended visit to the exposition at Charleston. When the invitation to the dinner for Prince Henry was recalled from Senator Tillman, his nephew, the Lieutenant-Governor, telegraphed to the President that the invitation to him to present the sword was withdrawn. As far as is known, the other contributors were not consulted. Tillman was a candidate for the office of Governor in the State campaign and was strongly opposed by the editor of a Columbia newspaper, *The State*, N. G. Gonzales, who was fatally shot by Tillman in the street when walking home, unarmed, from his office, Jan. 1, 1903. One of the incidents of the quarrel between the men was in relation to a ruling made by the Lieutenant-Governor while presiding in the Senate. He ruled that a motion to postpone indefinitely was not debatable. When the decision was questioned he telegraphed to Senator Frye and Speaker Henderson and declared that both had pronounced his ruling right. This was taken up by the editor of *The State*, who upon inquiry received a denial from each of those presiding officers, both of whom said they had answered that the motion was debatable. He published the correspondence.

Political.—As there is practically no opposition to the Democratic ticket at the State election, the interest centers in the primaries. These were held Aug. 26 to nominate a successor to Senator McLaurin, and candidates for State offices. The candidates for the office of United States Senator were A. C. Latimer, D. S. Henderson, George Johnstone, William Elliott, J. J. Hemphill, J. G. Evans. For the State officers the following were in the field: For Governor, W. H. Timmerman, M. F. Ansel, D. C. Heyward, W. J. Talbert, J. H. Tillman; Lieutenant-Governor, C. L. Blease, J. T. Sloan, F. B. Gary; Attorney-

General, W. F. Stevenson, U. X. Gunter, Jr.; State Treasurer, R. H. Jennings; Secretary of State, J. T. Gantt, J. H. Wilson, J. Thomas Austin; Superintendent of Education, O. B. Martin, J. J. McMahan; Comptroller-General, W. H. Sharpe, A. W. Jones, G. L. Walker, N. W. Brooker; Adjutant- and Inspector-General, J. D. Frost, G. D. Rouse, Paul E. Ayer, J. M. Patrick, J. C. Boyd; Railroad Commissioner, James Cansler, A. C. Jepson, B. L. Caughman, H. J. Kinard, J. G. Wolling, W. B. Evans, J. G. Mobley, H. H. Prince, Thomas N. Berry, J. C. Wilborn.

The candidate for Treasurer had no opposition. Mr. Gunter was chosen for Attorney-General and Mr. Martin for Superintendent of Education. For the other offices none received majorities, and a second primary was held in September to decide between the highest two in each case.

In November the following votes were cast: For Governor, Heyward, 31,608; Lieutenant-Governor, Sloan, 30,200; Secretary of State, Gantt, 30,704; Attorney-General, Gunter, 30,667; Treasurer, Jennings, 30,653; Comptroller-General, Jones, 30,653; Superintendent of Education, Martin, 30,653; Adjutant- and Inspector-General, Frost, 30,654; Railroad Commissioner, Caughman, 30,667. The proposed constitutional amendment was carried by a vote of 26,454 yeas to 1,365 nays.

The highest vote was only about one-third of the total vote in the primary.

SOUTH DAKOTA, a Western State, admitted to the Union Nov. 2, 1889; area, 77,650 square miles. The population was 328,808 in 1890 and 401,570 in 1900. Capital, Pierre.

Government.—The following were the State officers in 1902: Governor, Charles N. Herreid; Lieutenant-Governor, George W. Snow; Secretary of State, O. C. Berg; Treasurer, John Schamber; Auditor, J. D. Reeves; Attorney-General, John L. Pyle, who died Feb. 22, and was succeeded by A. W. Burt; Superintendent of Public Instruction, E. E. Collins; Commissioner of School and Public Lands, David Eastman; Adjutant-General, S. J. Conklin; Insurance Commissioner, H. C. Shober; Public Examiner, Henry M. Cooper; Oil Inspector, Emil Brauch; Railroad Commission, Messrs. Kirkpatrick, Smith, and Le Cocq; President of the State Board of Agriculture, John Armstrong; Secretary of the Historical Society, Doane Robinson; Veterinarian, Dr. Foster; Chief Justice of the Supreme Court, Dick Haney; Associate Justices, Dighton Corson, H. G. Fuller; Clerk, Miss Jessie Fuller. All are Republicans.

State officers are elected for terms of two years in November of the even-numbered years. The Legislature meets biennially in January of the odd-numbered years.

Population.—The census of the counties, which has not before been given here, is as follows: Armstrong, 8; Aurora, 4,011; Beadle, 8,081; Bon Homme, 10,379; Brookings, 12,561; Brown, 15,286; Brulé, 5,401; Buffalo, 1,790; Butte, 2,907; Campbell, 4,527; Charles Mix, 8,498; Clark, 6,942; Codington, 8,770; Custer, 2,728; Davidson, 7,483; Day, 12,254; Deuel, 6,656; Douglas, 5,012; Edmunds, 4,916; Fall River, 3,541; Faulk, 3,547; Grant, 9,103; Gregory, 2,211; Hamlin, 5,945; Hand, 4,525; Hanson, 4,947; Hughes, 3,684; Hutchinson, 11,897; Hyde, 1,492; Jerauld, 2,798; Kingsbury, 9,866; Lake, 9,137; Lawrence, 17,897; Lincoln, 12,161; Lyman, 2,632; McCook, 8,689; McPherson, 6,327; Marshall, 5,942; Meade, 4,907; Meyer, 26; Miner, 5,864; Minnehaha, 23,926; Moody, 8,326; Pennington, 5,610; Potter, 2,988; Roberts, 12,216; Sanborn, 4,464; Spink, 9,487; Stanley, 1,341; Sully, 1,715;

Turner, 13,175; Union, 11,153; Walworth, 3,839; Yankton, 12,649; Cheyenne River Indian Reservation, 2,367; Pine Ridge Indian Reservation, 6,287; Rosebud Indian Reservation, 5,201; Standing Rock Indian Reservation (part of), 1,658; total, 401,570.

The census returns of bachelors and spinsters of twenty years and upward gives: Bachelors, 39,704; spinsters, 13,475.

Finances.—The bonded debt of the State is \$588,300. The rate of taxation is \$8.20 on the \$1,000. The State tax collections for the last quarter of 1902 were \$148,623.95, exceeding those of the year before by \$12,000.

The liabilities of all the counties at the close of the last fiscal year was \$4,432,568, an increase of \$121,899 in one year.

The assets and resources of all the counties, consisting of county property, unpaid taxes, and cash on hand, is \$4,939,462—an increase of \$63,492 in one year.

The expenditures of all the counties for the year amounted to \$1,376,655, an expenditure of \$218,609 greater than that of the previous year.

Valuations.—The total valuation of the State, as left by the Board of Assessment and Equalization, is \$187,531,381, which is an increase of \$14,324,648 over the final returns of 1901.

This is said to be much too low; a law passed some years ago restrains the Board of Equalization from raising the valuations beyond a certain amount over the county returns. Consequently, the revenues are insufficient to meet the growing needs of the State.

The assessment rolls show the acreage of real estate listed for assessment to be 19,247,746 acres, an increase from 1901 of 244,276 acres. The valuation of this is placed at \$111,311,994, an increase of \$10,777,584. The average returned price per acre is \$5.78, an increase of 50 cents. The valuation of town lots is returned at \$19,093,064, an increase of \$1,700,838.

A total of 1,218,297 cattle were returned for assessment, an increase of 139,634, with a valuation of \$15,767,412, an increase of \$823,814. There is an increase of 27,737 in the number of horses returned, making the total 374,361, with a valuation of \$7,677,778, an increase of \$116,394. The number of sheep returned shows an increase of 61,700, making a total returned of 590,663, with a valuation of \$1,053,982, an increase of \$37,656. The number of hogs returned is 311,980, an increase of 83,123. The value is given at \$844,596, an increase of \$115,438.

Education.—The number of illiterates in the State in 1900 was 14,832. In the percentage of children from ten to fourteen able to read and write, South Dakota stood eighteenth in the list, with 99 per cent.

The December apportionment of the interest and income fund to the schools of the State from the officer of the Commissioner of School and Public Lands was \$70,268.04, or 54 cents per capita on the school population. The June apportionment was a total of \$270,923.45, or a per capita of \$2.54.

The State has a large surplus of school moneys lying idle, which under the law can only be invested in certain bonds.

In the past two years 129 new country school-houses have been built. For the year ending June 30 the average wages of male teachers in rural schools was \$36.07, against \$34.70 in 1901, and the average for the female teacher in the rural schools was \$32.31, against \$31.17 the year before.

The Aberdeen Normal School had an enrolment

of 81 Sept. 25. The dedication exercises were set for Oct. 23.

The attendance at the Agricultural College, at Brookings, in the year ending in June was 600, having grown to that number from 150 six years ago.

Yankton College had an attendance of 289, excluding duplicates in departments, as follow: College, 54; academy, 117; conservatory of music, 103; art, 28; elocution, 20; shorthand, 15; domestic science, 9. At the twentieth annual commencement, in June, the graduates in the various courses were: College, 7; academy, 17; music, 1; elocution, 3; physical training, 7; shorthand, 2. A bust of Dr. D. K. Pearson, of Chicago, whose last gift to the college was \$50,000, was unveiled. In 1901-'02 the college received \$25,000, mostly from Eastern friends for permanent improvement and endowment. Of this, about \$18,000 is being put into a gymnasium and athletic field. The total assets of the institution are now \$280,000.

Charities and Corrections.—The buildings of the public institutions are in general overcrowded. At the Insane Hospital there were 570 patients in October, while the building can not well accommodate more than 400. It is stated that the State has made several liberal appropriations for the hospital in the past ten years. It has built two cottages, the power-house, and the large rear center building, which was completed last year. But with one exception not one increase has been made in the number of rooms for the patients.

The institution at Redfield for the feeble-minded, which was opened in 1901, is likewise inadequate for the accommodation of all the applicants.

There is a movement to separate the boys' and girls' department of the Reform School, at Plankinton, and placing the girls in charge of women exclusively.

The report of the State Penitentiary in November gave the number of convicts, June 30, as 160. The year ending June 30, 1900, there were 134. The per capita cost of maintenance for 1901-'02 was \$215.35, against \$267.11 the previous year.

Industries and Products.—The Census Bureau Bulletin on Agriculture in South Dakota shows that in the census year, 1900, there were 52,622 farms in the State, valued at \$220,133,190, and covering an area of 19,070,616 acres, or about 39 per cent. of the total area. The live stock held on the farms is valued at \$12,218,650, making the total value of farm property for the State \$297,595,302.

An estimate of the crops of 1902 gives, for wheat, 38,000,000 bushels; oats, 20,000,000 bushels; flax, 9,000,000 bushels; corn, 40,000,000 bushels.

Articles of incorporation were filed in August at Pierre of the Farmers' National Cooperation Exchange Company with a capital of \$50,000,000. The purpose of the corporation is to buy, sell, and deal in grain, provisions, live stock, and all kinds of produce, on commission and otherwise, and for the purpose build and equip grain-elevators, warehouses, cold-storage plants, stock-yards, and whatever may be necessary to carry on the business of the corporation.

The value of the manufactured products of the State was given in the census year as \$12,000,000.

The gold produced in 1901 was valued at \$6,479,500, and the silver at \$46,800. The preliminary estimate for 1902 was: Gold, \$7,298,057; silver, \$182,372.

It was reported, Dec. 31, that one of the richest gold discoveries made in Custer County of recent years has just been made on the Roosevelt group of the Grantz Gold-Mining Company, 8 miles

from Custer. It was in an old shaft, started several years ago, abandoned by the former owners, and recently cleaned out and explored. A drift of a few feet from the shaft encountered quartz, liberally sprinkled with free gold.

Oil has been discovered 30 miles from Sisseton, and preparations are making for establishing works there. A discovery of natural gas is reported near Aberdeen.

The fees of the department of the Secretary of State for 1902 amounted to \$22,408.05. Of this amount \$17,119 was paid for charters of domestic corporations; \$907.20 by foreign corporations; \$353.90 by banks; \$1,160 by notaries; and the remainder was miscellaneous fees.

Insurance.—The statistics of 1901 show the following figures: Fire-insurance, premiums received, \$518,925.50; losses paid, \$233,361.48; life-insurance, premiums received, \$631,347.84; losses paid, \$110,354.24; fraternal companies, receipts, \$237,249.57; losses paid out, \$283,611.92; accident-insurance, receipts, \$13,635.11; losses, \$10,201.27; South Dakota Mutual Fire Companies, premiums received, \$144,548.04; losses paid, \$55,576.20.

The commissioner says in his annual report: "The statistics of this department for the past thirteen years show that an average of 49.7 per cent. of the premium receipts of the fire companies collected in this State has been sufficient to pay all losses sustained, and that for the past year but 44.9 per cent. was required for losses. This is premium receipts alone, and does not include receipts from other sources, such as interest from invested surplus."

Land.—The wooded area of the State is 2,500 square miles. The Land Commissioner recommends that the herd law, which prevails on the eastern side of the river, should be extended over the State, thus covering the cattle country west of the river where the free range has been in vogue. He takes the position that all the State lands are being used for grazing. He says that the State is the owner of 1,088,940 acres of common school and endowment lands in the free-range section of the State. On the other hand, stockmen argue that the adoption of the herd law would result in disaster, not only to the cattle industry west of the river, but to the interests of the State as well. They call attention to the fact that the western part of the State is entirely a stock country, excepting small tracts that may be irrigated and farmed. They say that to cut off the free-range privileges and compel stockmen to herd would practically wipe out the cattle industry.

Political.—For the State and congressional election in November 4 tickets were filed—Republican, Democratic, Prohibition, and Socialist.

The platform adopted at the Republican Convention, June 4, approves the national administration, favors the settlement of disputes between capital and labor by arbitration, alludes to the good faith of the United States in giving Cuba independence, rejoices over the pacification of the Philippine Islands, denounces partizan attacks upon the behavior of the United States soldiers, and highly commends the State Government and the Representatives of the State in Congress.

The Democratic and Populist Conventions, June 25, reached an agreement upon fusion and united upon a ticket to be known as the Democratic. The platform reaffirms the principles of the Kansas City platform, denounces the Fowler currency bill and the workings of the so-called text-book trust in the State, denounces the State Legislature for the change in the Australian ballot law limiting the number of parties represented

on the ballot, denounces the Legislature for the repeal of the law allowing each county commissioner district to elect its own members, favors Government control of the railroads and public utilities, and favors the election of United States Senators by direct vote of the people.

The nominations for the State offices are given below in the same order of parties as above:

For Governor, Charles N. Herreid, John W. Martin, H. H. Curtis, John C. Crawford.

For Lieutenant-Governor, George W. Snow, Everett Smith, W. J. Edgar, Erik Shakstad.

For Secretary of State, O. C. Berg, Edward S. Ashley, G. H. Brown, Clarence Brothers.

For State Auditor, J. F. Halliday, Thomas W. Taubman, A. H. Tasker, G. Frank Walker.

For State Treasurer, C. B. Collins, Louis Chladek, Knute Lewis, A. E. Clark.

For Commissioner of School and Public Lands, C. J. Bach, W. H. Minahan, D. W. Noble, Weber T. Pierce.

For Railroad Commissioner, D. H. Smith, Hiram B. Rose, H. W. Reinecke, E. B. Case.

For Attorney-General and Superintendent of Public Instruction there were no Prohibition candidates. Those of the other parties were:

For Attorney-General, Philo Hall, William A. Lynch, S. H. Cranmer.

For Superintendent of Public Instruction, George W. Nash, N. P. Small, David McClellan.

The Republican candidates were elected. The vote for Governor stood: Herreid, Republican, 48,196; Martin, Democrat, 21,396; Curtis, Prohibition, 2,245; Crawford, Socialist, 2,620.

TENNESSEE, a Southern State, admitted to the Union, June 1, 1796; area, 42,050 square miles. The population, according to each decennial census since admission, was 105,602 in 1800; 261,727 in 1810; 422,771 in 1820; 681,904 in 1830; 829,210 in 1840; 1,002,717 in 1850; 1,109,801 in 1860; 1,258,520 in 1870; 1,542,369 in 1880; 1,767,518 in 1890; and 2,020,616 in 1900. Capital, Nashville.

Government.—The following were the State officers in 1902: Governor, Benton McMillin; Secretary of State, John W. Morton; Treasurer, Beau E. Folk; Comptroller, Theodore F. King; Superintendent of Agriculture, Thomas H. Paine; Superintendent of Instruction, Morgan C. Fitzpatrick; Adjutant-General, W. M. Brandon; Attorney-General, George W. Pickle; Commissioner of Labor, Robert A. Shiffett; Live Stock Commissioner, W. H. Dunn; Factory Inspector, Martin J. Noonan; Railroad Commissioners, N. W. Baptist, J. N. McKenzie, and Thomas L. Williams; Prison Commissioners, W. M. Nixon, W. A. Carter, and John S. Denton, who succeeded A. J. McWhirter; Librarian, Jennie Lauderdale; Chief Justice of the Supreme Court, David L. Snodgrass; Associate Justices, W. C. Caldwell, John S. Wilkes, W. K. McAllister, W. D. Beard; Clerk, A. W. McMillin; Justices of the Court of Chancery Appeals, M. M. Neil, S. F. Wilson, R. M. Barton, Jr.; Clerk, James Turney. All are Democrats.

State elections are held biennially in November of the even-numbered years. The Legislature meets biennially in January of the odd-numbered years.

Education.—The condition of education received more than usual attention in 1902. With a school population of 753,198, the number of pupils enrolled in the State was 488,655, and the average daily attendance, for the average school term of less than five months, was 330,692. The average yearly salary of the country public teachers was \$133. Both political parties have pro-

posed reforms that will put more pupils into the schools, and for eight months in the year. It is proposed to increase the permanent school fund, which is the same now that it was thirty years ago, by increasing the State levy for school purposes from 15 to 25 cents on the \$100, and by legislation that will permit school districts to levy special school taxes, also by forcing into the schools all children who should attend by some form of a compulsory school law. The need for the special training of primary teachers is felt particularly. The Peabody College for Teachers and the summer institutes and schools are exerting a helpful influence, but the demand is greater than they can meet with their present limited resources.

Industries.—According to the last census reports by W. H. Wiley, chief of the bureau of chemistry of the Department of Agriculture, Tennessee takes eleventh place in the aggregate value of the flour produced, the number of barrels being 3,512,985, and their value \$13,220,609. Tennessee has 337 establishments handling 16,546,155 bushels of wheat, valued at \$11,778,868. Tennessee takes a higher rank in the excellence of the flour made. In this list its flour is quoted at \$3.76, the average value being given at \$3.39.

Tennessee is shown by the last census returns to rank ninth in the lumber industry, its product being larger than that of any Southern State except Arkansas. The value of the product is given as \$18,000,000.

The largest iron blast-furnace in the South was put in blast at La Follette by the La Follette Coal, Iron, and Railway Company in April. It will have a daily capacity of 250 to 400 tons of pig-iron, and is expected to result in a large and rapid growth for that section of East Tennessee.

The census report on printing and publishing gives Tennessee the highest position among Southern States in this department of industry. The aggregate circulation of the Tennessee publications per issue is 3,131,017. Tennessee outranks 40 States by 500,000 to 3,000,000. Only 7 States outrank Tennessee. Tennessee had 251 newspapers and periodicals, classed as follow: 16 daily, 6 semiweekly, 187 weekly, 28 monthly, and 10 quarterly.

Agriculture.—The committee of agricultural experts appointed to make a report to the Nashville Chamber of Commerce on a State fair did so on April 18. Its description of the agricultural situation was startling and pessimistic. It compared the yield of grain in bushels in 1870, 1890, and 1900, showing that in these years respectively the yield of corn was 41,343,614, 63,635,350, and 59,997,760; that of wheat, 6,188,916, 8,300,789, 8,292,727; of oats, 4,513,315, 8,775,814, 5,326,244; of barley, 75,068, 63,868, 19,539. For the same decades the yield in the number of horses was 247,254, 331,842, 308,073; of mules, 102,983, 203,639, 139,163; of cattle, 643,696, 965,339, 526,325; of hogs, 1,828,690, 1,922,912, 1,570,154; of sheep, 826,783, 54,996, 251,735. The report shows also that since 1900 there has been a loss on every item, and a material loss on all except horses. It says: "The growing of small fruits and truck-farming have been successfully developed, and certain localities and individuals here and there have increased the yield of their fields and maintained the high standard of their studs, herds, and flocks; but, on the whole, Tennessee, from an agricultural standpoint, has made no substantial progress since 1875."

Another fact brought out is that for the decade 1890-1900 the increase in the population of the State outside of the cities and incorporated

towns is but 157,193, and from this, the report holds, should be deducted at least 61,000 in certain counties where mines, etc., have been opened, leaving 96,113, which increase, it says, "is undoubtedly domiciled for the most part in villages and towns unincorporated, or in the suburbs of cities and incorporated towns." It shows that of the 10,000 increase in Davidson County, for example, outside of Nashville, perhaps fully 6,000 are suburban residents. It recommends the establishment of an annual State fair as a remedy for the present agricultural depression.

According to the report issued by the Census Bureau on July 7, the farms of Tennessee on June 1, 1900, numbered 224,623, and were valued at \$265,150,750. The value of farm implements and machinery on the same date was \$15,523,670, and of live stock \$60,818,605. These values added to that of farms make the total value of farm property \$341,202,025. The total value of farm-products for 1899 was \$106,166,440. It is approximately twice that for 1889, but a part of this increase is doubtless due to a more detailed enumeration in 1900 than in 1890. The total land area in Tennessee is 41,750 square miles, of which 76.1 per cent. is included in farms. The increase in the total value of farm property since 1890 was \$28,310,375, or 9 per cent.; the increase in the value of land improvements and buildings was \$22,450,210, or 9.3 per cent.; in that of implements and machinery, \$5,295,790, or 53.3 per cent.; and in that of live stock, \$54,375, or 0.9 per cent. All counties reported an increase in the number of farms in the last decade, and nearly two-thirds of the counties reported an increase in total farm area. The average size of farms varies from 54.8 acres in Shelby County to 182.1 in Fentress County. As a rule, the counties with the largest acreage in cotton have the smallest farms. Nearly 85 per cent. of the farms are worked by white farmers; 15.1 per cent. by colored farmers. Of the white farmers, 64.4 per cent. own all or part of the farms they operate, and 25.6 per cent. operate farms owned by others. For colored farmers the corresponding percentages are 25.8 and 72.2.

Railroads.—In April the Mercantile Trust Company of St. Louis made an arrangement by which it undertook to finance the Tennessee Central Railroad. The mortgage is dated July 1, 1902, and secures a maximum of \$15,000,000 fifty-year 5-per-cent. gold bonds, coupons payable January and July, bonds being redeemable at 5 per cent. premium on and after July 1, 1907, at the option of the company. The bonds to be immediately issued amount to \$5,000,000, sufficient to cover the lines already completed at the rate of \$25,000 a mile. The Tennessee Central operates now from Lebanon to Emory Gap, 127 miles. The object of the line is to develop the 400,000 acres of coal land in the Lebanon region.

Insurance.—The report of the State Insurance Commissioner shows that the receipts from reported companies up to Dec. 31, 1901, amounted to \$2,502,736, and the losses to \$1,825,442. Thirteen companies withdrew from the State during the year and no reports were had from them. There were also three companies from which there had been no statement. The commissioner estimates the total receipts at \$2,575,000, and the losses at \$2,000,000.

Forestry.—The Tennessee Forest Association, which held its first annual meeting in November, 1900, has rapidly attained an important position, numbering among its members the foremost citizens of the State. It has already done something to arrest deforestation by disseminating informa-

tion respecting the growth, protection, and utilization of forests, and by showing the evils resulting from forest destruction. It held its second annual meeting at Monteagle on July 21. The papers read on the occasion have still further stimulated the interest in the movement throughout the State.

Prisons.—The State Board of Prison Commissioners submitted to the Governor on Jan. 30 their report for the fiscal year ending Dec. 1, 1901. It covered every department of prison affairs and gave minute items of expenses and receipts. During the year the net profits of the main prison were \$71,064.10; the net profits of the Brushy mountain mines, \$100,979.75. The balance in treasury from the main prison, \$46,223.94; the balance in treasury from the Brushy mountain mines, \$77,338.49. The total cash balance was \$123,562.43. It was shown by a comparison with the years 1899 and 1900 that the earnings of the main prison for 1901 were \$30,753.19 more than in the former, and \$18,158.45 more than in the latter. The earnings of the Brushy mountain mine were \$16,359.73 more than in 1899, and \$74,443.24 less than in 1900. The net balance of cash deposits by the main prison for 1901 were \$26,073.30 more than in 1899 and \$17,242.81 more than in 1900. The net balance of cash deposits by the Brushy mountain mines for 1901 were \$2,679.41 more than for 1899 and \$48,917.63 less than for 1900. The decreased profits from 1900 shown in the operation of the Brushy mountain mines may be accounted for by the fact that, while the output of coke in 1900 was 49,714.95 tons, in 1901 it was 50,067.01 tons. The reduction in profits for 1901 by reason of the decreased market price of coke alone was \$52,570.35. The average price received for coke in 1900 was \$2.80 per ton, yielding a net profit of \$1.8826, while in 1901 the average selling price of coke was \$1.96, yielding a profit of \$0.8316 per ton. The difference in the profits on coke for the two years was \$1.05 per ton in favor of 1900. This difference on the output of 50,067.01 tons is the amount above stated, \$52,570.35.

Mining Disaster.—The worst disaster in the history of Tennessee mining occurred at Coal Creek on May 19, when 226 men and boys met instant death at the Fraterville coal-mine, 2 miles west of Coal Creek, as the result of a gas explosion. It was the general opinion that the calamity was due to negligence.

Rain-Storms.—The most destructive rain-storms that had occurred for years took place in the central and southern portions of Middle Tennessee on March 29, doing enormous damage to railroad and other property. Small streams rose rapidly to heights they had never attained before. In Giles County they were 11 feet higher than in the great freshet of 1856, and several buildings not touched then were washed away. Railroad bridges, trestles, and hundreds of dwellings were carried off, and many wagon bridges were lost. All traffic on the railroads was necessarily suspended south of Nashville. Many lives were lost, in some instances whole families being drowned.

Legal Decisions.—On May 27, Judge Clark, of the United States Circuit Court, Knoxville, handed down an opinion in the case of Rogan, Noce & Smith, of Rogersville, Tenn., vs. Virginia-Carolina Chemical Company et al., in which he holds that the plaintiffs' claim for damages from the defendant, to the amount of \$5,000, on the ground that the defendant company has created a combine in this and other States in the fertilizer business, is not well founded. He holds

that chapter cxcviii, Tennessee Acts of 1891, and chapter xciv, Tennessee Acts of 1897, on which the suit is predicated, have been repealed; also, that these repealed laws, which constitute the Tennessee antitrust legislation, are in contravention of the Federal Constitution and void, because they interfere with commerce between the States mentioned. Judge Clark says that had the suit been brought on the Sherman antitrust law, he would have passed upon it.

The Supreme Court handed down a decision, March 7, on the test case of *Benedict Brothers vs. Davidson County et al.*, in which suit was involved the taxation of sawlogs and lumber made from logs that were the product of the soil of Tennessee. The case was decided in favor of the plaintiffs, with right to recover. The suit involved the question of taxation of millions of dollars' worth of property which had heretofore been exempt. The opinion was delivered by Justice Wilkes; Judge Beard offered a dissenting opinion.

Justice McAllister rendered a decision on Feb. 13 in a suit that had an interest for organized labor throughout the State. The State Comptroller, acting under the advice of the Attorney-General, refused to issue a warrant for the first month's salary of M. J. Noonan, State Shop and Factory Inspector, on the ground that while the amended act of the last General Assembly appointed an inspector at an annual salary of \$1,200, payable monthly, instead of fees to be paid by the factories inspected, no provision had been made in the appropriation bill for the purpose. The contention of Mr. Noonan was that the act of 1901 placing the inspector on a salary amounted in law to an "appropriation," as this term is used in the Constitution of the State, and that the law that fixed the salary fixed the manner of payment and the time. The Supreme Court affirmed the ruling of the lower court, which had sustained the contention of the inspector. As the laboring classes regarded the duties performed by the inspector as essential to the welfare of those working in shops and factories, they attached much significance to the decision.

Proposed Constitutional Changes.—During the last session of the Legislature several bills and resolutions were passed to amend the State Constitution. These proposed amendments provide for electing the Secretary of State, Treasurer, and Comptroller by the people for four years; for local road, fence, and stock laws; for preventing municipalities from incurring indebtedness exceeding 10 per cent. of the value of taxable property; for special assessments on parts of property for local improvements; for exemption of new industries from taxation for a period of not exceeding ten years; for election of the Governor for a term of four years instead of two, as at present; and for an increase of the terms of sheriff, trustee, and register to four years, but making them ineligible to a second term immediately succeeding the first.

Political.—The Democratic State Convention met on May 29 and nominated James B. Frazier for Governor and J. Neil McKenzie for Railroad Commissioner. The State Judicial Convention on the following day nominated for the Supreme Court John K. Shields, John S. Wilkes, W. K. McAllister, W. D. Beard, M. M. Neil; for Court of Appeals, R. M. Barton, S. F. Wilson, John M. Taylor.

The platform approved "the principles of the platform adopted by the last national convention of the Democratic party"; condemned the Re-

publican policy in the Philippines; declared against an increased standing army, favoring State militia; denounced Republican extravagance; supported the construction of the Nicaragua Canal; expressed sympathy for the Boers; favored liberal commercial relations with Cuba; approved Gov. McMillin's administration; approved the public-school system and the textbook law; called for the establishment of good roads; declared in favor of holding a State fair, and of the Legislature setting apart an adequate sum for the purpose; demanded a revision of the State laws on the inspection of coal-mines and factories to afford better protection for the laboring classes.

The Republican State Convention met in June and nominated Judge H. T. Campbell for Governor and J. J. Elliott for Railroad Commissioner. The platform approved the measures inaugurated by the national Republican party, through President McKinley, and being carried out by President Roosevelt, together with the policies, touching both home and foreign relations; attacked the Democratic administration of State affairs, and demanded such changes and reforms as would be in harmony with true republican ideas; insisted on fee reform, a revision of the election laws on a plan which it suggested, and on the improvement of the public-school system; declared for extending the operation of the 4-mile law to towns having 5,000 inhabitants; and favored the adoption of several amendments to the Constitution.

All the Democratic nominees were elected in November. The entire vote in the State was 160,149, which was 22,235 less than in 1898. The vote for Governor was as follows: J. B. Frazier, Democrat, 98,954; H. T. Campbell, Republican, 59,002; R. S. Cheves, Prohibitionist, 2,193.

TEXAS, a Southern State, admitted to the Union Dec. 29, 1845; area, 265,780 square miles. The population, according to each decennial census since admission, was 212,592 in 1850; 604,215 in 1860; 818,759 in 1870; 1,591,749 in 1880; 2,235,523 in 1890; and 3,048,710 in 1900. Capital, Austin.

Government.—The following were the officers of the State for the year: Governor, Joseph D. Sayers; Lieutenant-Governor, J. N. Browning; Secretary of State, John G. Tod, appointed by the Governor; Treasurer, J. W. Robbins; Comptroller, R. M. Love; Superintendent of Public Instruction, Arthur Lefevre; Commissioner of Agriculture, Jefferson Johnson; Railroad Commissioner, L. J. Storey; Adjutant-General, Thomas Scurry; Commissioner of the General Land Office, Charles Rogan; Attorney-General, C. K. Bell; Chief Justice of the Supreme Court, Reuben R. Gaines; Associate Justices, Thomas J. Brown and F. A. Williams; Clerk, Charles S. Morse—all Democrats.

The term of State officers is two years. They are elected on the Tuesday after the first Monday in November of the even-numbered years. The Legislature meets biennially on Jan. 2 of the odd-numbered years. The session may continue indefinitely, but the members receive \$5 per diem for the first sixty days, after that \$2 per diem. There are 31 Senators, elected for four years, and 128 members of the House of Assembly, elected for two years.

Finances.—The Legislative Investigating Committee completed the counting of the bonds in the State treasury on April 26. The amount of bonds was found to be \$11,119,236.40, classified as follows: To the credit of the permanent school fund, State bonds, \$2,187,200; railroad, \$1,603,317; county, \$5,937,273.35; city, \$209,387.55; independ-

ent school district, \$93,500. To the credit of the permanent university fund, State bonds, \$579,700; to the credit of the Blind Asylum land sales account, State bonds, \$115,500; to the credit of the Deaf and Dumb Institute land sales account, State bonds, \$61,000; to the credit of the Lunatic Asylum sales account, State bonds, \$111,700; to the credit of the Agricultural and Mechanical College fund, State bonds, \$209,000; to the credit of the Orphan Asylum land sales account, State bonds, \$11,200; special loan tax certificates of public debt, \$79,409.50; escheated estates notes, \$1,079.

Valuations.—The totals of the taxable real and personal property in Texas, reported by the Comptroller, Nov. 12, showed a decrease in livestock values, but an increase in implements, machinery, tools, money, and credits. Of the land, 139,040,030 acres were valued at \$437,215,410, an increase of 3,238,761 acres, valued at \$14,901,609; town and city lots, \$210,103,181, an increase of \$11,273,226; 1,555,872 horses and mules, \$38,026,646, an increase of 21,362 head, decrease \$1,555,994 in value; 7,575,390 cattle, \$74,228,489, increase 680,493 head, decrease \$339,947 in value; 14,749 jacks and jennies, \$469,631, an increase of 231 head, decrease \$7,099 in value; 1,521,834 sheep, \$2,071,297, increase 16,407 head, decrease \$34,697 in value; 458,712 goats, \$524,019, increase 4,855 head and \$6,137 in value; 1,014,315 hogs, \$1,608,593, decrease 394,161 head and \$850,304 in value; 28,808 dogs, \$183,348, decrease 1,644 head, increase \$19,232 in value; railroads, 10,681 miles, \$77,227,725, increase 640 miles and \$3,276,660; rolling-stock of railroads, \$10,386,232, increase \$383,374; city street-railroads, 285 miles, \$1,346,401, increase 54 miles and \$200,911; telegraph and telephone lines, 23,890 miles, \$2,508,365, decrease 3,933 miles, decrease \$71,289 in value; steam, sailing, and other vessels, 200, \$365,300, increase 5 and decrease \$85,525 in value.

Banking.—In December there were 345 national banks in operation in the State. Outside of the reserve cities, Dallas and Houston, the total capital was \$23,100,260; surplus, \$6,164,632.93; individual deposits, \$65,006,668.96. For Dallas and Houston the principal items were: Dallas—capital, \$1,050,000; surplus, \$1,061,000; individual deposits, \$6,718,037; national-bank deposits, \$2,161,634; State and private banks, \$340,018; United States deposits, \$584,579. Houston—capital, \$1,450,000; surplus, \$850,000; individual deposits, \$6,538,666; national-bank deposits, \$1,965,396; State and private banks, \$685,521; United States deposits, \$100,000. The banks of Texas are in an exceptionally good condition.

Education.—The Treasurer's report showed that the school fund aggregated \$40,283,330.84. This amount represents notes, obligations, and other securities purchased, resulting from the sale of 21,905,906 acres of its select and choicest land, including its timber, of which 14,694,426 acres have been sold since the act of 1895 became law. There are still unsold 22,080,225 acres, but most of it is in the extreme western part of the State, and on the Rio Grande, where, from excessive droughts, the lack of water, or the general topography of the country, the land may never become valuable. As great as is the demand for land for grazing, there are about 7,500,000 acres lying idle.

The remedies proposed by the State Land Commissioner in his biennial report, filed in November, were to raise the minimum price to \$2 an acre, except for watered land, and raise that to \$3 an acre; to sell no land except at public outcry, and then only to actual settlers; and to sell no land below the minimum price fixed by law, and none unless a certain number of bidders are present.

The attendance of students at the opening of the State Agricultural College, in Bryan, at the opening, Sept. 10, was the largest known in the history of the institution. The work on the new chemical and veterinary laboratory was finished, and the building was ready for occupancy Oct. 1.

The summer session of the University of Texas, in Austin, closed July 26, and was the most successful ever conducted. The number of students enrolled was 262.

The Penitentiary.—The records of the State Penitentiary, Sept. 25, showed the number of convicts that were killed in the past few years while attempting to escape. In 1901 the number was 16. During the term of Gov. Culbertson, who preceded Gov. Sayers, the number was 37, and during the three terms before him the number was 88.

Agriculture.—The bulletin issued by the United States Census Bureau, July 7, showed that the farms of Texas in 1900 numbered 352,190 and were valued at \$691,773,613. Of this amount 14.5 per cent. represents the value of buildings, and 85.5 per cent. the value of the land and improvements other than buildings. The total value of farm-products for 1899 was \$239,823,244, of which amount 30.4 per cent. represents the value of animal products, and 69.6 per cent. the value of crops, including forest products, cut or produced on farms. The total acreage of farm-land has increased rapidly, being twice as great in 1900 as in 1890.

The value of live stock on farms and ranges, June 1, 1900, was \$240,567,955, or 25 per cent. of the total value of farm property. Of this amount, 59.5 per cent. represents the value of meat cattle other than dairy cows, 14.3 per cent. that of horses, 10.4 per cent. that of mules, 8.3 per cent. that of dairy cows, 3.2 per cent. that of swine, 1.7 per cent. that of sheep, 1.5 per cent. that of poultry, and 1.1 per cent. that of all other live stock.

The Boll-weevil.—The ravages caused by the boll-weevil, especially in the last two months of the year, were so disastrous that the United States Secretary of Agriculture was of opinion it might be necessary, in the work of extirpating the insect, to plant other crops. By this the world's cotton market would be materially affected. A report issued by the vice-president of the Santa Fé Railway estimated the cotton-crop along the Santa Fé and the International and Great Northern at 40 per cent. less than last season. The boll-weevil was responsible for at least 90 per cent. of the damage. The weather after Nov. 21, the date on which the report was issued, was still more unfavorable to the staple. A congress of cotton-growers of the State was held at Dallas, Dec. 17. Its principal object was to collect data that should prove the necessity of obtaining the passage of relief measures by Congress and the State Legislature, the present situation not only giving rise to a serious problem in the cotton industry, but being a menace to the entire South as well as to Texas.

Though still confined to Texas, says the report, the territory occupied by the cotton boll-weevil includes about 28 per cent. of the cotton acreage in the United States. This acreage in 1900 produced 34 per cent. of the total crop of this country, or one-fourth of the crop of the world for that year. This region is bounded on the north by the Red river and on the east by the pine forests of the divide between the Trinity and Sabine rivers. It includes the 22 counties which, in 1899, according to the twelfth census, produced 40,000 bales or more each. A conservative statement would place the loss that the insect caused to Texas in 1902 at \$10,000,000.

It is wholly beyond possibility that the weevil is ever to be exterminated. Its history in Mexico and since reaching Texas, as well as the history of many related injurious insects, offers no hope that it will ever be much less destructive than now. Nevertheless, it has been demonstrated that cotton can be grown profitably by means of a few expedients in planting and managing the crop where the insect is present.

During the season the division of entomology was engaged in field experiments to demonstrate that cotton can be produced successfully in spite of the boll-weevil. Some of this work was conducted on the plantation of Col. E. S. Peters, in the Brazos valley, near Calvert. This valley is, on account of its low and moist situation, the presence of timber, and the almost exclusive production of cotton, the most seriously-affected portion of the boll-weevil territory. In fact, the most favorable conditions possible for the multiplication of insects are there present. In none of the field did any of the insects, aside from the weevil, cause any considerable damage. The boll-worm was present, but did very little injury; the sharp-shooter was scarcely noticed, and the leaf-worm did not appear in sufficient numbers to warrant poisoning. To summarize the results of these experiments: 1, Early planted cotton, with a thorough cultivation, produced two-thirds of a bale per acre; 2, early planted cotton, with careless cultivation, produced one-ninth of a bale per acre; 3, early planted cotton, with fair cultivation, produced one-half of a bale per acre; 4, Late planted cotton, with wide rows, produced about one-fourth of a bale per acre; 5, late planted cotton, with narrow rows, sprayed thoroughly, yielded about one-fourth of a bale per acre.

In a report submitted by Congressman Slayden, Dec. 17, to the House Committee on Agriculture, the loss due to the boll-weevil in 1902 was placed approximately at 500,000 bales, with about \$25,000,000. This report was based on information gathered by the managers of the several Texas railroads that run through the infested section. The entomologist of the Texas State Agricultural College figured, Aug. 17, the loss at \$21,250,000.

Rice.—In a bulletin issued by the University of Texas, Dec. 12, detailed statements were given of the capacity, acreage, and cost of installing almost every separate rice-farm in the State. The report is of special interest to the people of the coast country of Texas, which, in the past two years, has developed greatly as a rice-growing center, and which bids fair to be the largest in the world. It exhibits the acreage sowed in rice by counties, the total being 182,170 acres. On account of failure to secure an adequate supply of water, it is believed that not more than 150,000 acres can be harvested. According to a conservative estimate, the probable yield for the season would be 1,450,000 sacks.

The Oil-Fields.—The report of the United States Geological Survey, Oct. 25, declares that the Spindle Top oil-rock contains about one-fourth of its volume in oil. At an estimate of 1 barrel obtained for every 26 cubic feet for Spindle Top, and a little less for other fields, there should be a yield equal to Baku, in Russia, and a much greater output than that at any other American field. The report says that the apparent consensus of opinion among chemists who have examined the field is that the Gulf Coast petroleum is unsuited for the production of illuminating oil, and that it is doubtful if it can be made to yield good lubricating oil on a commercial basis. Its value as a source of asphalt and gas oil is as yet undetermined. Experiments seem to establish

both its availability and its economy as a generator of steam. The estimate of the average daily flow of 162 wells now operating on Spindle Top is not to exceed 12,000 barrels.

The oil industry of South Texas was greatly advanced by the discovery of oil at several points outside of Spindle Top. The steel, earthen, and wooden storage at Spindle Top, Jan. 1, 1903, was 13,253,000 barrels. The oil in storage Dec. 1, 1902, was 8,670,000 barrels. The oil in storage Jan. 1, 1903, was 9,470,000 barrels.

Legal Decisions.—On May 26 the Supreme Court decided the case of the State of Texas *vs.* the Houston and Texas Central Railway Company *et al.*, from Travis. This was a suit instituted to recover 170,880 acres in Lipscomb County, located and surveyed by virtue of certificates issued to the railroad company under several acts granting 16 sections of land to any railroad company for every mile of road constructed and operated. The lands were granted the railroad company for miles of sidings constructed, and not main line. However, its recovery was sought on these grounds: First, that at the time the sections of railroad were completed for which the certificates were issued the law which authorized a grant of lands to railroads had ceased to be operative by its own limitation and had also been repealed by the Constitution of 1869; second, that the certificates by virtue of which the lands in controversy were located were issued for side-tracks, and that the law did not authorize the issue of certificates for sidings; and third, that if the grants were valid the title thereto had been forfeited by failure of the company to alienate them within the time prescribed by the statutes which authorized the grant. The court decided in favor of the company. Had it decided otherwise, the titles to 10,000,000 acres would have been placed in jeopardy, but as it is they are safe, and innocent third parties, who purchased the lands, will not suffer.

A decision rendered by the Court of Appeals, Nov. 19, was of special importance on account of the effect it must have on many other suits filed by the Attorney-General to recover land held by virtue of Mexican land grants, more than 1,000,000 acres being in controversy. The suit—O'Connor *vs.* the State of Texas—was to recover 19,410 acres in Webb County, out of an original Mexican land grant of 300,000 acres, title to which the State contested, alleging that it had not been legally confirmed. The original grantees filed suit in the district court of Webb County within three years after the passage of the act of 1860, as provided therein, to confirm title, and secured the judgment sought. The State attacked this judgment as irregular and void and not having been rendered by a "court of proper jurisdiction." O'Connor answered that even if said judgment was invalid the act of the Legislature of 1881 validated his title. The court sustained O'Connor's contention, holding that the act of 1881 did confirm title, and therefore rendered judgment in his favor.

Confederate Reunion.—About 12,000 Confederate veterans held their annual reunion at Dallas on April 23. Gen. Gordon, commander-in-chief, called the convention to order. Among the resolutions adopted was one withdrawing the support of all Confederate veterans from Grail University because of an alleged disparaging article by a professor of that institution on Southern women. Another called for the preparation of school histories that would do justice to "Southern leadership, Southern character, Southern environment, and Southern development." The report on the

Davis monument fund showed that there was \$35,000 on hand, but that \$40,000 more was needed. A proposal to change the Confederate Memorial Day from June 3, the birthday of Jefferson Davis, failed, but a resolution was passed allowing any State desiring a different date to take individual action. The Credentials Committee reported that 707 camps had paid their per capita tax, and were entitled to 2,252 votes, while 748 camps were reported in arrears. The report of the Committee on Battle Abbey showed that of the \$200,000 necessary for the reconstruction of the museum the treasury has now \$176,053. Gen. Gordon was reelected commander-in-chief. About 150,000 persons attended the reunion from all parts of the South. New Orleans was chosen as the next meeting-place.

Change of Boundaries.—On Dec. 6 a report was filed in the State Land Office describing the work done under the act of Congress of 1901 requiring the Secretary of the Interior to establish the one hundredth meridian, which forms the eastern boundary of Texas from Red river, in Childress County, north to and including Lipscomb County. It was first understood that the new line would give Texas a strip of 8 miles of Oklahoma; but the report fixes the meridian so that Texas loses a strip of land three-fourths of a mile wide, taking off that much of the eastern edge of Lipscomb, Hemphill, Wheeler, Collingsworth, and Childress Counties, a total loss of 112½ sections or 7,200 acres, which has always been regarded as part of Texas.

The same condition prevails on the west side of the State, the entire length of the Panhandle, United States surveyors having fixed the one hundred and third meridian, which forms the western boundary of Texas, so that a strip of 3 miles is taken from all the border counties, making a total of about 300,000 acres.

New Mexico also disputes the boundary-line extending from the westernmost point of Texas east along the northern edge of El Paso, Reeves, Loving, and Winkler Counties, to the point where it turns north, it then being in the 3-mile controversy.

Lawlessness.—On March 7 a party of whites went at night to the home of Nathan Bird, a negro farmer living near Prairie Lea, and demanded his son, but were refused. The son was accused of having beaten a white boy and broken his arm. The party then shot and instantly killed the father. They carried away the son, and are believed to have killed him, as no trace of the boy has since been found.

At Hemstead, Oct. 21, 2 negroes, Reddick Barton and Jim Wesley, were tried for criminal assault and murder, convicted and sentenced to death. The people were unwilling to wait for the delay of thirty days prescribed by law to take place between the sentence and its execution. They seized one prisoner in the court, the other in the jail, and hanged them from the arm of a telegraph-pole in the public square.

A negro named Dudley Morgan was burned alive at the stake at Lansing, May 22. When it was learned that he was on a train being brought to Lansing to be identified by the woman he had assaulted, about 200 men, armed with Winchester rifles, surrounded the train as it entered the city, seized the negro, and conducted him to the spot where the execution was to take place. Morgan confessed having committed the crime, and after he was chained to the rail with his hands and legs free, the members of the mob began to take ties from a fire already started and burn out his eyes, and held the red-hot and burning timbers

to his neck, burning his clothes off and other parts of his body. The negro was tortured until death came to his relief, the crowd all the while crying "Let him die slow." A large number of women from all parts of the surrounding county were present at the spectacle.

Disasters.—On March 7 the Southern Pacific train No. 9 went into a ditch 25 miles west of Sanderson. The wreck took fire and 12 persons were consumed by the flames before aid could reach them, and 28 were injured, many of whom died. The wreck occurred in the middle of the night.

Several fires occurred at Dallas after 3 o'clock in the morning, April 20. Two men were fatally injured. The Dorsey Printing Company, one of the largest establishments of the kind in the South, was destroyed. The losses aggregated about \$500,000.

A terrible cyclone struck Goliad on May 18, completely destroying the western part of the city—a strip 3 miles wide and 1 mile long. The dead numbered about 125. The number of those injured was about the same, not more than half of whom were expected by the physicians to recover.

A fire occurred at Temple, Aug. 10, in which the Landon Hotel and the block in which it was situated were reduced to ashes. Ten guests of the hotel were burned to death, and a great many others were injured.

The Santa Fé express was wrecked by a broken rail 16 miles from Brownwood, and about 30 persons were injured, some fatally.

Destitution along the Rio Grande.—In April it became known that more than half of the 11,000 people in Starr County, and of the 6,000 people in Zapata County, were in a destitute condition. No corn had been raised for two years. The drought began fourteen years previously, and had grown worse year after year. The destitute region is from 50 to 100 miles from the nearest railway points, and the inhabitants were without horses. As soon as the situation became known, successful efforts were made by State officials and private individuals to relieve the distress.

Galveston.—The value of the year's business exceeded that of any previous year. The total value of the business of the port for 1902, both export and import, was \$347,993,163, the corresponding figures for 1901 being \$253,771,552. The bank clearings for the year were \$389,104,000, compared with \$378,435,800 for 1901. The custom-house receipts for the year were \$263,508, compared with \$169,064 for 1901. The value of Galveston's foreign exports for 1902 was \$92,756,044, compared with \$106,526,508 for the preceding year. This decrease was due to the diminished crops of cotton and grain.

In 1902 181,335 tons of oil cake and meal, valued at \$4,075,357, were exported through Galveston, compared with 256,582 tons, valued at \$5,568,449, for 1901. In 1902, 3,740,566 gallons of cottonseed oil, valued at \$1,244,678, were exported, compared with 4,933,371 gallons, valued at \$1,502,307 for 1901.

Lumber to the value of \$523,302 was exported, compared with a valuation of \$479,457 on lumber exported in 1901. The live-stock exports were valued at \$247,892, compared with \$199,717 for 1901.

The foreign imports through Galveston in 1902 were valued at \$1,312,394, compared with \$1,048,888 in 1901. The coastwise trade was more than doubled during the year, and the Southern Pacific Steamship service was inaugurated, as well as a regular service to Brownsville and Port Arthur. A feature in the foreign tonnage was the size of

ships. Two hundred ships, with a net tonnage of 533,017, entered the port, and 300 ships, with a tonnage of 722,791, cleared. During the year 1901, 291 ships, representing a tonnage of 645,024 entered, and 347 ships, representing a tonnage of 786,100, cleared.

This year \$1,715,217 was spent in Galveston for permanent improvements. The appropriation made by Congress for deepening and widening the channel in the inner harbor was \$300,000; for repairing the jetties, \$750,000. Including the seawall and Government projects money is available to the amount of \$3,136,283 for improvements in 1903.

Political.—The Prohibition Convention met in Dallas, July 4. The platform consisted simply of a denunciation of the liquor traffic and the Government's participation in it through the licensing system.

In the platform of the Socialistic Convention, Dallas, July 4, the acceptance of the principles of Socialism was held to be the only solution of the labor and capital question. Labor conditions, especially as they affected children, was held to be worse in Texas than in the East and North.

The platform adopted by the Populist Convention, at Fort Worth, Aug. 12, reaffirmed the national platform of the party, and called particular attention to the initiative and referendum as the only method by which the people could express themselves fully and freely on political questions. The name of The Allied Populist Party of Texas was adopted, and an invitation was extended to the laboring people to unite with that body.

The platform of the Democratic Convention, which met in Austin, July 17, declared faith in the principles of the party as set forth in the Kansas City platform; pointed out the dangers of imperialism, centralization, trusts, monopolies, mergers, and other combinations as being hurtful to the people; commended the efforts of the Senators and Representatives in Congress from the State for their efforts in aid of tariff reform; of a canal connecting the Atlantic and Pacific Oceans; of election of Senators by direct vote of the people, and the securing of appropriations for the improvement of waterways and harbors; urged them to oppose every attempt to establish a branch banking system; approved the administration of Gov. Sayers; praised him for the splendid financial condition of the State and the reduction of taxes; commended the condition and management of State eleemosynary institutions; favored a law providing for the improvement of the public roads of the State and the employment thereon and upon the farms of the State of short-term convicts; supported the reenactment of the uniform text-book law and liberal appropriations for educational institutions; requested the Legislature to provide for the establishment of textile schools as a department of industrial education in the Agricultural and Mechanical College; favored the submission of a constitutional amendment authorizing the chartering of State banks of discount and deposit; demanded the enactment of a law prohibiting the employment of children under twelve years of age in factories using machinery; approved the Louisiana Purchase Exposition project; favored legislation to prohibit free passes on railroads; declared for uniform election primaries, and fixed the second Saturday in July, 1904, as the date for holding primaries in every county.

The platform of the Republican Convention, Fort Worth, Sept. 11, approved the acts and policies of the present national administration; declared Theodore Roosevelt to be the unanimous choice of the Republicans of Texas as the candi-

date for President in 1904; congratulated the people of Texas upon the generous recognition given to the seaports and harbors of that State by a Republican administration and a Republican Congress; favored the establishment of a port of entry adjacent to the Beaumont oil-field, and favored national and State aid for the protection of the rivers and valleys of the State from overflows; demanded freedom of speech and protection for the newspapers of the State; recommended the introduction of industrial education into the normal schools, orphans' homes, and, where possible, into the public schools; opposed the employment of child labor in factories and like institutions; condemned the Democratic party for its advocacy of sumptuary and restrictive laws; and condemned the employment of convict labor on farms and in factories in competition with free labor.

The candidates of the Democratic party for Governor and Lieutenant-Governor, S. W. T. Lanham and George D. Neal, were elected. The vote for Governor was: Lanahan, 218,959; Burkitt, 56,678. All the Democratic candidates for the Senate (31) were elected; 127 Democrats were elected for the House, and 1 Populist, the Democratic majority on joint ballot being 158.

UTAH, a Western State, admitted to the Union Jan. 4, 1896; area, 84,970 square miles. The population in 1900 was 276,749. Capital, Salt Lake City.

Government.—The State officers in 1902 were as follow: Governor, Heber M. Wells, Republican; Secretary of State, James T. Hammond; Auditor, Charles S. Tingey; Treasurer, John De Grey Dixon; Attorney-General, M. A. Breeden; Superintendent of Public Instruction, A. C. Nelson; Adjutant-General, Charles S. Burton; Librarian, Lilburn P. Palmer; Bank Examiner, Walter J. Beatie; Coal-Mine Inspector, Gomer Thomas; Engineer, A. F. Doremus; Fish and Game Commissioner, John Sharp; Food and Dairy Commissioner, Moroni Heiner; Justices of the Supreme Court, James A. Miner (Chief Justice), R. N. Baskin, and George W. Bartch; Regents of the State University, James Sharp, Frank Pierce, Waldemar Van Cott, Mrs. Emma J. McVicker, Mrs. Rebecca E. Little, Joseph T. Kingsbury, Moses Thatcher, Thomas R. Cutler, and W. W. Riter; Commissioner of Statistics, Charles De Moisey; Secretary of the Board of Health, Dr. T. B. Beatty; Secretary of the Land Board, Byron Groo.

The term of the State officers is four years. They are elected at the time of the presidential elections. The Legislature meets biennially in January of the odd-numbered years; the session is limited to sixty days.

Education.—According to the yearly statistics compiled in the office of the State Superintendent, in 1902 there was a school population of 76,466. This includes all between the ages of six and eighteen, and shows a decrease over the preceding year of 97. The expenditures for school purposes in 1902 were \$1,459,446.06. In 1901 they were \$1,359,721.70, a per capita of \$19.10 and \$17.77 respectively. The maintenance expenses of the schools make the annual cost of education per capita \$5.20.

In the financial condition of the public schools there has been a gradual improvement ever since statehood, and the revenues derived from the sale of Government lands, set aside for school purposes, is constantly increasing. The receipts for 1902 and the preceding year were drawn from the following sources: State tax of 3 mills, county school tax, district levy, and special tax and sinking-fund tuition. The funds for 1901 amount-

ed to \$1,285,454.12; for 1902 to \$1,433,897.06. The number of teachers employed in the former year was 1,531, and last year 1,593. The average salary for male teachers in 1901 was \$65.65, and for females \$45.08. In 1902 these amounts were increased to \$66.81 and \$48.12 respectively. The number of schoolhouses was increased from 634 to 711. The value of school property in the State in 1901 was \$3,065,605.02. In 1902 there was an increase of \$155,554.62. The number of graduates was increased from 1,710 in 1901 to 2,051 in 1902.

The report of the University of Utah, at Salt Lake, shows that in the school year of 1901-'02 there was an enrolment of 778 students—388 men and 390 women. The total registration for 1902-'03 was 814, of whom 401 are men and 413 women. Of these, 75 are in the School of Arts and Sciences, 86 in the State School of Mines, 73 in the State Normal School, and 87 in the State Normal Kindergarten, with 466 in the preparatory school and 114 in the summer school. Of the total number, 26 come from outside Utah. The State School of Mines, established in 1901, has grown greatly, and the regents announce that an improvement of the course is contemplated and an enlargement of the school. The Branch Normal School, at Cedar City, Dec. 1, 1902, had an attendance of 225, an increase of 60 over the previous year, and the State Agricultural College, in Logan, also showed a large increase in attendance, the enrolment for the year 1902-'03 being 516.

Finances.—There has been a steady improvement in the finances with each succeeding year since statehood, and the present condition is very gratifying. While there has been a gradual improvement in valuations of taxable property, which insures additional revenue, the demands upon the State are likewise increasing, especially in regard to educational, charitable, and penal institutions. In 1901 the valuation of taxable property in the State was \$112,583,130. The value for last year is given as \$118,019,462. The bonded indebtedness of the State is \$900,000, all due for bonds issued during Territorial days. By reason of a constitutional provision, the total bonded indebtedness of the State can at no time exceed \$1,100,000. The State has no floating indebtedness. In 1901 the gross tax was \$900,702.82, and the net tax charged was \$900,448.31. In 1902, with a total valuation of \$118,019,462, the gross tax was \$920,551.71, and the net tax charged was \$920,093.78. In 1901 the value of personal property, all animals excluded, was \$17,007,114. Last year it was \$18,521,875. The receipts from all sources for 1901 were \$1,283,722.42, and the disbursements \$1,205,163.62. In 1902 the receipts were \$1,409,256.47, and the disbursements \$1,449,654.68. Warrants are outstanding to the amount of \$24,491.76. The cash on hand in the treasury Dec. 31, 1902, was \$565,259.31. On an estimated valuation of \$120,000,000 for the biennial period of 1903-'04 the State Auditor estimates the total requirements at \$1,673,250.14, and the estimated revenue for this period is \$1,532,597.87.

Railroads.—The mergers of 1902 were felt in Utah, with the result that at the end of the year there were fewer actual wage-earners in the employ of the railroad systems in Utah than there had been twelve months before. On the other hand, there was far more construction. The Central Pacific has under way, between Ogden and San Francisco, improvements for which \$20,000,000 has been appropriated. Included in this is the great Lucin Cut-Off across the bosom of the Great Salt lake, which will cost several mil-

lion dollars. The Oregon Short Line is constructing what is known as the Leamington Cut-Off, with its 117 miles of track and road-bed. The Lucin Cut-Off will shorten the distance to San Francisco 102 miles. Other construction under way or accomplished is a line of the Oregon Short Line from Corinne to Brigham City, and the building by the Rio Grande Western of the first 20 miles of the cut-off from Salina to connect with a point near Green River, Utah.

Mining.—The metal output of Utah in 1902 was \$20,985,337.82, an increase of \$3,404,879.94 over 1901. The output in detail was as follows in 1902: Lead, 146,978,597 pounds, at 4 cents a pound, \$5,879,143.88; copper, 26,373,780 pounds, at 11.59 cents, \$3,048,608.10; silver, 15,892,733 ounces, at 52.15 cents, \$8,160,325.84; gold, 194,863 ounces, at \$20 an ounce, \$3,897,260; total, \$20,985,337.82.

The dividends paid by Utah metal mines in 1902 amounted to \$5,025,500, an increase over the previous year of \$578,600.

One new smelter, with a daily capacity of 1,500 tons, and another of 1,000 tons capacity, have been completed in the Salt Lake valley; work has begun on a 1,500-ton smelter at Lewiston, Beaver County, on one of 100 tons capacity near St. George, and on another of 50 tons daily capacity at Cashin.

The development has been greatest in the copper and gold mines of Beaver County, and the silver, lead, gold, and copper mines of Park City. New producing properties have been opened up in various districts, despite the reduction in price of both copper and silver.

Iron County, Utah, contains some of the largest high-grade iron deposits in the world, and capitalists have taken up the work of developing these resources, with a view to establishing iron-manufacturing plants in the State.

This year 191 new mining companies were organized under the laws of the State, with a total capitalization of \$60,945,900.

Salt.—The production and refining of salt is yearly growing in importance. In the Great Salt lake there is an apparently inexhaustible supply of this commodity. Among the largest plants on the shores of the lake is that of the Inland Crystal Salt Company, which in 1902 produced 30,000 out of the 35,000 tons shipped out of Utah. Of this output, mining companies in this and adjoining States use nearly 50 per cent. in the milling of their ores, and the rest is marketed.

Beet-Sugar.—With 12,907 acres planted in sugar-beets, 155,485 tons were produced and fed into the mills of the Utah Sugar and the Amalgamated Sugar Companies. The average yield per acre was 12.05 tons, and 31,800,000 pounds of sugar was produced. In the season of 1902 \$400,000 was paid out for beets alone by the Utah Sugar Company, and the monthly pay-roll at the mill exceeded \$25,000. The contract price for beets hauled into the shed was \$4.75 for the Utah Sugar Company and \$4.50 for the Amalgamated.

Coal.—The State has several large mines and innumerable smaller ones in many counties, but they convey no adequate idea of the vastness of the coal deposits. For hundreds of miles in the southern parts of the State the outcroppings are mute testimonials of the great bodies of fuel under the surface. The coal of Utah is not excelled by that of any coal-producing State in the Union. It is of two classes—steam-producing and coke-making. The coke industry of the State is in its infancy, the production for 1902 being 128,524 tons, against 51,607 for the preceding

year. About 60 per cent. of the coke was used in the State, and the remainder in adjoining States.

The production of coal in Utah in 1902 was 1,641,436 tons, against 1,152,224 tons in 1901. The value of the product, based on its price at the mines, \$1.50 a ton, was \$2,462,154 this year, against \$1,828,336 in 1901. In 1902 1,883 men were employed in the coal-mines. In 1901 there were 1,724. The number of accidents in Utah coal-mines was 21, against 26 in 1901. The fatalities numbered 9, against 7 in the preceding year. Eight new mines were opened in 1902, 2 in Carbon County and 6 in Emery.

Live Stock.—The statistics for 1902 show a decrease in the number of live stock, but an increase in value, this being due to the fact that in the past year the stock growers have been encouraged by State and county aid to enhance the value of their property by breeding up. The State fair, given partly under the auspices of the State, is especially responsible for this change. In 1901 there were 72,072 horses and mules in the State, valued at \$1,530,761. Last year there were 70,335, valued at \$1,688,916. In 1901 the cattle numbered 206,734, valued at \$3,734,672. The number decreased last year to 204,179, valued at \$3,479,752. In 1901 1,831,383 Utah sheep were valued at \$4,737,832. In 1902 the number fell off to 1,585,801, and their value to \$3,637,269. The swine in 1901 numbered 16,688, and were valued at \$51,666. The following year they numbered 16,016, and their valuation was \$54,285. The poultry, including turkeys, geese, ducks, and chickens, numbered last year 588,518. There were 19,329 stands of bees, which produced 957,025 pounds of honey.

Farm Labor.—Farm-hands to the number of 3,221 earned \$1,130,430, an average per month of \$29.25. The women on farms, numbering 646, earned \$83,330, and their average wages per week was \$2.48. Both men and women received board and lodging in addition.

State Lands.—When Utah became a State, Congress granted to her certain tracts of land for the support of public institutions. Sales of State land have continued through the year, and the funds have been invested as rapidly as possible. Dec. 31, 1902, the investments of the several land-grant funds aggregated \$718,188.50, as follows: Agricultural College, \$33,578.25; Deaf and Dumb School, \$14,780.03; Insane Asylum, \$20,906.96; Institution for the Blind, \$8,686.20; Miners' Hospital, \$9,014.10; Normal School, \$13,778.45; public buildings, \$10,289.60; reservoirs, \$82,377.01; Reform School, \$22,522.45; general school fund, \$290,615.99; School of Mines, \$25,484.25; university, \$186,365.01. The rates of interest vary from 3.75 to 7 per cent. The investments are in farm mortgages and in Government and municipal bonds. The land sold for \$1.25 an acre and upward, much of it being paid for in 10 annual instalments.

Fish and Game.—In the two years 1901-'02 the State Fish and Game Commissioner planted 4,722,000 fish fry in the waters of the State. The fry were principally those of the eastern brook trout, with some Montana grayling, landlocked salmon, and native trout. The product came largely from the State fish hatcheries, with some importations from other States. Trout in the mountain streams and black bass in the lakes have been found to thrive best. In the two years 953,540 pounds of fish, valued at \$24,687.18, were taken for commercial purposes from Utah and Panguitch lakes. No account was kept of the fish taken from the streams and other lakes,

or of those caught for private use. Of these, the black bass at 15½ cents a pound and the trout at 20 cents a pound were the most valuable. Many fish were lost through irrigation ditches and canals, and still more were killed by sawdust from the sawmills along the streams.

There has been a slight decrease in the number of deer. This is due to the hunters and to the fact that the sheep are destroying the ranges in the State, driving the deer elsewhere. Antelope are holding their own, and even increasing a little in number, owing to the strict law against their being killed at any time. The elk are nearly all gone, except in the high peaks of the Uintah mountains in the northeastern part of the State. Mountain sheep are practically extinct, although a few have been seen in Beaver County. Of the game-birds, the sage-hen is still plentiful, despite the large number of hunters. The blue grouse, pine-hen, or fool-hen, is holding its own. The sharptail grouse or prairie-chickens are decreasing, while the ruffed or drummer grouse are becoming rare. The "Bob White," or eastern quail, has been almost exterminated. California Valley quail are increasing in numbers, as are the Dixie quail or Gambell's partridge. Chinese pheasants are propagating rapidly and keeping ahead of the hunters. More stringent game-laws have kept down the slaughter of wild ducks and geese, and they appear to be in about the same condition they were in two years ago. The number that may be shot by one person in a day is limited to 40 birds, and all hunting during the breeding-season is forbidden. The ducks and geese are extremely plentiful in the vicinity of the lakes.

Irrigation.—The passage of the national irrigation law gave a fresh impetus to irrigation in Utah. The most important of the single events in this line was the acquirement by the Utah Sugar Company of the property of the Bear River Irrigation and Ogden Water-Works Company. This latter company owned large irrigation works and a great tract of irrigable land in Bear river valley. The new owners have begun the work of extending the canals, and are bringing large numbers of farmers into the region. The State Engineer, in his annual report, mentions projects that are to be carried out, with or without federal aid. The most important of these is the enterprise for the development of Utah lake as a storage-reservoir. It is proposed to raise the level of the lake by means of dikes, and increase the flow into it by diverting Strawberry creek into Diamond Fork, thence into Spanish Fork and Utah lake. A 3½-mile tunnel through the Wasatch mountains would be needed to accomplish this. The enterprise was approved by the State Irrigation Congress, which met in Salt Lake City, Feb. 26 to March 1, and again in April. This congress was called by the Governor, and representatives were sent from every county. The irrigation policies of the State and nation were discussed, and it was decided to ask the help of the United States Government for the Utah lake enterprise. Among the new irrigation enterprises mentioned by the State Engineer is one to construct a reservoir in Bear river valley of the storage capacity of 320,000 acre-feet, the construction of an immense canal in the eastern part of the State, drawing water from Grand river, the building of an immense reservoir in Sanpete County, and the further utilization of Weber river.

State Institutions.—Special attention is given to manual training by the management of the State Industrial School in Ogden. The boys are

\$919.58, and the aggregate available for distribution was \$90,427.08.

The sales of liquor for the year preceding Feb. 1, 1902, were \$356,622.20; profit, \$33,609.91; excess paid State, \$2,759.43. Towns are required to pay into the State treasury any excess of profits over 10 per cent. of the total sales of liquor.

Charter fees for incorporations under general law received in the fiscal year amounted to \$2,495; collateral inheritance taxes, \$55,066.77; corporation taxes levied on savings-banks, \$195,547.23; on savings-banks and trust companies, \$70,296.36; on appraisals of railroad companies, \$4,445; on gross earnings of railroad companies, \$119,198.75; on transportation companies, \$6,248.78; on express companies, \$2,418.05; on telephone companies, \$5,912.57; on telegraph companies, \$1,678.91; on loan and investment companies, \$55; on foreign fire-insurance companies, \$11,145.69; on domestic fire-insurance companies, \$6,655.43; on foreign life-insurance companies, \$26,936.44; on domestic life-insurance companies, \$6,436.72; on assessment life associations, \$47.37; on foreign fidelity and casualty insurance companies, \$2,860.92; on domestic fidelity and casualty insurance companies, \$85.64; license taxes levied on Vermont corporations, \$9,322; on corporations of other States, \$2,211; on foreign insurance companies, \$4,885.

Resources and Products.—The Crop Reporter, published by the authority of the Secretary of Agriculture of the United States, gives the acreage, production, and value of the principal farm-crops of this State for 1902: Corn, 57,718 acres, production 1,258,252 bushels, value \$855,611; spring wheat, acreage 1,725, production 32,430 bushels, value \$35,349; oats, acreage 77,780, production 3,111,200 bushels, value \$1,337,816; barley, acreage 12,954, production 384,734 bushels, value \$234,688; rye, acreage 1,943, production 32,837 bushels, value \$25,284; buckwheat, acreage 10,356, production 258,900 bushels, value \$144,984; potatoes, acreage 27,133, production 2,550,502 bushels, value \$1,479,291; hay, acreage 926,878, production 1,177,135 tons, value \$11,359,353; tobacco, acreage 191, production 343,800 pounds, value \$48,132.

Education.—Among the provisions made by the Legislature at its session in 1902 the following are the important ones referring to education: "Every town containing 2,500 inhabitants shall maintain a high school or furnish higher instruction for advanced pupils as hereinafter provided.

"The board of school directors shall provide for the instruction of advanced pupils in higher branches of study in the high school or schools of the town. When no high school is maintained by a town, the board of school directors shall provide such instruction for such pupils in the high school of an incorporated school district or in an academy of the town. When no high school or academy exists within the town, the board of school directors shall provide such instruction for such pupils in the high schools or academies of other towns within or without the State.

"A sum not exceeding \$200 is appropriated annually to aid in defraying the expenses of the annual meeting of the State Teachers' Association.

"The sum of \$15,000 shall first be reserved from the amount of the State school tax paid by the several cities and towns into the treasury of the State. The remainder shall be distributed among the cities and towns in proportion to the number of legal schools maintained.

"The sum reserved shall be divided among the towns which raise the higher per cent. of tax for school purposes, in order to equalize taxation and

afford equal school privileges as nearly as possible, at the discretion of the State Treasurer, the State Superintendent of Schools, and the examiner of teachers for Washington County. But no town shall receive any portion of this money unless said town shall raise at least 50 cents on the dollar on the grand list of said town for school purposes."

Montpelier.—Statistics regarding the growth of Montpelier in the past ten years have been compiled. There were 317 dwelling-houses erected, apart from remodeled houses or barns. There have been 60 other buildings erected for business, including blocks, manufacturing plants, etc. In addition to these over \$200,000 has been expended in the erection of public buildings from which no taxes are derived. The valuation of real estate in 1901 was \$3,064,930, and in 1891 \$1,599,300.

Legislative Session.—The following is an abridged statement of the more important acts passed by the Legislature at its biennial session in October, 1902:

No person shall, in order to aid or promote his own nomination, or the nomination of another person, as a candidate for public office, pay or contribute any money except for personal expenses for traveling, for writing and printing any letter, circular, or other publications not issued at regular intervals, whereby he may state his positions or views upon public or other questions; for stationery and postage, for telegraph, telephone, etc. No publisher of any newspaper shall accept payment for the support or advocacy in such newspaper or publication of the nomination of any person as a candidate for public office in this State.

Money loaned at a rate of interest not exceeding 3 per cent. per annum to any town, city, village, or incorporated school district by individuals living in such town, city, village or incorporated school district shall be exempt from taxation.

Women twenty-one years of age may be elected or appointed to the office of clerk of a town or to the office of treasurer of a town, or to both of said offices, and may be appointed town superintendent of schools.

No automobile or other motor vehicle shall be run on any public highway outside the limits of a city or town at a speed exceeding 15 miles an hour, and no such vehicle shall be run on any public highway within the limits of a city or town at a speed exceeding 6 miles an hour.

Every physician engaged in the practise of medicine in Vermont shall submit to the secretary of the State Board of Health the names and addresses of all persons under his treatment for tuberculosis, and thereafter each case within one week after applying for treatment.

An act relating to the counting of votes.

Amendments to the acts providing for taxation of corporations.

The rents, issues, and products of the real estate of a married woman were exempted from attachment or execution for the debts of her husband.

Trust companies were authorized to act as executors and in other fiduciary capacities.

The sale of commercial fertilizers and commercial feeding-stuffs was placed under special regulations.

A board of cattle commissioners was created.

Amendments were made to the statutes relating to the practise of medicine and surgery. The practise of osteopathy was legalized.

Registration of births, marriages, divorces, and deaths shall hereafter be made by the use of special blanks.

The following are the important items of the

proposed local-option license law, pending the result of the vote upon the referendum, Feb. 2, 1903:

"The warrant of every town meeting to be held on the first Tuesday of March, 1903, and annually thereafter shall contain an article providing for a vote upon the question 'Shall licenses be granted for the sale of intoxicating liquors in this town?' The selectmen of a town voting in favor of license shall, upon the application of 6 voters, call a special town meeting to determine the kind of license to be issued."

The bill provides for 7 classes of licenses to be granted at fees ranging from \$1,200 for a saloon to \$10 for a druggist who can sell for medicinal purposes.

Political.—Four candidates for the governorship were in the field—John G. McCullough, Republican; Percival W. Clement, Fusion; Felix N. McGettrick, Democrat; Joel O. Sherburne, Prohibition. A split in the parties was caused by the agitation over the new license local-option measure favored by the Republicans. Those adhering to the prohibitory law enacted in 1852 supported the candidacy of Clement.

The platform adopted by the Republicans at their convention recognized the fact that the enormous business of the country, in its various departments, can now only be done by combination, corporate or individual, and disclaimed a spirit of unreasoning hostility to such combinations, but favored the utmost vigilance—legislative, judicial, and executive—in guarding the public abuse of combined power, the swift and sure punishment of greedy offenders of any sort, strict safeguards against overvaluation, issue of fictitious stock, and demanded publicity of exact and verified statements by the official managers of corporations and combinations that shall clearly show the public their exact financial condition.

The referendum resolution favoring a license and local-option measure to displace the prohibitory law of 1852 declares:

That the Republican party of Vermont adheres to its long-cherished belief that unrestricted traffic in intoxicating liquors is a public evil, and that the material modification of existing law on that subject should be made only after thorough discussion and mature deliberation by the people. And we request the State Legislature at its next session to make provision for ascertaining the will of the people by direct vote upon the acceptance or rejection of a license and local-option law.

The platform also favored a law regulating primaries.

At the State election in September the following vote was polled: McCullough, 31,829; Clement, 28,069; McGettrick, 7,252; Sherburne, 2,460. A majority is 34,606, and therefore the election of Governor and Lieutenant-Governor devolved upon the Legislature. The 3 remaining State officers received the full party vote. The officers finally chosen were: Governor, John G. McCullough; Lieutenant-Governor, Zed S. Stanton; Secretary of State, Frederick G. Fleetwood; Treasurer, John L. Bacon; Auditor, Horace F. Graham; Adjutant-General, William H. Gilmour; Superintendent of Education, W. E. Ranger—all Republicans.

VIRGINIA, a Southern State, one of the original thirteen, ratified the Constitution June 25, 1788; area, 42,450 square miles. The population, according to each decennial census, was 747,610 in 1790; 880,200 in 1800; 974,600 in 1810; 1,065,116 in 1820; 1,211,405 in 1830; 1,239,797 in 1840; 1,421,661 in 1850; 1,596,318 in 1860; 1,225,163 in 1870; 1,512,565 in 1880; 1,655,980 in 1890; and 1,854,184 in 1900. Capital, Richmond.

Government.—The following were the State officers in 1902. Governor, Andrew J. Montague; Lieutenant-Governor, Joseph E. Willard; Secretary of State, D. O. Eggleston; Attorney-General, W. A. Anderson; First Auditor, Morton Marye; Second Auditor, Josiah Ryland, Jr.; Treasurer, A. W. Harman, Jr.; Superintendent of Public Instruction, Joseph W. Southall; President of the Supreme Court of Appeals; James Keith; Justices, S. G. Whittle, John A. Buchanan, George M. Harrison, and Richard H. Cardwell. All are Democrats.

Five of the State officers—Governor, Lieutenant-Governor, Secretary of the Commonwealth, State Treasurer, and Superintendent of Public Instruction—are elected by the people. They each serve four years. The election for these officers took place in November, 1901. The Auditor of Public Accounts is elected by the joint vote of the two houses of the General Assembly, to serve four years. The Legislature meets biennially, the second Wednesday in January following the election. There are 36 Senators and 86 members of the House.

Finances.—The following is a synopsis of the financial operations of the treasury for the fiscal year ending Sept. 30, 1902: Balance Oct. 1, 1901, \$854,490.92; received in fiscal year 1901-'02, \$3,795,093.42; balance Oct. 1, 1902, \$739,392.72. The disbursements were: Literary fund, \$291,215.57; interest on public debt, \$843,896.37; sinking-fund, \$1,077.72; Miller fund, \$75,094.17; total balance in the treasury to the credit of the several funds, Oct. 1, 1902, \$1,029,800.72. In addition to the above the United States direct tax fund has to its credit \$1,162.74.

Population Statistics.—The Census Bureau reports that in 1890 there were 165,630 Virginians living elsewhere than in the State of their birth. The Census Bureau has compiled tables—one giving the number of black Virginians living in other States, the other the number of negroes from other States living in Virginia. The tables show that in 1900 the total number of negroes born in Virginia was 878,988; living in Virginia, born there, 825,544; born in Virginia, living in other States, 253,444. Total number of negroes living in Virginia, 660,570—that is, in 1900 there had emigrated from Virginia 253,444, and immigrated to Virginia 35,026. In the decade between 1890 and 1900 the negro population of Richmond decreased from 32,330 to 32,230.

Resources and Products.—The Crop Reporter, published by the authority of the Secretary of Agriculture, gives the following statistics of the acreage, production, and value of the principal farm-crops of the State in 1902: Corn—acreage, 1,879,348; production, 41,345,656 bushels; value, \$21,499,741. Winter wheat—acreage, 637,806; production, 3,635,494 bushels; value, \$2,872,040. Oats—acreage, 222,074; production, 3,886,295 bushels; value, \$1,632,244. Barley—acreage, 2,655; production, 48,586 bushels; value, \$26,236. Rye—acreage, 26,147; production, 251,011 bushels; value, \$165,667. Buckwheat—acreage, 20,862; production, 346,309 bushels; value, \$207,785. Potatoes—acreage, 50,531; production, 3,789,825 bushels; value, \$2,198,098. Hay—acreage, 472,913; production, 501,288 tons; value, \$6,807,491. Tobacco—acreage, 182,359; production, 136,769,250 pounds; value, \$12,309,232. The definite amount and value of the cotton-crop is not given in the report; but it is estimated that Virginia produces 248 pounds of lint cotton to the acre under cultivation. The average of the 14 producing States is 188.5 pounds per acre, and Virginia stands sixth in order of amount.

The Census Bureau issued a preliminary report on the manufacturing industries of Virginia. It shows for the State a total of 8,245 establishments in 1900, an increase of more than 39 per cent. in the decade. The total capital was \$103,512,855, an increase of 63 per cent.; average number of wage-earners 72,527, increase 35 per cent.; total wages, \$22,396,060, increase 41 per cent. The miscellaneous expenses were \$12,258,244, an increase of 65 per cent.; cost of materials used, \$74,762,749, an increase of 44 per cent.; value of all manufacturing products, including custom work and repairing, \$132,735,620, increase 50 per cent.

Education.—The Department of Public Instruction announced the apportionment of the State school funds for 1901-02, as being at the rate of 28 cents and 4 mills per capita of the school population. The whole amount apportioned, is \$196,325.23. This apportionment is made on account of the appropriation by the General Assembly under act approved March 7, 1900, and the accumulated interest on investments of the Literary fund.

The second apportionment of State funds for the public schools was made Nov. 1, 1902, the amount, much greater than the first, being \$806,761.10. The per capita of school population was \$1.167.

The State Board of Education declined to renew the contracts for two books on the public-school list—namely, Fiske's History of the United States and Our Country, a history of the United States, written by Cooper, Estell, and Lemmon. This action is based upon the determined effort made for years by the Confederate veterans and others to remove from the public schools of the State every history that is objectionable to Confederates, their contention being that Fiske's history and Our Country do not represent fairly the war of secession. A large number of the teachers in the public schools are favorable to Fiske's history and also to Our Country for pedagogic reasons. They declare that these two histories offer more abundant material for classroom purpose, and present the subject in better form for teachers and pupils.

An address delivered by Gov. Montague at Charlottesville, July 8, before the Virginia teachers and superintendents, contained the following statistical facts, based upon Superintendent Southall's biennial report: Of 6,056 county schools for whites, 2,658 fall below the legal, required, average attendance of 20 pupils to the school. Out of 2,032 colored schools, only 498 fall below the required average. The Governor referred to the necessity of industrial training for the negroes. He said the wisest act of the State board would be to abolish the classical department at the Petersburg Colored Normal and create an industrial department in its place.

The following are among the provisions of the new Constitution relative to education: "No appropriation of public funds shall be made to any school or institution of learning not owned or exclusively controlled by the State or some political subdivision thereof; provided, first, that the General Assembly may, in its discretion, continue the appropriations to the College of William and Mary; and that counties, cities, towns, and districts may make appropriations to non-sectarian schools of manual, industrial, or technical training. The appropriations for institutions of learning for the two fiscal years ending Sept. 30, 1902, and Sept. 30, 1903, were as follow: Medical College of Virginia, \$5,000; State Female Normal School, \$15,000 and \$12,500 for new building;

University of Virginia, \$50,000 and additional for amount expended on hospital, to be refunded to State; Virginia Military Institute, \$25,000; Virginia School for Deaf and Blind, \$40,000 and \$20,000 for new buildings; Polytechnic Institute, Blacksburg, \$25,000 and an additional sum of \$25,000 for new buildings; Virginia Normal and Collegiate Institute, \$15,000, provided that it be converted into an industrial school; William and Mary College, \$15,000 and \$5,000 for electric-light plant; public schools, \$200,000.

Penitentiary.—The report of the joint commission appointed to investigate the conditions existing at the Penitentiary contains the following statements: "Its condition (overcrowded) is almost inconceivable to the human mind, and it would be difficult indeed to conceive of any penal institution being permitted to continue under such intolerable conditions. Visitors from all parts of the country—from Florida to Maine—have turned away from the contemplation of its sickening horrors in wonder and amazement that the State of Virginia would countenance the continuance of such dreadful conditions."

The report says the death-rate, as ordinarily reported, does not convey an accurate idea of the hygienic condition of the prison, as many are annually pardoned because of broken health, and most of them die soon after being liberated. The commission is of the opinion that it is absolutely necessary that the prison be removed to a place near a large city to procure ample protection against fire and to have the military at hand in case of serious trouble. On the subject of convict labor, the report says the consensus of opinion seems to be that it is better to have the men at some contract work in the manufacture of articles of commerce than to have them brought into competition with local State labor.

The minority report goes very fully into a penological discussion. It does not excuse the overcrowded condition of the prison, but it insists that it has not been so productive of evils as the majority says.

The appropriations for criminal expenses for the fiscal years ending Sept. 30, 1902, and Sept. 30, 1903, as reported from the House Committee on Finance, are: Transportation of convicts to Penitentiary, \$6,000; expenses of juries, witnesses, and prison associations, \$240,000.

Legal Decision.—The Supreme Court affirmed the judgment of the Circuit Court establishing the responsibility of a railroad company for accident to a passenger traveling on a free pass, arguing that the company agreeing to carry the passenger came under the duty to transport him safely, and the agreement by which it undertook to relieve itself from the consequences of the negligence of its servants was void as against the policy of the State, which is to enforce with equal hand the performance of those duties upon which the safety of her citizen depends.

An interesting case in which an opinion was delivered is that involving riparian rights and the accretion of property as a result of changes in a river boundary. A lot in Lynchburg that was condemned for canal purposes in 1836 originally embraced about 2 acres. The changes in the channel of the river enlarged this to about 4 acres, when in 1896 the complainant sought to acquire title to the extra 2 acres, contending that the condemnation did not extend to the river. The defendant instituted chancery proceedings, setting up a title to the accretions and increment of land as well as to the tract originally conveyed. The Court of Appeals held that by purchase the defendant is a fee-simple riparian pro-

prietor, empowered to take, *jure alluvionis*; and that the water-line of James river, however much it may shift, is the boundary of the property purchased.

Lawlessness.—Lynchings of negroes occurred at Leesburg and at New Glasgow, Amherst County, the victims being accused of the murder of white men. Satisfactory evidence was not forthcoming of the guilt of the man who was executed at Leesburg.

Political.—The convention called to frame a new Constitution for Virginia completed its work, and on May 29 proclaimed it by a vote of 48 to 38, after it had voted down by decisive majorities propositions to submit the work of the convention to the present or full electorate and to the new or restricted electorate. Accordingly, Gov. Montague issued his proclamation on June 29 to the people of Virginia to recognize and support the new instrument, and also called the Legislature in extra session on July 15 to put the Constitution into effect. The following are the most important sections:

In controversies respecting property, and in suits between man and man, trial by jury is preferable; but the General Assembly may limit the number of jurors for civil juries in circuit and corporation courts to not less than 5 in cases now cognizable by justices of the peace, or to not less than 7 in cases not so cognizable.

Every male citizen of the United States, twenty-one years of age, who has been a resident of the State two years, of the county, city, or town one year, and of the precinct in which he offers to vote, thirty days, next preceding the election in which he offers to vote, has been registered, and has paid his State poll-taxes, as hereinafter required, shall be entitled to vote for members of the General Assembly and all offices elective by the people; but removal from one precinct to another, in the same county, city, or town shall not deprive any person of his right to vote in the precinct from which he has moved, until the expiration of thirty days after such removal.

There shall be general registrations in the counties, cities, and towns of the State during the years 1902 and 1903 at such time and in such manner as may be prescribed by an ordinance of this convention. At such registrations every male citizen of the United States having the qualifications of age and residence required in section 18 shall be entitled to register, if he be

1. A person who, prior to the adoption of the Constitution, served in time of war in the army or navy of the United States, of the Confederate States, or of any State of the United States, or of the Confederate States; or,

2. A son of any such person; or,

3. A person who has paid to the State for the year next preceding that in which he offers to register taxes aggregating at least one dollar on property owned by and assessed against him; or

4. A person able to read any section of this Constitution submitted to him by the officers of registration and to give a reasonable explanation of the same; or, if unable to read such section, able to understand and give a reasonable explanation thereof when read to him by the officers.

After the 1st day of January, 1904, every male citizen of the United States having the qualifications of age and residence shall be entitled to register, provided:

1. That he has personally paid to the proper officer all State poll-taxes assessed or assessable against him under this or the former Constitution for the three years next preceding that in which he offers to register, or, if he come of age at

such time that no poll-tax shall have been assessable against him for the year preceding the year in which he offers to register, has paid \$1.50, in satisfaction of the first year's poll-tax assessable against him; and,

2. That, unless physically unable, he make application to register in his own handwriting, without aid, suggestion, or memorandum, in the presence of the registration officers, stating therein his name, age, date, and place of birth, residence and occupation at the time and for the two years next preceding, and whether he has previously voted, and, if so, the State, county, and precinct in which he voted last.

Any person registered under either of the last two sections shall have the right to vote for members of the General Assembly and all offices elective by the people, subject to the following conditions:

That he, unless exempted by section 22, shall, as a prerequisite to the right to vote after the 1st day of January, 1904, personally pay, at least six months prior to the election, all State poll-taxes assessed or assessable against him, under this Constitution, during the three years next preceding that in which he offers to vote; provided that, if he register after the 1st day of January, 1904, he shall, unless physically unable, prepare and deposit his ballot without aid, on such printed form as the law may prescribe; but any voter registered prior to that date may be aided in the preparation of his ballot by such officer of election as he himself may designate.

No person who, during the late war between the States, served in the army or navy of the United States, or the Confederate States, or any State of the United States, or of the Confederate States, shall at any time be required to pay a poll-tax as a prerequisite to the right to register or vote; nor shall the collection of the State poll-tax assessed against any one be enforced by legal process until the same has become three years past due.

Sec. 23 enumerates the persons disqualified for voting, such as obtain in most States with the addition of persons who, while citizens of this State, after the adoption of this Constitution, have fought a duel with a deadly weapon, or sent or accepted a challenge to fight such a duel, either within or without this State, or knowingly conveyed a challenge, or aided or assisted in any way in the fighting of such duel.

All elections by the people shall be by ballot; all elections by any representative body shall be *viva voce*, and the vote recorded in the journal thereof.

The General Assembly may prescribe a property qualification not exceeding \$250 as a prerequisite for voting for other than members of the General Assembly.

Every person qualified to vote shall be eligible to hold any office of the State, or of any county, city, town, or other subdivision of the State, except as otherwise provided in this Constitution. Men and women eighteen years of age shall be eligible to hold the office of notary public.

The legislative power of the State shall be vested in a General Assembly.

The Senate shall consist of not more than 40 and not less than 33 members, elected quadrennially on the Tuesday succeeding the first Monday in November.

The House of Delegates shall consist of not more than 100 and not less than 90 members, elected biennially.

The members of the General Assembly shall receive for their services a salary to be fixed by

law; but no act increasing such salary shall take effect until after the end of the term for which the members voting thereon were elected.

The General Assembly shall meet once in two years on the second Wednesday in January next succeeding the election of the members of the House of Delegates, to continue sixty days; but with the concurrence of three-fifths of the members elected to each house, the session may be extended for a further period not exceeding thirty days.

The Governor shall hold office for a term of four years, to commence on the 1st day of February next succeeding his election, and be ineligible to the same office for the term next succeeding that for which he was elected.

The Supreme Court of Appeals shall consist of 5 judges, any 3 of whom may hold a court. It shall have original jurisdiction in cases of *habeas corpus*, *mandamus*, and prohibition; but in all other cases in which it shall have jurisdiction it shall have appellate jurisdiction only.

The assent of at least 3 of the judges shall be required for the court to determine that any law is, or is not, repugnant to the Constitution of this State or of the United States; and if, in a case involving the constitutionality of any such law, not more than two of the judges sitting agree in opinion on the constitutional question involved, and the case can not be determined, without passing on such question, no decision shall be rendered therein, but the case shall be reheard by a full court.

The judges of the Supreme Court of Appeals shall be chosen by the joint vote of the two houses of the General Assembly. They shall, when chosen, have held a judicial station in the United States, or shall have practised law in this or some other State for five years. They shall be elected for terms of twelve years.

The General Assembly shall set apart as a permanent and perpetual literary fund the present literary fund of the State; the proceeds of all public lands donated by Congress for public free-school purposes; of all escheated property; of all waste and unappropriated lands; of all property accruing to the State by forfeiture and all fines collected for offenses committed against the State and such other sums as the General Assembly may appropriate.

The State tax for schools may not be less than 1 mill on the dollar, nor more than 5 mills.

Each separate school district may raise additional sums by a tax on property not to exceed in the aggregate 5 mills on the dollar in any one year for establishing and maintaining schools, with the provision that primary schools be maintained at least four months in the year before schools of a higher grade receive appropriation.

The General Assembly may provide for the compulsory education of children between the ages of eight and twelve years.

White and colored children shall not be taught in the same school.

A board of directors, consisting of 5 members, is charged with the management and control of the State Penitentiary and prison farms. A special board of directors, consisting of 3 members, is provided for each of the 4 State hospitals, and these special boards are constituted a general board for the control of all the hospitals for the insane in the State.

A permanent commission to consist of 3 members, to be known as the State Corporation Commission, appointed by the Governor, subject to confirmation by the General Assembly, is to hold office for six years. One of the commissioners

must have the same qualifications that are prescribed for judges of the Supreme Court of Appeals. The commission becomes a department of the government through which shall be issued all charters and amendments or extensions thereof for domestic corporations, and all licenses to do business in this State to foreign corporations, and through it will be carried out all the provisions of the Constitution, and of the laws made in pursuance thereof, for the creation, visitation, supervision, regulation, and control of corporations chartered by and doing business in the State. It shall from time to time prescribe and enforce against all transportation and transmission companies such rate charges, classifications of traffic, and rules and regulations, and shall require them to establish and maintain all such public service, facilities, and conveniences as may be reasonable and just. It has the power and authority of a court of record, to administer oaths, to compel the attendance of witnesses, and the production of papers, to punish for contempt, and to enforce compliance with any of its lawful orders or requirements. Appeals from its rulings may be taken in the manner in which appeals are taken to the Supreme Court of Appeals from the inferior courts.

Free passes are forbidden except to members and officers of the State Corporation Commission for their personal use while in office.

The General Assembly shall enact laws preventing all trusts, combinations, and monopolies inimical to the public welfare.

The General Assembly may levy a tax on incomes in excess of \$600 a year; may levy a license tax upon any business that can not be reached by the ad valorem system; and may impose franchise taxes.

The General Assembly shall levy a capitation tax of, and not exceeding, \$1.50 a year on every male resident of the State not less than twenty-one years of age, except those pensioned by this State for military services.

Railroad and canal property must be assessed for taxation, like any other property; and the companies shall also pay a franchise tax of 1 per cent. on gross receipts.

Amendments to the Constitution may be proposed in the General Assembly, and if they shall be agreed to by a majority of the members they shall be referred to the General Assembly at its first regular session held after the next general election of members of the House of Delegates, and shall be published for three months previous to the time of such election. If, in the General Assembly so next chosen as aforesaid, they shall be agreed to by a majority of all the members elected to each house, then the General Assembly must submit them to the people, and if the people shall ratify them by a majority of the electors qualified to vote for members of the General Assembly voting thereon, such amendments shall become part of the Constitution.

WASHINGTON, a Pacific coast State, admitted to the Union Nov. 11, 1889; area, 69,180 square miles. The population, according to each decennial census since admission, was 349,390 in 1890 and 518,103 in 1900. Capital, Olympia.

Government.—The following were the State officers in 1902: Governor, Henry G. McBride, in place of John R. Rogers, deceased (see Annual Cyclopædia for 1901, page 464); Secretary of State, S. H. Nichols; Treasurer, C. H. Maynard; Auditor, J. D. Atkinson; Attorney-General, W. B. Stratton; Land Commissioner, S. A. Calvert; Superintendent of Public Instruction, R. B. Bryan; Adjutant-General, E. H. Fox—all Republic-

ans except Rogers and Fox, who are Democrats; Chief Justice of the Supreme Court, James R. Reavis; Associate Justices, R. O. Dunbar, Mark A. Fullerton, T. J. Anders, Wallace Mount, W. H. White, H. E. Hadley; Clerk, C. S. Reinhart—all Republicans except Reavis and White, who are Democrats.

State officers are chosen for terms of four years, at the time of the presidential elections. The Legislature meets biennially in January of odd-numbered years. It was composed of 34 Senators and 80 Representatives, until at the regular session of 1901 the number of Senators was increased to 42 and the number of Representatives to 93.

Valuation.—The taxable wealth of the State for 1902, as equalized by the State board, is as follows: Land, including town and city lots, exclusive of improvements, \$151,460,883; improvements on land, town and city lots, \$46,740,031; land, town and city lots, including improvements, \$198,200,934; personal property, \$45,888,131; railroad-tracks, \$16,851,073; total valuation of real and personal property, including railroad-tracks, \$260,940,138. The board, at the close of its meeting, Sept. 22, announced the general fund levy, as fixed at $2\frac{1}{2}$ mills of the valuation fixed by the State Board. The military-fund, interest-fund, and school-fund levies are fixed by law at one-fifth of a mill each for interest and military purposes, and 5 mills for school fund.

The total amount that will be raised for State purposes this year is \$1,982,718, in addition to the amounts realized from interest on the permanent school funds, from the tide-land sales and rentals, and from 10 per cent. of liquor licenses. The amount expected to be raised for each fund is: General fund, \$574,067; school fund, \$1,304,701; interest fund, \$52,189; military fund, \$52,189.

Finances.—The quarterly report of the State Treasurer showed a cash balance in his hands at the close of business, Dec. 31, 1902, of \$986,742.17. Some of the principal funds into which this amount was divided were: General fund, \$2,835.12; military fund, \$98,106.48; school fund, \$344,368.63; current school fund, \$166,887.62; revolving fund, Penitentiary, \$152,044.81; State Library, \$20,446.55; Scientific School, \$26,033.77; State Capitol Commission, \$97,247.86.

The biennial report of the Treasurer, issued in October, shows that the indebtedness of the State of Washington has been reduced \$131,496.34 in the past two years.

The following is the statement of indebtedness at the close of the last biennial period, Sept. 30, 1902: General fund warrants outstanding, \$45,741.19; interest on same, estimated, \$192.65; State bonds held by permanent school fund, \$1,165,000; accrued interest on same, \$78,092.68; State funding bonds outstanding, \$60,000; accrued interest on same, \$875.04; total, \$1,349,631.56; less cash on hand in general fund, \$5,161.62; actual indebtedness, \$1,344,469.94; indebtedness reduced, \$131,496.34.

The report shows that the greatest part of the indebtedness, which in 1900 was in general-fund warrants drawing 5 per cent. interest, which interest was paid to individuals and warrant buyers, has been transferred to State bonds, which draw but $3\frac{1}{2}$ per cent. interest, and the interest goes to the permanent school fund. More than half of the State funding bonds, which were held by Eastern investment companies and drawing 5 per cent. interest, have also been wiped out.

The Commissioner of Public Lands, S. A. Calvert, issued a comparative statement of the volume of business transacted by his department, which discloses that during the past two years the

receipts from the principal money-producing department of the State Government exceeded the receipts during the preceding two years by more than one-third, the increase amounting to \$300,000 in round numbers. The receipts for the two years ending Sept. 30, 1902, were \$1,204,005.89.

Products and Resources.—The Crop Reporter, published by authority of the Secretary of Agriculture of the United States, gives the following statistics of Washington in acreage, production, and value of the principal farm crops in 1902: Corn, acreage 10,014, production 230,322 bushels, total value \$149,709; winter wheat, acreage 308,315, production 7,923,696 bushels, total value \$5,150,402; spring wheat, acreage 757,139, production 15,748,491 bushels, total value \$10,236,519; oats, acreage 154,006, production 7,115,077 bushels, total value \$3,486,388; barley, acreage 140,075, production 6,121,278 bushels, total value \$2,815,788; rye, acreage 2,910, production 51,798 bushels, total value \$33,151; potatoes, acreage 31,288, production 4,255,168 bushels, total value \$1,616,964; hay, acreage 322,864, production 739,359 tons, total value \$6,602,476.

On Nov. 29 State Grain Inspector J. W. Arrasmith presented his biennial report. It showed that in the period between Sept. 1, 1900, and Aug. 31, 1902, the number of cars of wheat inspected at the 3 points of inspection in the State—Tacoma, Seattle, and Spokane—was 37,541, or approximately 35,268,540 bushels; oats, 2,265 cars or 3,125,700 bushels; barley, 1,432 cars or 1,346,290 bushels; rye, 28 cars or 33,100 bushels; total amount of grain, 41,266 cars or 38,763,620 bushels.

A revised bulletin of the Census Office giving statistics of manufactures shows that in 1900 there were in Washington 1,814 manufacturing establishments, with an invested capital of \$25,178,732 and a total value of manufactured product for the census year of \$40,645,726.

The Director of the United States Mint estimated the State's production of gold in 1902 as amounting to \$434,100, and of silver \$360,400.

Mining in Washington is slowly recovering from the depressing effect of the temporary diversion of capital to Alaska. In the year ending Aug. 25 the Seattle Assay Office received the following quantities of gold and silver from neighboring fields: Alaska, \$3,476,759; Idaho, \$5,670; Oregon, \$4,904; Washington, \$68,684; British Columbia, \$627,678; Yukon Territory, \$11,097,118.

The hop-crop for 1902 was estimated at 38,000 bales.

The value of the output of the fisheries industry for 1902 is estimated by Fish-Commissioner T. R. Kershaw in his annual report at \$6,730,870, including salmon packed, fresh, salt, and smoked fish, shell-fish, and all fish products. The number of cases of salmon packed in the year is given at 777,484. The commissioner reports that as a total this is under the output of last year.

The report shows that there is invested in the industry in the State of Washington the sum of \$6,819,818, an increase of \$2,457,348 in the past two years. There are 7,615 whites and 2,055 Chinese and Japanese employed in the industry, and their annual earnings are \$2,502,550.

Possibly one of the most important subjects touched upon in the entire report is the declaration of Mr. Doane, that the several years' experiments have developed the fact that Eastern oysters will not propagate in Washington waters under natural conditions. The Eastern oysters will spawn profusely, but the spat will not set or thrive. The greatest difficulty to overcome is the low temperature of the waters of the Sound. The average temperature of the water is about 10° lower

than in the Atlantic spawning-grounds, and the Sound waters are also subject to sudden changes that result in a much greater range of temperature than is conducive to the life of the Eastern oyster spat.

Education.—The apportionment of school funds made for the quarter ending March 31, 1902, was the largest in the history of the State, being at the rate of \$0.0485 per day's attendance. The total amount apportioned was \$692,478.50. King County received the largest sum, \$127,266.81.

The number of school-children in the State in 1901 was 152,541; in 1902, 167,902. The number enrolled in the public schools in 1901 was 123,391; in 1902, 136,645.

Charities and Corrections.—The first biennial report of the State Board of Control was issued in December, and covered six months of the administration of the Board of Audit and Control and eighteen months of the present board.

From the tables prepared by the board the following figures in relation to the population and average daily cost per capita are taken: Western Washington Hospital, average number during term, 747.15; average daily cost per capita, \$0.3548; Eastern Washington Hospital, average number, 366.48; average cost, \$0.4139; State Penitentiary, average number, 514.50; average cost, \$0.3470; State Reform School, average number, 168.75; average cost, \$0.3323; State Soldiers' Home, average number, 192.04; average cost, \$0.4686; State School for Defective Youth, average number, 157.50; average cost, \$0.5061.

There has been an increase at all the institutions except the State Reform School and the Soldiers' Home, which have shown a small decrease.

The increase in the population of the State Penitentiary, amounting to 29 per cent. from April, 1901, to April, 1902, is explained by the Board of Control as due to the fact that the population of the State has largely increased, particularly in the cities, where crime is more prevalent. King County alone sent 100 persons to the Penitentiary this year.

Congressional Appropriations.—Somewhat more than \$2,500,000 were appropriated by Congress for public works in this State at the session in June. In addition to the direct appropriation, the indirect Government expenditures bring the State's allotments up to more than \$3,000,000. Approximately \$1,000,000 was appropriated for river and harbor improvements in the State, and a total of \$1,112,500 for Puget Sound Navy-Yard. Nine thousand dollars was appropriated to make timber tests under Government supervision, \$59,200 for lighthouses and other aids to commerce, \$100,000 each for Government building sites at Tacoma and Spokane, and \$150,000 additional for Seattle's public building.

Legal Decisions.—The Supreme Court handed down a decision that a Japanese can not become a citizen of the United States. The point came up in the matter of the admission of a young Japanese lawyer to the bar of the State, there being a law making citizenship a qualification for admission. The main point was whether a native of Japan could become a citizen of the United States, and whether the Superior Court of Pierce County acted within its jurisdiction in granting naturalization papers to the Japanese in question. The court decided that the two races mentioned by the Constitution as now eligible to citizenship under the general naturalization laws are white persons and persons of African (negro) descent and nativity. When the naturalization law was enacted the word "white" applied to the race commonly referred to as the Caucasian race.

The State of Washington failed to secure a recognition of its claims in the contest over the estate of John Sullivan in King County, an application for a writ of mandamus directed against the Superior Court of King County being denied by the Supreme Court. The estate, valued at \$500,000, was contended for by a large number of alleged heirs.

The contention of the State of Washington was that Sullivan, who died intestate, left no heirs to his property, and that it therefore had escheated to the State. The Supreme Court held that the proper remedy is by appeal from the order of the court denying the State's petition.

In August, prior to the State elections, the Supreme Court handed down two decisions involving the same questions, and for that reason consolidated at the argument. They were applications for a writ of mandamus to the Governor, requiring him to issue his proclamation for the election of a Governor, a Lieutenant-Governor, and 3 Justices of the Supreme Court at the general election in November. It appears from the petitions that John R. Rogers and Henry McBride were, at the general election held in November, 1900, elected to the offices of Governor and Lieutenant-Governor, respectively. That on Dec. 26, 1901, the Hon. John R. Rogers died, and respondent Henry McBride thereupon took the oath of office and became acting Governor. The relator in the suit maintained that there was a vacancy in the office of Governor and also of Lieutenant-Governor. Furthermore, the Legislature of 1901 having passed an act increasing the number of judges of the Supreme Court from 5 to 7, appointments were made to fill the vacancies created by the act. The relator further maintained that the terms of office of the 2 judges so appointed would expire on the second Monday of October, 1902, and complained that the Governor refused to issue his proclamation for the election of a Governor, Lieutenant-Governor, and 2 Supreme Court Justices, at the general election, held in November.

The mandamus proceedings, approved by the Governor, were instituted to test the validity of the legislative act, and the questions concerning the governorship and lieutenant-governorship were included in order to secure an opinion concerning them. The first question presented was: Does the death of the Governor cause a vacancy in that office which may be filled by an election for the unexpired term, and, if not, does the office of Lieutenant-Governor become vacant when the incumbent assumes the duties of Governor?

The court argued that "it is not shown how an office can be vacant and yet there be a person, not the deputy, or *locum tenens*, of another, empowered by law to discharge the duties of the office, and who does in fact discharge them. It is not explained how, in such a case, the duties can be separated from the office, so that he who discharges them does not become an incumbent of the office. And, in the second place, how a person can fill the office of Governor without being Governor." Its decision was: "The Constitution having provided that in case of the death of the Governor the duties of the office shall devolve upon the Lieutenant-Governor, there is no vacancy in the office of Governor. When the Lieutenant-Governor, by virtue of his office and of the command of the Constitution, assumed the duties of Governor on the death of Gov. Rogers, the office of Lieutenant-Governor did not thereby become vacant, but the officer remained Lieutenant-Governor entrusted with the powers and duties of Governor."

As to the incumbency of the Lieutenant-Governor

or, the court continued: "It is argued, however, that since it is made the duty of the Lieutenant-Governor under the Constitution to be presiding officer of the State Senate, and as such to approve all bills passed by that body, he must as Governor review and approve or reject bills which as Lieutenant-Governor he has already approved. These duties are no doubt inconsistent, but this argument we think is fully met by another provision of the Constitution which provides in substance that when the Lieutenant-Governor shall not act as Governor the Senate shall choose a temporary president. The Lieutenant-Governor, therefore, when the duties of Governor devolve upon him, is relieved of the duties of presiding officer of the Senate."

The Legislature of 1901 passed an act increasing temporarily the number of judges of the Supreme Court from 5 to 7, and authorizing the Governor to appoint 2 judges whose terms of office should end on the first Tuesday after the first Monday in October, 1902. The grounds upon which the mandamus proceedings were based were twofold; 1, That when the increase was once made, no decrease could be made; and 2, that the temporary increase made was in conflict with the constitutional term. The court's decision was as follows: "The act in question does not attempt to change or modify the terms of judges elected. It undertakes to create a vacancy and to terminate the vacancy at a fixed time before an election can take place and before an elective term may begin, and this we hold may be done because there is no fixed constitutional appointive term."

Forest Fires.—In Washington 434,000 acres were burned over by forest fires in June. It is estimated that 5,026,800,000 feet of Douglas spruce was killed, representing a value of \$5,026,800. Other timber to the value of \$725,000 was destroyed. The total loss in Cowlitz, Clark, and Skamania Counties, where the fires were most disastrous, was \$6,600,800, and in the other burned areas \$2,256,300.

Soldiers' Monument.—The Legislature of 1901 appropriated \$2,500 for the erection of a monument to commemorate the valor of the dead of the First Washington Regiment, United States Volunteers, of which there are 11 resting in the State plot in the Masonic Cemetery, in Olympia. The monument was placed in position in March. The pedestal is of native granite, 16 feet high, surmounted by a bronze figure of a United States volunteer in the service uniform worn in the Philippines, making the whole structure nearly 23 feet high. The bronze figure was modeled after a photograph of one of the members of the First Washington Regiment. The inscription is as follows: "The State of Washington erects this Monument in Memory of her Valiant Sons."

Political.—At the elections, Nov. 4, Hiram E. Hadley was chosen Associate Justice of the Supreme Court, and Francis W. Cushman, Wesley L. Jones, and Will E. Humphrey, members of Congress, all of whom are Republicans. Both branches of the Legislature chosen are Republican by large majorities.

The new Capitol annex was delayed in construction on account of the failure to receive steel trusses for the domes. Up to August the building had cost \$335,892.18, and the expenses of the commission had been \$2,293.33. This amount embraces the contracts already made; something in addition will be demanded for fixtures.

WEST VIRGINIA, a Southern State, admitted to the Union June 19, 1863; area, 24,780 square miles. The population, according to each decennial census since admission, was 442,014 in

1870; 618,457 in 1880; 762,794 in 1890; and 958,800 in 1900. Capital, Charleston.

Government.—The following were the State officers in 1901: Governor, A. B. White; Secretary of State, W. M. O. Dawson; Treasurer, Peter Sillman; Auditor, Arnold C. Scherr; Attorney-General, Romeo H. Freer; Superintendent of Schools, Thomas E. Miller; Adjutant-General, S. B. Baker; Librarian, S. W. Stark; Bank Examiner, C. B. Kefauver; Secretary of the Board of Agriculture, J. O. Thompson; Labor Commissioner, I. V. Barton; Mine Inspector, J. W. Paull; Game and Fish Warden, E. F. Smith; Presiding Judge of the Supreme Court of Appeals, M. H. Dent; Associate Judges, Henry Brannon, H. C. McWhorter, George Poffenbarger. All the State officers are Republicans except Judge Dent.

State officers are elected for terms of four years at the time of the presidential elections, and are inaugurated on the 4th of the following March. The Legislature meets biennially in January of the odd-numbered years.

Finances.—The receipts in the Treasurer's office for the fiscal year ending Sept. 30, 1902, were: State fund, \$1,804,738.25; general school fund, \$458,903.16; school fund, \$85,346.48; total, \$2,348,987.89. The disbursements were: State fund, \$1,670,346.54; general school fund, \$460,058.19; school fund, \$162,129.10; total, \$2,292,533.86. In addition to this there was to the credit of the State, Sept. 30, 1902, stocks, bonds, other investments of the school fund, \$650,336.44. The amount paid out for criminal charges for the year was \$180,438.45.

The chief sources of income for the year ending Sept. 30, 1902, were these: Licenses, \$324,321; corporation licenses on charter, \$399,845; railroad taxes, \$101,321.45; interest on deposits and stocks and bonds, \$72,675; sundries, fines, etc., \$29,324.42; capitations, \$163,415.75; land, \$298,875.25; buildings on land, \$45,254.20; lots, \$42,109.50; buildings on lots, \$89,340.54; intangible personal property, \$140,250.15; tangible personal property, \$75,890.90.

Militia.—The Adjutant's report for 1902 gives an enrolment of 1,545 men in the State militia, with 156,000 available.

Education.—In 1902 there were employed 8,445 teachers in the public schools, which numbered 6,478. The enrolment was 276,234; the total cost of the schools was \$2,890,500; the enrolment of the State University at Morgantown and the two preparatory schools at Montgomery and Keyser was 1,675, the university enrolment being 899. There are 6 normal schools, chief among which is the Carshall Normal School at Huntington, which had an enrolment of 630 students alone in 1902, that being the largest number that ever attended this institution.

Public Institutions.—The State in 1902 maintained the following institutions: Asylum for Incurables at Huntington; insane asylums at Weston and Spencer; Deaf, Dumb, and Blind Asylum at Romney; Boys' Reform School at Pruntytown; Miners' Hospitals at Welch, McKendree, and Fairmont; colored institutions at Bluefields and Kanawha; Home for Girls at Salem; Storer College at Wheeling.

The Asylum for Incurables had 3 fine new buildings added in the year, as well as large powerhouses, electric-light plants, laundries, etc., which together cost \$85,000.

In 1902, 250 United States prisoners were received at Moundsville, and 320 State prisoners were received at the Moundsville Prison. The expenses of the institution were much less than the profits from its various workshops. This

State is one of the few in the Union whose prison is more than self-supporting.

The West Virginia Historical and Antiquarian Society reports for the year 1902 more than 1,100 volumes, 950 pamphlets, and many valuable manuscripts and maps, and a large collection of valuable autographs. The museum contains nearly 20,000 relics and curios and a fine exhibit of the timber, coal, marble, granite, building-stones, fire and brick clay, and other products of the State, with specimens of its manufactures.

Resources and Profits.—West Virginia stands second in the production of coal in 1902; 26,000,000 tons of coal were mined, 415 mines being in operation in 54 counties. More than 400 electrical machines were used in various mines during the year, which greatly reduced the number of miners. Almost one-eighth more coal would have been produced this year had it not been for the great strike of the United Mine-Workers, which extended over a period of nearly four months, during which time almost every mine in the New River field, the greatest coal-producing territory in the State, was idle, and almost half of those in the great Flat Top and Norfolk and Western fields. The average wages of a miner in West Virginia is about \$52 a month.

The United States Steel Corporation is just completing one of the largest operations almost in the world in McDowell County, not far from the town of Welch. It will employ, in 1903, almost 10,000 men alone, and will build two branch lines of railway connecting with the Norfolk and Western in the Flat Top field. It will have the greatest coke-producing plant in the world, outside of Pennsylvania. In the production of coke, West Virginia is nearing the first rank. In 1902 nearly 3,750,000 tons of coke were produced, valued at more than \$4,000,000, the ovens being in operation two hundred and eight days. The State stands first in the production of petroleum, 22,000,000 barrels being produced in 1902. The development of oil is drifting to the southern section of the State, and the Parkersburg field promises soon to rival that of the Sistersville territory. Great oil-wells were discovered through the year in the southern tier of counties bordering on the Ohio and Big Sandy rivers, and some fine gas-producers have also come in during the year in the southern section of the State.

The greatest source of wealth of the State is its timber, there being fully 15,000 square miles of fine timber lands. The largest mills in the world for hardwood are in Pocahontas, Randolph, and McDowell Counties in this State. The output of poplar for the year was 180,000,000 feet; of spruce, 75,000,000; of oak, 50,000,000.

Fruit-growing is attracting much attention, some of the largest orchards in the central west being in Randolph and Mineral Counties, especially in the former.

Railroads.—The State has more than 3,500 miles of railway in operation, and surveys were completed in 1902 which will add fully another thousand miles. The chief lines to run surveys through the State in 1902 were the Wabash and Norfolk and Western. The former will have a line extending entirely across the State, while the latter is building a branch 120 miles along the Tug and Big Sandy rivers.

Political.—In 1902 the State elected 5 Congressmen, a new congressional district having been added by the last apportionment. The Congressmen elected were all Republicans.

WISCONSIN, a Western State, admitted to the Union May 29, 1848; area, 56,040 square miles. The population, according to each decen-

nial census since admission, was 305,391 in 1850; 775,881 in 1860; 1,054,670 in 1870; 1,315,497 in 1880; 1,688,880 in 1890; and 2,069,042 in 1900. Capital, Madison.

Government.—The following were the State officers in 1902: Governor, Robert M. La Follette; Lieutenant-Governor, Jesse Stone, died May 16, 1902; Secretary of State, William H. Froehlich; Treasurer, James O. Davidson; Attorney-General, Emmett R. Hicks; Superintendent of Education, Lorenzo D. Harvey; Railroad Commissioner, Graham L. Rice; Insurance Commissioner, Emil Giljohann; Adjutant-General, C. R. Boardman; Dairy and Food Commissioner, H. C. Ademas; Labor Commissioner, Halford Erickson; Bank Examiner, E. I. Kidd; Health Commissioner, F. M. Schultz; Fish and Game Warden, J. T. Ellarson; Tax Commissioners, Norman S. Gilson, George Curtis, W. J. Anderson; Forest Warden, C. E. Morley; Chief Justice of the Supreme Court, J. B. Cassoday; Associate Justices, John B. Winslow and Joshua E. Dodge (Democrats), Charles V. Bardeen, and Roujet D. Marshall; Clerk, Clarence Kellogg. With the exceptions mentioned, all are Republicans.

State officers are elected for terms of two years in November of the even-numbered years. The Legislature meets biennially in January of the odd-numbered years. It consists of 33 Senators and 100 Representatives.

Finances.—The balance in the general fund at the close of the year was \$235,884.54. In the last two years no transfer from the trust funds to the general fund was made for meeting temporary deficits. The treasury was able to keep the trust funds fully and profitably invested. In order to maintain this condition, it was found necessary by the executive to delay the expenditure of some extraordinary appropriations in 1901, when legislative expenses were met, and until revenues were received for 1902.

The State Tax Commission issued its report, Oct. 24, on the assessed valuation for the year 1902. The total value of personal property for the State was \$277,969,027; and the value of all property \$1,504,346,000.

Banking.—The State Bank Examiner's statement of the condition of the banks at the close of business on Sept. 15 included both State and private banks. The loans and discounts were \$55,133,591.63; unpaid capital, \$974,233.74; overdrafts, \$740,252.55; banking house, \$1,252,524.88; real estate, \$833,055.62; furniture, \$368,561.10; securities, \$6,597,811.66; cash items, \$247,488.32; checks, \$498,496.12; due from banks, \$13,910,953.71; currency, \$2,040,305.74; specie, \$1,872,630.70; nickels and cents, \$24,688.42; revenue stamps, \$120,738.87; total, \$84,615,453.17. Liabilities—Capital stock, \$8,684,48.90; surplus, \$1,544,808.64; undivided profits, \$1,441,693.01; deposits, \$24,536,504.13; certificates, \$32,030,888.36; saving deposits, \$13,837,812.58; due banks and bankers, \$1,585,265.76; dividends unpaid, \$3,859.43; certified checks, \$39,569.76; cashier's checks outstanding, \$152,414.93; bills rediscounted, \$571,064.86; bills payable, \$187,048.73; total, \$84,615,453.17.

Education.—The report of the Board of Regents of Normal Schools, issued in December, gave the following as the sources from which the income for the support of the normal schools of the State is derived: A fixed annual appropriation; special appropriations; interest on capital fund; tuitions; book rents, sales of all kinds, which is placed by law under the entire control of the board.

In the biennial period from July 4, 1900, to July 1, 1902, inclusive, there was distributed a

total of \$689,333.31, being \$483,084.71 more than in the preceding biennium. This excess is shown by an increase of \$48,579.02 in the item of buildings, and an increase of \$20,535.19 is also shown in salaries.

The report shows a slight decrease in attendance during the past two years.

The annual report of the State Superintendent, Dec. 4, showed that there was \$1,681,636.10 to be distributed to the various schools and colleges. The rate per capita for each person of school age residing in the State, June 30, was \$2.236.

The entering class at the State University in September was the largest in its history. The total registration, Sept. 25, was 1,711, compared with 1,657 for the corresponding time last year; number of new students was 704, against 653 last year. The completion of Agricultural Hall gives the university an exceptionally fine equipment. It cost \$150,000, and is believed to be the finest structure of the kind in the United States. It can easily accommodate 750 students. The largest increase for the year was in the college of engineering, for which more than 600 entered. One of the new features in the engineering college this year was the introduction of a five-year course, the aim of which is to add a general education in art and literature to a thorough scientific education.

Industries.—From statistics collected in December it was shown that the manufacture of cheese increased largely in 1902. There were 1,600 cheese factories in the State, which manufactured more than 70,000,000 pounds of cheese that year, valued at \$7,000,000. Wisconsin manufactured one-fourth of the cheese produced in the United States. The growth of the industry was especially shown in the northern part of Wisconsin.

In wood-pulp, Wisconsin is fifth in output—nearly \$11,000,000 worth.

The tobacco-crop was reported, Dec. 6, to be the largest ever grown in the State, both as to acreage and the number of cases. The acreage approximated 35,000. The damage from worms and grasshoppers was very slight. Conservative buyers estimated the yield at $4\frac{1}{2}$ cases, or 1,350 pounds, per acre.

In carriage and wagon making Wisconsin, with its 436 establishments, is surpassed only by Pennsylvania, New York, and Ohio. The notable thing is the increase since 1890—from 158 establishments. The capital engaged in this industry is \$6,200,000.

The State ranks fourth in leather, the value of the product being \$20,000,000, nearly twice what it was ten years ago. Half of the product comes from Milwaukee.

In agricultural implements Wisconsin stands fourth, the value of the product being nearly \$8,000,000. Racine is exceeded in the country by only Chicago and Springfield.

Railroads.—The average net earnings of the railroads for Wisconsin in 1900, 1901, and 1902 were \$15,483,762 each year; the net earnings of the Northwestern and St. Paul systems for 1902 amounted to \$11,331,368.44 for the road in Wisconsin.

Agriculture.—The secretary of the State Board of Agriculture in his annual crop report, compiled in December, showed that less than one-third of the corn-crop of Wisconsin for the past season was marketable. The acreage and yield were about the same as in the previous year, but the quality was inferior.

Only 30 per cent. of the corn reported could be classed as "merchantable."

Of the 169,795 farms in Wisconsin, 146,799, or 86.5 per cent., are operated by their owners; 10,249, or 6 per cent., by tenants who pay rent in cash; and 12,747, or 7.5 per cent., by tenants who work on shares.

Charities and Corrections.—The State Board of Control gives a statement of the average population and the per capita cost per week in each of the several charitable, penal, and reformatory institutions under the supervision of the board, from Oct. 1, 1901, to June 30, 1902. The inmates in the State Hospital for the Insane numbered 413; the per capita cost per week was \$5.40; in the Northern Hospital for the Insane 599, the per capita cost was \$4.51; in the School for Deaf 202, the per capita cost was \$4.69; in the School for Blind 111, the per capita cost was \$6.03; in the Industrial School for Boys, 399, the per capita cost was \$4.39; in the State Prison 562, the per capita cost was \$3.28; in the State School 147, the per capita cost was \$5.78; in the Home for Feeble-Minded 484, the per capita cost was \$3.59; in the State Reformatory 149, the per capita cost was \$5.16. The increase in the number of insane in the State is not accurately shown here because of the system of transferring the care of this class to county asylums. The number of patients in county asylums is 3,684 and the number cared for in the Milwaukee Hospital for Insane is 527.

Fish and Game.—The report of the State Fish and Game Warden shows the operations of that department from May 22, 1901, to Dec. 31, 1902. Instead of being a tax upon the treasury, this department has become a source of revenue to the school funds of the State, approximating \$5,000 a year. At the same time the department has furnished a more adequate protection to fish and game than has been heretofore known. This protection has been afforded solely through collection of license fees from those who are benefited by the service. In the last two years the State Warden shows the protection to fish and game by increasing his force during those seasons when the laws are most subject to violation and by reducing the number of deputies after the close of the deer-hunting season and while inland lakes are not available to net fishermen. One result of the more strict enforcement of the law is a material increase in license fees. In the past year there were 270 arrests for violation of the fish and game laws; and nearly \$5,000 was collected through fines and by sale of confiscated fish and game.

Legal Decisions.—On Jan. 31 the Supreme Court of the State entered an order permitting the Attorney-General to file an information and begin an action to restrain the receiver of the Bayfield and Iron River Railway from tearing up the track and dismantling the road. This is one of the most important decisions rendered by the court in recent years. An action was begun by the federal court to foreclose the mortgage upon said road. The usual judgment of foreclosure and sale was entered. The special master appointed to make the sale was not able to sell the road for the price designated by the court. The judgment apparently threatened a conflict between the Wisconsin courts and federal authority. But a decision was handed down, April 4, by the United States Supreme Court, at Madison, asserting that jurisdiction in the matter rested with the federal court alone, and an order was made directing him to take up the track and sell the rails, ties, etc., thus destroying a public highway. The citizens of Bayfield County, claiming that such order to destroy the road was void, then made application to the Circuit Court of

said county for an order enjoining the receiver from tearing up the road, and the court granted the application. The special master, upon attempting to tear up the road, was met by the sheriff of Bayfield County with the injunction, and prevented from dismantling the road. The sheriff, district attorney, and six other citizens of Bayfield County were then brought before the federal Circuit Court upon contempt proceedings, and were adjudged guilty of contempt of court, the sheriff and district attorney being punished by imprisonment in the county jail for sixty days and the other 6 fined \$250 each.

On March 14 Judge Siebecker rendered a decision in the case of *The State of Wisconsin ex rel. Peter Batz et al. vs. C. A. Lewis, village clerk, etc.* The relators, as owners of the Farmers' and Merchants' Bank of Sun Prairie, were assessed \$25,000 on their personal property under the head of "Money, notes, mortgages, etc." They asked to have their assessment reduced to about \$3,000. The board of review released them entirely from the assessment on moneys, notes, bonds, mortgages, etc., and assessed them \$25,000 on the capital stock of the bank. They immediately brought certiorari proceedings in the Circuit Court to set aside this assessment, declaring that they had had no capital stock of the bank, except real estate, and were not liable to taxation again upon this property. It was contended on the part of the village that the law makes capital stock of a bank personal property, and that under the statute it must be assessed as such in municipality where the bank is located. Judge Siebecker sustained the contention of the attorneys for the village.

Oneida Indians at Green Bay.—The Secretary of the Interior, Oct. 16, reversed his ruling, made a year previously, in connection with the claim of the Wisconsin Oneida Indians to participate in the judgment rendered in favor of the New York Indians against the United States Government by the Supreme Court. By this ruling the Indians living at Green Bay will receive about \$300,000.

Political.—The platform of the Prohibitionists in convention in Milwaukee, June 19, declared that "annihilation and complete overthrow of the legalized saloon system, and the absolute prohibition of manufacture, sale, importation, exportation, and transportation of intoxicating liquors is the one paramount political issue before the American people."

The Socialist platform reaffirmed the allegiance of the party to the principles of international socialism, and its adherence to the national platform adopted at Indianapolis, and pledged itself to such changes as the nationalization of all trusts, national ownership of railroads, telegraph, telephone, express and steamship lines, and granting every wage-worker over sixty years of age who has earned less than \$1,000 a year a pension of not less than \$12 a month.

The Republican State Convention met in Madison, July 18, and nominated: For Governor, Robert M. La Follette; Lieutenant-Governor, James O. Davidson; Secretary of State, Walter L. Howser; State Treasurer, John J. Kempf; Attorney-General, L. M. Sturdevant; Superintendent of Public Instruction, Charles P. Cary; Insurance Commissioner, Zeno M. Host; Railway Commissioner, John W. Thomas; Register of Deeds, George W. Stover; Surveyor, W. L. Marcy. The platform adopted the last Republican State platform, and reaffirmed its principles; approved the administration of Gov. La Follette; regretted "the failure of the last Legisla-

ture to enact those laws pledged to the public by demands of the Republican party through the platform in its last State convention"; condemned "the pernicious activity of federal officials in this State, in flagrant disregard of civil-service laws, in attempts to forestall and control the convention action of the party to which they owe their preferment, and in assisting professional lobbyists before the Legislature and elsewhere in the work of defeating legislation in repudiation of party pledges." Its approved the work of the Tax Commission.

The Democratic State Convention met in Milwaukee, Sept. 3, and nominated: For Governor, David S. Rose; Lieutenant-Governor, John Wat-tawa; Superintendent of Public Instruction, Karl A. Mathie. Regarding trusts, the platform said: "We believe that the State should not grant of its sovereign power to corporations to be exercised in the unlawful oppression of the people, and we hereby pledge ourselves to cause to be instituted and prosecuted with vigor such proceedings in the courts by information, quo warranto, or otherwise, as shall be necessary to forfeit and annul the franchises of any corporation created under the laws of the State, which shall violate the law by unlawfully destroying competition or controlling the price of material or of business in this State."

All the Republican candidates for State offices were elected. The returns for Governor were: La Follette, Republican, 193,420; Rose, Democrat, 145,818; Seidel, Socialist-Democrat, 15,957; Drake, Prohibitionist, 9,657; Puck, Social-Labor, 787. The Republicans elected to the Senate numbered 30; the Democrats, 3. The Republicans elected to the Assembly numbered 75; the Democrats, 24.

WYOMING, a Northwestern State, admitted to the Union July 10, 1890; area, 97,800 square miles. Population in 1890, 60,705; in 1900, 92,531. Capital, Cheyenne.

Government.—The following were the State officers during the year: Governor, De Forest Richards; Secretary of State, Fennimore Chatterton; Treasurer, Henry G. Hay; Auditor, Le Roy Grant; Superintendent of Public Instruction, T. T. Tynan; Attorney-General, J. A. Van Orsdel; Adjutant-General, Frank A. Stitzer; Supreme Court—Chief Justice, Samuel T. Corn, Democrat; Associate Justices, Jesse Knight and Charles N. Potter, Republicans; Clerk, William H. Kelley, Democrat.

The term of State officers is four years, and they are elected in November of the second year following presidential elections. The Legislature meets in January of the odd-numbered years; the session is limited to forty days.

At the November, 1902, election all the State officers, except the Treasurer, who, under the Wyoming law, can not serve two consecutive terms, were reelected, being the first State officials to succeed themselves. All are Republicans, excepting the two named Democrats.

Finances.—The Treasurer's statement of Sept. 30, 1902, shows a net balance in the general fund, after allowing for outstanding warrants, of \$86,122.89, a net gain of \$54,552.18 over 1901. The Treasurer's cash statement is as follows: Cash balance Oct. 1, 1902, \$253,037.96; receipts from all sources, \$477,893.12; disbursements, \$388,636.53. This shows an increase in cash balance of \$34,331.56 over the cash balance of 1901; also a net gain in disbursements of \$1,759.70 during the year.

Every department of State, county, municipal, and school government in the State is on a cash basis. The bank deposits amount to \$8,385,426.27,

an increase in deposits over 1901 of \$2,157,764.27, giving Wyoming a per capita deposit of approximately \$88.

Valuation and Taxation.—The Treasurer's report shows the total valuation of property within the State in 1902 to be \$43,348,356; number of cattle 487,489, valuation \$8,175,072; number of sheep 3,296,318, valuation \$6,777,606.05. The taxes levied in 1902 were as follow: State, \$243,901.03; county, \$350,327.50; general school, \$61,049.33; interest on county bonds, \$64,292.79; library tax, \$3,742.29; judgment and State deficiency, \$8,763.23; special school, \$178,787.69; payment of school-bond interest, \$17,434.12; payment of county bonds, \$51,278.72. Total, \$974,576.70.

State Lands.—The rentals for State lands increased from \$86,618 in 1901 to \$92,337.09 in 1902. The receipts from sale of State lands given by Congress decreased from \$22,095 in 1901 to \$5,549 in 1902. The State owns 3,001,905.48 acres of school sections. Of this amount 1,297,001.36 acres have been leased.

Irrigation and Agriculture.—In 1902 3,415 miles of new ditches were constructed in the State, at a cost of \$1,873,284, and nearly 1,000,000 acres of arid land were reclaimed. The State's agricultural products were valued at \$4,275,000. Fruit orchards yielded handsome profits for the first time, and fruit-growing is now well established. There was produced in the State 33,000,000 pounds of wool, valued at \$3,960,000.

Mining.—The year was a banner year in copper-mining, although the output did not exceed that of 1901. Many new mines were opened up, however, and these properties are now ready to produce the red metal. Probably the most important event in the State's mining history was the completion of the Southern Wyoming Aerial Tramway, from the Ferris-Haggarty copper-mine at Battle Lake to Grand Encampment, 16 miles, it being the longest aerial tramway in the world; and the completion of a 500-ton concentrating and smelting plant at Grand Encampment. These improvements cost approximately \$1,000,000. The Standard Oil interests purchased heavily in the Wyoming copper-fields this year, and now own many of the copper-producers. The output of copper was valued at \$1,700,000; iron, \$413,000; silver, \$50,000; gold, \$783,000; platinum, \$3,100; soda, \$25,000; oil, \$212,000; coal, \$6,369,176.25. The total value of the mineral output was \$9,555,276.25.

Much progress was made in the development of the State's oil-fields. In the Uinta fields about 15 drilling-rigs were in operation, and 4 flowing-wells were established; in the Popo-Agie fields 2 producing-wells were added to the number, making 8 all told; in the Salt Creek fields 3 more producing-wells were secured, making 12 there; in the Bonanza fields a lubricating oil even richer than that found in the Uinta fields the previous year, which was pronounced the richest oil ever found in the world, was discovered. One well was drilled and a strong flow of oil encountered at a depth of less than 1,000 feet. English and other foreign syndicates are securing large tracts of oil-land in the State and have already begun operations.

URUGUAY, a republic in South America. The legislative power is vested in the Congress, consisting of a Senate of 19 members, elected for six years in the departments which they represent by electoral colleges, and a House of Representatives containing 69 members, elected for three years by the votes of all adult male citizens who can read and write. The President of the republic is elected for four years. Juan Lindolfo Cues-

tas was elected President for the term beginning March 1, 1899. The Vice-President is Juan Carlos Blanco. The Cabinet at the beginning of 1902 was composed as follows: Minister of War and Marine, Gen. Pedro Callorda; Minister of the Interior and Justice, Eduardo McEachen; Minister of Agriculture, Industry, Public Instruction, and Public Works, Gregorio L. Rodriguez; Minister of Finance, Diego Pons; Minister of Foreign Affairs and Worship, Dr. German Roosen.

Area and Population.—The area of Uruguay is 72,110 square miles. The population was estimated on Dec. 31, 1900, at 930,680. Of 90,199 foreigners enumerated in the imperfect census of March 1, 1900, 24,720 were Brazilians, 24,349 Italians, 23,352 Spaniards, 9,140 Argentinians, 4,186 French, 994 Swiss, 708 Germans, and 675 French.

Finances.—The revenue in the year ending June 30, 1900, was \$15,209,024 in silver. The revenue for the financial year 1902 is estimated at \$16,160,000, of which \$10,000,000 came from customs, \$1,829,000 from a property tax, \$934,000 from trade licenses, \$786,000 from factory taxes, \$431,000 from internal revenue, \$615,000 from stamps, \$200,000 from bank profits, \$324,000 from posts and telegraphs, and \$1,041,000 from other sources. The expenditure was estimated at \$16,160,996, of which \$371,893 were for Congress, \$65,976 for the Presidency, \$144,450 for the Ministry of Foreign Affairs, \$2,301,978 for the Ministry of the Interior, \$986,292 for the Ministry of Finance, \$1,139,336 for the Ministry of Public Works, \$1,750,522 for the Ministry of War and Marine, \$364,130 for judicial expenses, and \$9,036,419 for national obligations. Extra 2½-per-cent. import and export duties have been imposed to raise means for improving the port of Montevideo, but they do not figure in the budget, nor does the revenue and expenditure of the municipality of Montevideo. The amount of the national debt on Jan. 1, 1901, was stated to be \$125,506,953, made up of \$99,660,680 of external, \$3,656,775 of international, and \$22,189,498 of internal obligations. The Council of Foreign Bondholders in London calculated the amount of the foreign debt on June 30, 1901, at £21,126,100. The total public debt in 1897 was \$121,427,447, and on June 30, 1902, it had grown to \$123,843,694. A permanent army of 231 officers and 3,273 men is kept up, and an armed police force of 3,200 men.

Commerce and Production.—The raising of cattle and sheep is the main industry, but agriculture is advancing. The exports of wool in 1900 were 39,872 metric tons; of wheat, 39,872 tons; of corn, 486 tons; of wheat flour, 18,129 tons. The production of wine was 23,541 hectoliters. The yield of gold in 1899 was 66 kilograms.

The total value of merchandise imports in 1900 was \$23,978,203 in gold, and of exports \$29,388,187. The dutiable imports were \$22,678,054 in value out of a total importation of \$25,652,788 in 1899, and \$33,956,940 out of a total exportation of \$36,574,164 paid duties. The duties collected in 1900 amounted to \$9,433,269. The imports of articles of food and drink in 1900 were \$7,321,318; of tobacco, \$210,421; of textile goods, \$4,106,063; of clothing, \$1,302,443; of raw materials and machinery, \$7,253,877; of miscellaneous merchandise, \$3,284,081. The exports of live animals were valued at \$534,216; animal products, \$26,606,528; agricultural products, \$1,669,617. The exports of jerked beef was \$6,042,345 in value; of extract of beef, \$1,319,157; of hides and skins, \$8,183,052; of tallow, \$1,661,799; of wool, \$8,024,959. The imports of coin in 1900 were \$1,833,388 and the exports were \$3,054,652. Of the total imports in 1899 \$21,876,987, and of the exports \$23,340,239, passed

through the port of Montevideo. In 1901 there was a small decrease in imports, the total value being \$23,691,932, compared with an average of \$24,850,000 for the preceding six years. Exports declined to \$27,731,126 owing to a failure in the wheat-crop and a fall in the price of jerked beef in Brazil.

Navigation.—The number of vessels engaged in foreign trade entered at Montevideo during 1900 was 1,206, of 2,318,954 tons; cleared, 1,033, of 2,052,723 tons. In the coasting and river trade the number entered was 2,020, of 507,110 tons; cleared, 2,063, of 508,986 tons. Work on the improvement of Montevideo harbor began in July, 1901.

Railroads, Posts, and Telegraphs.—The railroads have a total length of 1,080 miles. The cost of construction was £11,150,857, of which \$5,750,418 has a guarantee of 3½-per-cent. interest from the Government, covering 882 miles.

The telegraph-lines in 1899 had a length of 4,525 miles, including 1,030 miles of railroad telegraphs.

The post-office forwarded 10,814,176 letters, 310,324 postal cards, 32,190,525 printed enclosures, and 1,436,889 parcels in 1900.

Political Affairs.—President Cuestas, who, unlike his predecessors, has not added to the public debt, began in 1901 to curb the ambition of mili-

tary politicians aspiring to play a part in the next administration by enforcing discipline in the army. The commercial and industrial development of the country is hampered by the enormous foreign debt incurred for wasteful and extravagant purposes, the interest of which is a heavy drain on the country's resources, represented by an average annual adverse balance of trade of \$7,300,000. The heavy import and export duties cripple external commerce. The harbor works at Montevideo are being pushed forward. In July 2 Senators were ordered to be banished and several military officers to be arrested on a charge of plotting the assassination of the President. The Senate protested against the unconstitutional violation of parliamentary immunity. The President justified the decree as necessary for public safety, and promised to communicate the details of the conspiracy to the Chambers as soon as the inquiry was completed. The Chambers demanded an immediate full explanation of his illegal action. The Government then withdrew the decree of banishment and set the officers free without presenting any proofs of the alleged conspiracy. Señor McEachen resigned from the Cabinet to become president of the Bank of the Republic and on Oct. 16 Diego Pons left the Ministry.

UTAH. (See under UNITED STATES.)

V

VENEZUELA, a republic in South America. The legislative power is vested in the Congress, consisting of a Senate of 40 members, 2 from each state, elected for four years by the state Legislatures, and a House of Representatives of 62 members, elected for four years by the popular vote, 1 Representative to 35,000 of population. The President is elected for two years by the Federal Council of 19 members, who are elected for the presidential term by the Congress. Gen. Cipriano Castro, appointed provisional President in October, 1899, was in due form elected President of the Republic in October, 1901. The Cabinet appointed on April 10, 1901, was composed as follows: Minister of the Interior, Gen. J. A. Velutini; Minister of Foreign Affairs, Dr. Eduardo Blanco; Minister of War and Marine, Gen. Ramon Guerra; Minister of the Treasury, Ramon Tello Mendoza; Minister of Public Instruction, Dr. Felix Quintero; Minister of Public Works, Juan Otañez; Minister of Fomento, Gen. F. Arocha Gallegos. An act for the reestablishment of the 20 states, which were reduced to 8 in 1864, was passed in 1899, and provision was made for their autonomous administration until the new federal Constitution is completed.

Area and Population.—The award of the Court of Arbitration given on Oct. 3, 1899, reduces the area claimed for Venezuela by about 60,000 square miles, which are now included in British Guiana. The Schomburgk line was adopted as the boundary except at coast, where the line starts from Punta Playa, instead of at the mouth of the Amakuru, thus giving to Venezuela the lower Barima river; and at the Cuyuni river, where the boundary ascends the Wenamu, instead of following the Cuyuni up to its source, thus giving to Venezuela the Cuyuni gold-fields. The total area of the republic is estimated at 593,943 square miles. The population at 2,444,816.

Finances.—The revenue is collected and disbursed, under a contract made in April, 1897, for five years, by the Bank of Venezuela, which receives a commission of 2 per cent. on money col-

lected and on disbursements and makes advances to the Government up to 6,000,000 bolivars at 8 per cent. interest.

The consolidated external debt on July 31, 1901, amounted to £2,638,200, besides £257,224 of unpaid interest. It consists of Venezuela's share in the old debt of Colombia, the share amounting originally to £2,794,796, converted in 1881 to £2,750,000 of new consolidated bonds. Besides this debt 48,962,000 bolivars of bonds for the settlement of arrears of railroad guarantees were issued at 5 per cent. in 1896, equivalent to £1,939,090, on which £336,634 of interest were due, making the total foreign debt £5,171,148. The internal debt amounted to 110,000,000 bolivars, besides 10,175,000 bolivars for water-works at Caracas.

The Army and Navy.—The permanent army was reorganized in 1900 in 30 battalions of about 300 men, which were stationed in 20 towns and in other federal posts and on the ships. Every Venezuelan between the ages of eighteen and forty-five years is enrolled in the militia, and in times of civil war as many as 60,000 men have been called into the field. The naval force consists of 3 steamers and several small gunboats.

Commerce and Production.—Sugar, coffee, cacao, and grain are cultivated in the coast regions, live stock grazes on the rich pastures farther inland, and from the forests of the remote interior are brought down rubber, copaiba, vanilla, tonga beans, and other tropical products. The live stock is estimated at 191,079 horses, 89,186 mules, 312,810 asses, 2,004,257 cattle, 176,668 sheep, 1,667,272 goats, and 1,618,214 hogs. The exports of coffee in 1900 were 10,300,565 kilograms from La Guayra, 14,995,724 kilograms from Puerto Cabello, 13,107 kilograms from Ciudad Bolivar, and 20,829,464 kilograms from Maracaibo; of cacao, 5,766,160 kilograms from La Guayra, 525,187 kilograms from Puerto Cabello, 38,481 kilograms from Ciudad Bolivar, and 184,456 kilograms from Maracaibo; of hides, 1,075,028 kilograms from La Guayra, 636,363 kilograms from Puerto Cabello, 1,495,937 kilograms from

Ciudad Bolívar, and 338,039 kilograms from Maracaibo. There were 1,253,342 kilograms of rubber exported from Ciudad Bolívar, and 43,211 kilograms of tobacco; 18,774 head of cattle from Puerto Cabello and 6,496 from Ciudad Bolívar; 35,169 kilograms of goat- and deer-skins from Ciudad Bolívar, 836,128 kilograms from Puerto Cabello, and 125,866 kilograms from Maracaibo; 53,892 kilograms of copra from Puerto Cabello; 5,421,550 kilograms of fustic, 1,781,612 kilograms of dividivi, 4,099 kilograms of cinchona bark, 36,587 kilograms of copaiba, 42,901 kilograms of fish sounds, and 274,553 kilograms of sugar from Maracaibo; and 1,316 kilograms of gold bullion, valued at \$589,000, from Ciudad Bolívar. Feathers for millinery are an important article of export. The principal imports are provisions, textiles, hardware, coal, petroleum, timber, and machinery. Coffee is exported to the United States, France, and Germany; cacao to France, Spain, and Germany; hides to the United States; rubber and feathers to Great Britain.

Navigation.—Maracaibo was visited in 1900 by 403 vessels in the foreign trade, Puerto Cabello by 262, La Guayra by 205, Ciudad Bolívar by 73.

The merchant marine in 1900 consisted of 18 sailing vessels, of 2,836 tons, and 12 steamers, of 2,567 tons.

Railroads and Telegraphs.—There are 529 miles of railroads. A new line to connect Yaritagua with Puerto Cabello was contracted for in 1899.

The telegraphs have a length of 3,882 miles.

Insurrection.—The revolution that was started in the beginning of 1902 for the overthrow of President Castro was headed by M. Matos, the wealthiest of Venezuelans, who purchased the British steamer *Ban Righ*, loaded her in Europe with rapid-fire guns for her own armament and field-guns, many thousand rifles, and a vast quantity of ammunition for the army. A large force embarked at Trinidad, the steamer was converted into a warship bristling with guns, her name changed to the Bolívar, and after she had sunk the only serviceable vessel of the Venezuelan navy that Castro sent to capture her, Matos could land his expeditions at any part of the Venezuelan coast that he desired and bring all the supplies he wanted from Trinidad. Castro had enemies in various parts of the country ready to join in the insurrection. The forces of Matos consisted of 15,000 men, divided into 25 sections. They occupied the strategic positions where the Government was weak or unpopular, and threatened to advance on Caracas from the Cumana district and from the Colombian border. Revolutionists rose in bands in many places. When the expedition arrived on Jan. 2 and landed 5,000 Mausers the Government force of 560 men at Coro joined the rebel Generals Urbina, Fernandez, and García. Generals Guzman, Monogros, and Platero, of the revolutionary army, had their way in Carabobo and Guarico. Generals Batalla and Fernandez Cedenó rose against the Government, and the latter twice defeated the Government troops in Carabobo. Gen. Vasquez headed a successful rising at Carupano. The Government troops had difficulty in putting down an insurrection in Maracaibo. The rebels were victorious near Barquisimeto. A severe engagement was fought without result near Uchire. Contributions were levied on foreigners by the authorities in various places. Many prominent men, including ex-ministers Pulido and Urbanejo, were arrested at Caracas. On Feb. 27 the Venezuelan Congress elected Gen. Castro

as President for another term of six years to begin on Feb. 20. An invasion from Colombia under Rangel Gardiras was checked near Lafrias. President Castro sent troops to meet the revolutionists who laid siege to Barcelona, Carupano, and Cumana and held the port of Tucacas. The revolutionists, who numbered 3,500 men, defeated Gen. Escalante on April 3 near Carupano, where he lost 350 men. On the following day he was attacked and routed near El Pilar. The rebels took Barquisimeto. Gen. Ramon Castillo with 2,200 men marched out against them. He was attacked on April 22 near San Antonio, and fatally wounded in the beginning of the engagement, upon which the newly levied troops of his force deserted to the enemy and the others retreated. The Government forced every able-bodied man into the army. Gen. Vincente Gomez led a third army against the rebels at Carupano, which was attacked on May 6 by sea and by land. He also was wounded and his troops were routed on May 6, losing 115 dead and 210 wounded. The Government gunboats shelled the town without the usual notice in spite of the protests of the foreign residents. A new invasion was aided by the Colombians, and 4,000 men crossed the border. The revolutionists compelled a Norwegian steamer to carry troops and munitions from Barancas to Bolívar, and afterward the vessel was attacked and Capt. Meling killed by Government troops. La Guayra was attacked by a band of revolutionists on June 7, and the Government forces shelled them from the forts and the warship *Miranda*, compelling them to retire. Gen. Matos had his army in the field by this time, fully organized and equipped, and he began a systematic advance on Caracas. In June he issued a proclamation in which he announced a provisional Government, with himself as President, Pedro Ezequiel Rojas as Minister of Foreign Affairs, and Generals Perez and Pedro Duchaine as commanders of the armies in the field. The 30 per cent. duty was declared abolished with regard to West Indian imports. He moved with 3,000 men to Urica, leaving 3,000 still in the State of Bermudez. Coro was held by Vice-President Ayala with a strong force, but on June 20 he capitulated. Insurgents fought the Government troops in the streets of Barcelona early in August and captured the town, killing Gen. Bravo and 60 men. On both sides 8 generals, 23 colonels, and 167 men were killed and many houses were destroyed. German, Italian, British, and American warships were at La Guayra and Puerto Cabello, where the revolutionists were active. The commanders were ordered to send vessels to Barcelona, where the insurgents were sacking the stores of foreign merchants and did not spare the foreign consulates. Ciudad Bolívar was blockaded by Government vessels. Germany, Great Britain, and France protested against the blockade on the ground that it was ineffective. By the middle of August the revolutionary party obtained possession of Puerto Cabello. The Government forces after a bombardment took Carupano. Ciudad Bolívar was next bombarded. The *Restaurador* advanced into close range before firing, flying the American flag. For this Minister Bowen demanded and received an apology from the Venezuelan Government. On Aug. 22 about 700 rebels entered Carupano and fought all day with 1,000 Government troops under Gen. Velutini. On Aug. 28 the advance guard of the revolutionary army attempted to take Taguay, but was repelled with a loss of 200 men. The rebellion made progress, however. The German railroad was cut, and 600

soldiers who attempted to reestablish traffic were driven away near Los Teques, which the rebels captured. On Aug. 29 they were joined near Ocumare by 550 soldiers, who brought their general as a prisoner. Gen. Matos long made his headquarters at Barcelona. Insurgents rose in the vicinity of Caracas and had a fight on Sept. 5 with the Government troops. The advanced guard of the revolutionary army, consisting of 4,000 men, under Generals Mendoza, Batalla, and Riera, were met Sept. 11 by 4,100 troops under Gen. Garrido, who had succeeded Gen. Guerra as Minister of War. When the insurgents had taken Angostura and other interior towns the Government authorities took forcible possession of two steamboats of the American company to serve as transports. When 1,100 rebels advanced to take Cumana the garrison of 350 men retired. The revolutionists collected the customs at Bolivar, Cumana, Cano, Colorado, Guiria, Coro, and Barcelona. They received a large shipment of Mausers and ammunition and some field-guns from Germany. They cut the English railroad near La Guayra. Wherever the revolutionists held a seaport President Castro declared it closed and proclaimed a blockade. His gunboats were useless for maintaining a blockade of even one port, and therefore the British and German governments refused to recognize any blockade, and their cruisers protected vessels trading with the ports and in the Orinoco river. The rebels at Barcelona attempted to force a loan from the American consul, who is a Venezuelan citizen, but desisted when the American naval authorities interfered for his protection. Telegraph communications in the interior were blocked by them since early in the rebellion. The Government arrested the employees of the French Cable Company at Carupano and cut the cable. President Castro issued a proclamation denouncing Gen. Matos as a traitor who offered to hand over the financial administration of the country to foreign capitalists and ordering him to be tried as a private. While Gen. Matos advanced to Camatagua, in the state of Miranda, 50 miles south of Caracas, intending to form a junction with the army of Gen. Luciano Mendoza, who had till now avoided a pitched battle and succeeded in harassing and wearing out Castro's troops, Gen. Mendoza had arrived at Tocuyito with the main body of his troops. Gen. Castro, who was at Ocumare, concentrated his troops, withdrawing those that were posted to stop Matos, and with a force of 3,600 men he marched with astonishing celerity to Valencia. Gen. Mendoza thereupon retreated toward Villa de Cura. Valencia was saved from falling into the hands of the insurgents, but the stratagem only delayed matters. Gen. Matos, finding the way clear, marched through Ocumare and San Sebastian, hoping to effect a junction with Mendoza near Villa de Cura. Gen. Castro earlier succeeded in joining forces with Gen. Garrido and had an army as strong as that of the veteran Gen. Luciano Mendoza, whom he feared more than Gen. Matos. Gen. Mendoza attacked Castro at La Victoria, and there was savage fighting that lasted a week. Gen. Gomez arrived with reinforcements for Castro on the second day. The wounded perished without care under the tropical sun. The revolutionary army numbered about 8,000, Castro's not quite so many. After many hundreds had been killed on both sides Gen. Mendoza on Oct. 17 abandoned his positions and retreated. Gen. Castro himself, with a rifle in his hands, repeatedly led the assault, to inspire his men with his own courage and energy. The

rebels received reenforcement on the fourth day and completely invested La Victoria, which would have fallen if the Government forces had not received fresh ammunition by railroad. The rebel losses were reported to be 1,600 in killed and wounded, and those on the Government side 1,400. The rebels attacked Carupano and retreated after a hard fight. President Castro still remained at La Victoria with 5,000 men. The revolutionists returned and renewed the attack. When Vice-President Gomez withdrew all the troops from Caracas, the seat of government was transferred to a provisional capital in the Guacai-puro district. It is the custom of Venezuelans in their civil wars to spare their beautiful capital. The revolutionists had about 10,000 troops cantoned at San Sebastian, San Juan de los Moros, Cua, Ocumara, and Villa de Cura, forming a ring of stations around Caracas. Desertions had greatly reduced Gen. Castro's forces, but he still had a formidable and trustworthy force in his 5,000 Andine troops. The revolutionists succeeded in cutting communications between La Victoria and Caracas and destroying the railroad. They attempted to take Los Teques, but were repelled. Soon after they were placed on the defensive. Gen. Castro, having learned that they were short of ammunition, began to press them, and drove them from several of their positions. The rebel troops posted in front of La Victoria were routed and pursued toward Guarico. The bodies commanded by Gen. Rieva and Gen. Mendoza dissolved on the approach of the Government troops. The whole organized rebel army broke up into guerrilla bands that disappeared on the appearance of the Government troops. Gen. Matos fled to Curaçoa. Gen. Rolando kept 900 men together, with whom he fell back on Lezama. The ministers returned to Caracas. President Castro's troops reoccupied Coro and Cumana. Ciudad Boliver was still held by Gen. Ferrera and Barcelona by Gen. Pablo Guzman. An armistice was declared after Barcelona had been recaptured.

French Claims.—Before the Matos expedition was fitted out the French claim of indemnities for maltreatment and property losses of French citizens during the revolution of 1892 were brought once more to the attention of President Castro's Government, which was anxious to resume diplomatic relations with France and settle the claims that had caused a rupture in March, 1895, fearing that France would impose duties on cacao by way of reprisal. A protocol was signed relating to the resumption of normal diplomatic intercourse, a treaty of commerce and navigation with the favored-nation clause was negotiated, and an agreement was made referring the claims of French citizens to the arbitration of Señor Leon y Castillo, Spanish ambassador at Paris, acting with one representative of each of the two countries. The protocol was ratified on April 18. Claims to the amount of 2,000,000 francs antedating the last revolution were excluded from the arbitration. The claims to be determined and settled amounted to 54,000,000 francs, including 18,000,000 francs for the railroad running from Maracaibo, which was practically destroyed. It was proposed to assign the receipts of one or two custom-houses to the payment of these debts.

German Claims.—When the Venezuelan Government showed a willingness to settle the French claims, Germany, at the time when the revolutionary preparations were in progress, became urgent in demanding the satisfaction of the claims of German citizens. There were claims for

indemnification of losses incurred during the civil wars, amounting to 1,500,000 marks. These claims, analogous to the French, the President appointed a commission to examine, and also similar claims of Americans, Frenchmen, and Italians. There were other claims for goods supplied by German merchants. Lastly, there was the defaulted interest on the loan of 50,000,000 francs, two-thirds of it held by a German banking institution, while the remaining third was divided about equally between French and British capitalists. The loan could not be placed on the market because in 1897 Venezuela failed to meet her obligations. The interest and sinking-fund in arrears amounted to over 9,000,000 francs. Germany and the other countries interested declined to recognize the jurisdiction of President Castro's commission. The German Government recognized as valid about 40 claims for losses in the revolution of 1898, amounting to 1,700,000 francs. The damage arose from the failure of the Venezuelan Government to pay for goods supplied to the troops, from requisitions made in war time, from looting, and from forced loans. On Jan. 24, 1901, the Venezuelan Government ordered the claims to be submitted to a commission, from which appeal could be taken to the Venezuelan Supreme Court. This commission rejected some of the claims and reduced others. Damages suffered previous to May, 1899, it refused to recognize on the ground that the party of President Castro had committed them and the present Government was not responsible. It also proposed payment in a revolutionary loan. Germany refused to accept the decision. Early in 1902 the Venezuelan Government passed another law, but it was open to the same objection. The Venezuelan Government took the ground that money claims of foreigners must be decided by Venezuelan laws on the same basis as claims of Venezuelan citizens. The German Government declared that if a diplomatic settlement was precluded it would examine the claims of Germans for itself and demand payment of those that it found just. President Castro said that a special act of Congress would solve the difficulty and offered to lay the claims before Congress. The German Government declined to submit them to the Venezuelan Congress, and after having investigated them demanded payment of the total amount. In the disturbances of 1901 and 1902 damages have been suffered to the amount of 3,000,000 francs falling on Germans. Great Britain, Italy, the Netherlands, Spain, and the United States united with Germany in finally rejecting the decree of January, 1901. While Germany was pressing the claims of her citizens in the spring of 1902 several German war-ships were sent to the coast of Venezuela. At the approach of summer they went to more salubrious stations.

Quarrel with England.—President Castro has had chronic difficulties with the British authorities of Trinidad growing out of the smuggling trade that is rendered profitable by the high import duties and the still more profitable trade in contraband of war and transport for revolutionists. The low island of Patos, between Trinidad and the Venezuelan shore, a convenient base for smuggling, was claimed by Venezuela, but Great Britain disputed the claim. In January, 1901, the Venezuelan revenue officers seized a boat-load of goods from a Trinidad fisherman who ran in there to escape capture in Venezuelan waters. A sloop was seized and burned. Another sloop loaded with valuable goods took refuge in Patos in August, 1901, and the crew

buried the goods, but the revenue officers landed and seized them and arrested the crew. In January, 1902, a British sloop was seized and detained in the Barima river. In May a British vessel suspected of filibustering was destroyed by a Venezuelan gunboat in the harbor of Pedernales. Later a vessel believed to have landed a cargo of arms was chased and captured on the high sea, taken into port, and confiscated. In each case the British Government demanded explanations, and would not accept such as were offered nor acknowledge that the islet of Patos was Venezuelan territory. In cases where the Venezuelan Government could not defend its officers it put off discussion till a more convenient opportunity. On July 27 the British minister to Venezuela recited all the incidents complained of and intimated that unless Venezuela gave assurances that no such unwarrantable acts would recur and promptly paid compensation his Government would take steps to obtain reparation. The Venezuelan minister on Aug. 2 replied that the incidents on the island of Patos were already disposed of, Venezuela having established her right to the island without opposition from Great Britain based on legal grounds, and that the rest were settled or on the way to a settlement, but when the Ban Righ committed her injurious acts and the authorities of Trinidad showed open partiality in a sense hostile to the peace of Venezuela the President decided to postpone dealing with these matters until he should receive an answer to complaints and remonstrances he had laid before Great Britain in consequence of the attitude of the British authorities in connection with that vessel. These remonstrances were contained in notes presented on Feb. 28, March 8, March 13, and April 5. The British note complained of conduct of the Venezuelan consul in Trinidad, and this the Venezuelan minister said should be considered in connection with the partiality of the colonial authorities. On Nov. 11 the Venezuelan Government was informed that if it persisted in its refusal to discuss the complaints the British Government would be obliged to consider what steps should be taken for the protection of British interests. The Venezuelan reply, dated Nov. 18, expressed regret that the complaints with regard to the Ban Righ and the attitude of the Trinidad authorities had not been examined and called attention to the eagerness of the British Government to discuss matters that were of secondary importance when contrasted with the paramount interest felt by Venezuela in obtaining recognition and respect for claims arising from the grave injuries caused by the Ban Righ and the facilities afforded to the revolutionaries by the colonial authorities in Trinidad, which claims have been met by a most unfair refusal of the British Government to consider the matter. The British flag was raised in September over the island of Patos, which is about a mile long and a third of a mile broad and is uninhabited, but has been a resort for smugglers and fishermen. The Venezuelan Government protested against this, reiterating its claim by sovereignty over the island. On Dec. 2 the British minister at Caracas presented a peremptory demand for the satisfaction of British claims. The Venezuelan acting Minister of Foreign Affairs, Dr. Lopez Baralt, in his reply again complained that reparation was not made for the injury inflicted by the Ban Righ and stated that, the Venezuelan treasury being exhausted, it was impossible for the moment for the Government to meet its debts, but as soon as peace was reestablished in the country it would not be nec-

essary to remind the Venezuelan Government of its obligations.

Anglo-German Blockade.—On July 23 Lord Lansdowne, British Minister of Foreign Affairs, suggested to the German ambassador at London joint action of the two governments to obtain satisfaction for their respective claims against Venezuela. The German Government proposed a joint naval demonstration. A blockade of La Guayra, Puerto Cabello, and Maracaibo was suggested by the naval authorities, or, as an alternative, the seizure of all the gunboats of Venezuela, until the demands were complied with. Lord Lansdowne preferred the latter plan, as a blockade was open to objections. On Nov. 11 Germany agreed to join Great Britain in addressing an ultimatum to Venezuela and acceded to the plan of seizing the gunboats as the first step. Before embarking, however, in a project of joint coercion the German Government desired to have it understood that the British and German claims should stand or fall together, that neither claim could be settled without an equally satisfactory settlement of the other, and that neither Government should be at liberty to recede except by mutual agreement. The British minister agreed that each Government should support the other's demands, and should not desist from doing so except by agreement. The British Government divided its claims into three classes, placing in the first rank cases of unjustifiable interference with the liberty and property of British subjects and with British vessels, next injury to property in the revolutions, and last claims of bondholders. It was not desired, however, to distinguish them in making the demands upon Venezuela, but to obtain a general settlement, as it was believed that to advance any one class of claims or to specify any particular amount would diminish the chance of obtaining reparation in all cases. If the Venezuelan Government returned an unsatisfactory answer or none at all to its last note the British Government was ready to proceed to coercive measures. If the seizure of the gunboats failed to produce the desired effect, England and Germany could then consider what should be the next step. On Nov. 28 President Castro, in conformity with an act of Congress, appointed a new commission to examine all claims of foreigners, but none were presented. The British and German governments each sent 6 vessels of war to the coast of Venezuela. On Dec. 7 the German *chargé d'affaires* von Pilgrim-Baltazzi and the British minister W. H. D. Haggard each presented an ultimatum. If a satisfactory reply were not immediately forthcoming the German Government threatened to take measures for the satisfaction of German claims. The English note demanding the immediate satisfaction of British claims was of similar tenor. The German note declared Venezuela's reply of May 9 relative to claims arising out of the civil wars of 1898 and 1900 to be unsatisfactory, the Venezuelan argument that internal legislation excludes diplomatic intervention to arrange the claims of foreigners being contrary to international law. The treaty with Colombia to which the Venezuelan Government appealed is valid only between Germany and Colombia, and moreover does not exclude diplomacy, and Venezuela herself had made diplomatic agreements with France, Germany, and Spain relative to the payment of claims arising out of revolutions. The decree of Jan. 24, 1901, does not constitute a guaranty for a just solution of the claims. The present Government of Venezuela can not evade responsibility for acts

of its predecessors. The submission of the claims to the commission or the Supreme Court was declared inadmissible because the commission had arbitrarily rejected or cut down claims that had been presented, and judges of the Supreme Court had been removed who had given judgments unwelcome to the Government. Furthermore, the decree provided for payment in valueless certificates of debt. The notes demanded the immediate payment of war claims amounting to 1,718,816 bolivars and the recognition of the claims arising out of the present civil war, the loan raised by a German syndicate to build an abattoir at Caracas, and the 5-per-cent. Venezuelan loan of 1896 issued to redeem the guaranteed interest on the bonds of the German railroad, which would be submitted to a mixed commission to determine their amount and provisions for payment. The English note asserted that full explanation had been given regarding the Ban Righ, exonerated the Trinidad officials, and demanded a promise of immediate payment of the shipping claims and those arising from the civil wars and the ill-treatment and imprisonment of British subjects. A sum equal to that to be immediately paid to Germany was demanded, and any surplus over the amount of these claims when ascertained would be reserved for the payment of the other claims and the guaranteed railroad debt. These other claims England was willing to refer to a mixed commission for a decision as to their amount and the guarantee to be given for their payment. The reply of President Castro rejected the points raised in the German note, denied that Venezuela had ever refused to pay well-founded claims, and said that the Venezuelan tribunals were still open to claimants. To England he replied that no British claims had yet been formulated, and suggested that if there were any such they should be put in concrete form and brought before the competent tribunals. Before committing itself to overt action the German Government had exchanged views with the Government at Washington, giving an assurance that it did not intend to occupy territory or a coaling station, and inquired if there would be objections to its taking active measures to secure the collection of debts due to German citizens on account of violation of their concessions and destruction of their property consequent upon the internal dissensions of Venezuela. The State Department replied in substance that the United States would never undertake to shelter the American republics against the results of their misdeeds or violations of international law, but any punishment inflicted by a European power must not include the seizure of American soil. President Castro appealed to the United States to intervene for the prevention of hostilities which he represented as a violation of the Monroe doctrine. The United States minister at Caracas, Herbert W. Bowen, informed him that the United States would not interpose to avert the forcible collection of debts due so long as no permanent occupation of Venezuelan territory was attempted by European powers. On Dec. 8, on the expiration of the limit of twenty-four hours set in the ultimatum, the British and German legations were closed, their interests being placed in charge of United States Minister Bowen, and the diplomatic representatives of the two powers went on board their war-ships at La Guayra. On Dec. 9 the German war-ship Panther entered the harbor of La Guayra and cleared for action, while cutters from the fleet went alongside of the four vessels of the Venezuelan navy that were there and de-

manded their surrender. The Venezuelan officers and crews left the vessels, which were then towed outside. The Gen. Crespo, the Totumo, and the Margarita the Germans sunk in the night. The reason given was, they were not sufficiently seaworthy to undertake the voyage to Trinidad alone, while to tow them thither would impede the freedom of action of the German fleet. The German ships Falke and Panther then steamed away to Carupano to seize the Venezuelan vessel that was blockading the mouth of the Orinoco. This blockade the British and German defied after officially pronouncing it null, before coercive steps were taken in the matter of the claims, by sending war-vessels up the Orinoco river, against which action President Castro formally protested. The representatives of France and Italy joined in the declaration that the blockade was ineffective, but the United States minister declined to identify himself with them in its notice. The President replied to the seizure of the fleet by arresting all the British and German residents in Caracas, and such was the spasm of resentment for the aggressive acts of the two powers that their citizens were for the moment safer in prison than in their homes against the mob which damaged the German legation building and some European property. The President ordered the imprisonment of all Britons and Germans in the country, but on the urgent remonstrance of Mr. Bowen he released them on the following day and had them escorted to ships that took them away. The Ossun, a French steamer that had been chartered by the Venezuelan Government, was the only vessel found at La Guayra that was not sunk by the allies. The Venezuelan flag-ship Bolivar was seized at Port of Spain. On Dec. 10 the troop-ship Zamora was taken, and on Dec. 12 the gunboat Restaurador, formerly the American yacht Atlanta, was seized at Guanta. The ship Topaze at Puerto Cabello was compelled by a mob to lower the British flag. The commander of the British cruiser Charybdis demanded reparation. Before receiving a reply he shelled the forts, which responded feebly. When the guns were silenced a landing party destroyed with dynamite and fire the Libertador Castle and made a prisoner of the commandant. In retaliation the allies bombarded the town. The officials of the English harbor corporation at La Guayra were threatened with violence by a mob and also with arrest by Venezuelan soldiers before British marines were landed to rescue them. The Italian Legation had examined the claims of Italians for compensation and pronounced claims amounting to 336,000 francs to be valid. The Italian colony in Venezuela numbers 7,000 persons. The Venezuelan Government did not anticipate coercive action from Italy because, in the treaty concluded with that country on June 19, 1861, it is stipulated that in case of claims for damages arising out of revolutionary acts Italians shall receive the same treatment as that accorded to Venezuelans. President Castro, in appealing for the diplomatic intervention of the United States, complained because the powers had acted before they had resorted to the Venezuelan courts for a decision on their monetary claims, which were insignificant in amount and entirely disproportionate to the efforts made to collect them by force, and because they had proceeded to hasty and violent measures before the resources of diplomacy were exhausted. Germans who had laid claims before the Venezuelan tribunals have in many cases obtained awards. The Venezuelan Government contended that it is a recognized principle of international law that when the courts of a coun-

try are open to claims for damages against the Government, diplomacy shall not be resorted to until the claims have been presented to the court and there has been a manifest denial of justice or unusual delay or a violation of international law. This doctrine was accepted by the delegates to the Pan-American Congress at Mexico. Another principle of international law that Germany and Great Britain set at naught forbids armed intervention for the collection of public debts or guaranteed interest.

Italy determined to join in the naval hostilities, and sent the cruiser Giovanni Bausan. The Italian minister to Venezuela on Dec. 13 forwarded an ultimatum analogous to those presented by Great Britain and Germany. Italy first proposed to Germany and Great Britain to be associated with them in the measures they were about to take, and in any arrangements that might be made, as the claims of Italians were of the same nature as those pressed on behalf of Germans and British. This proposal was favorably received. Commodore Scheder selected La Guayra as the center of the movements of the German ships. Each commander took a different part of the coast and neither was responsible for the acts of the other except when they acted in concert. The squadron sent by Great Britain under the command of Vice-Admiral Douglas was much the stronger, having a tonnage of 23,000 tons and 1,700 available men in the crews. The Italian naval force arrived on Dec. 16. The United States sent to Trinidad two squadrons to observe developments and to be ready to defend American interests or protect American lives and property, consisting of the Kearsarge, Alabama, Massachusetts, Iowa, and Scorpion, under Rear-Admiral Higginson, and the Chicago, Newark, and Eagle, commanded by Rear-Admiral Sumner. After a few days most of the vessels returned to their station in Porto Rico. A wave of patriotic enthusiasm swept over Venezuela. All citizens fit for military duty enrolled themselves in the militia, even those belonging to the revolutionary party. The people everywhere pledged themselves to buy no British or German goods while the differences remained unsettled and foreign military forces menaced Venezuela. When the news of the bombardment of Puerto Cabello reached the capital 10,000 men surrounded the Government building clamoring for arms to repel the invaders. The Government ordered the enrolment in the militia of men between the ages of eighteen and forty-five, and Gen. Ferrer formed an entrenched camp between La Guayra and Caracas, which was occupied by 3,000 troops under the Minister of War and Gen. Modesto Castro. President Castro issued a proclamation granting amnesty to all political offenders and restoring confiscated estates. The Venezuelan consul at Port of Spain in Trinidad closed his office and departed. The German cruiser Panther attempted to enter the harbor of Maracaibo to take out the only war-ship not yet seized, which was moored along the wharf. Gen. Bello, the commandant at the old Spanish castle of San Carlos, fired a warning shot. The German vessel did not go in and take the Venezuelan vessel until the Vineta, Falke, and Panther of the German squadron shelled the fort. The old guns of the Venezuelans responded and did some damage to the nearest German vessel. The vessels departed, but returned two days later and demolished the fort. The village of San Carlos was destroyed and some of the inhabitants were killed.

On Dec. 12 President Castro requested Minister Bowen to arrange a settlement with the allies.

A blockade of the coast of Venezuela was declared on Dec. 20. The Germans blockaded the ports from La Guayra to the Colombian frontier, the British the strip of coast eastward to the frontier of Demerara. The American merchant steamer Caracas, which had started on a voyage to La Guayra, was permitted to enter the port, but before half the cargo was discharged the German naval authorities on Dec. 23 compelled her to leave. On the same day the British, German, and Italian Cabinets, to which the Venezuelan proposal to arbitrate had been transmitted from Washington with an offer of the good offices of the United States, accepted arbitration in principle. The powers consented to arbitration of their claims by The Hague tribunal, subject to certain conditions which it was first necessary to discuss. When the proposal was first made through Minister Bowen the British and German governments at the suggestion of Germany offered to submit the whole dispute to the arbitration of the President of the United States. President Roosevelt was urged by them to undertake the task, but on Dec. 27 he definitively declined and suggested the International Court of Arbitration at The Hague as the proper tribunal. The American minister to Venezuela, who left Caracas on Jan. 11, 1903, and arrived in Washington on Jan. 20, conducted the negotiations with Count Quadt, the German *chargé d'affaires* at Washington, Sir Michael Herbert, the British ambassador, and Signor Mayor des Planches, the Italian ambassador. Baron Speck von Sternburg soon arrived to take charge of the German negotiations. The claims for which guarantees were demanded amounted to 31,600,000 francs. The German claims were 8,750,000 francs, the English 22,500,000 francs. The blockading fleets landed men and seized the custom-houses at Carupano, Cumana, Guanta, La Guayra, and Puerto Cabello. A large number of merchant vessels belonging to Venezuelans and of cargoes destined for Venezuela were seized by the blockading squadrons, and the captured ships were moored at Margarita island. Italy sent a second ship and undertook the blockade of the coast of Tucacas and Coro. Mr. Bowen, after his arrival in Washington, suggested that the details connected with the claims be settled directly by him as the plenipotentiary of the Venezuelan Government, an office he was authorized by the State Department to assume for that purpose, and the British, German, and Italian representatives at Washington. This proposal was promptly accepted by the three powers. The chief conditions made by the allied governments were cash payments of their claims of the first line and adequate guarantees for the settlement of the others. Mr. Bowen proposed that all countries having claims against Venezuela should have share in the proceeds of the customs duties, which have been the chief source of revenue for the Venezuelan Government, and hence were the only satisfactory guarantee Venezuela could offer. President Castro offered to pledge a sufficient proportion of the customs receipts on condition that all the foreign claims should share *pro rata*. In satisfaction of the demands of immediate cash compensation for acts of violence he offered to raise a certain sum of money covering a part of the claims. Germany, supported at first by England, demanded that the cash claims should be paid out of the receipts of the custom-houses at La Guayra and Puerto Cabello before any other debts. Italy supported Germany throughout. To give claims asserted by force a priority over those settled by diplomacy Mr. Bowen contended would encourage warlike action in the col-

lection of claims. The British minister, who had taken umbrage at the suggestion of Minister Bowen that this would mean a continuance of the Anglo-German alliance for six years, was disposed to yield this point. Objections were made on behalf of France, who contended that her claims were already settled and payment arranged for. Mr. Bowen's proposal was that 30 per cent. of the customs revenues of the ports of La Guayra and Puerto Cabello be set apart as a fund for the liquidation of claims made by all foreign governments against the Government of Venezuela. This was separate from and in addition to a fund of 13 per cent. of the customs revenue of all the ports to be applied to the payment of the prior claims of France and some other nations which antedated the Castro administration and had been adjudicated and arranged previously. The proposal contemplated the supervision of the customs administration by officials appointed by Belgium, a neutral power having no navy, which had a large aggregate of pecuniary claims. Other creditor nations, besides Belgium, France, England, Germany, and Italy, are Spain, Norway, Sweden, Netherlands, and the United States. When the representatives of the three powers insisted that the 30 per cent., or a part of it, be applied to the payment of their cash demands before the claims of other powers were paid Mr. Bowen proposed to refer the question of their preferential treatment to The Hague Court of Arbitration. The ambassadors suggested arbitration by President Roosevelt, who again declined to act. The claims for which the 13 per cent. of the customs duties was reserved amount to 70,000,000 francs. No payments to these creditors had been made for a year. France filed additional claims amounting to 65,000,000 francs, and Belgians claimed 55,000,000 francs. Venezuela offered to pay each of the blockading powers as an evidence of good faith \$27,500 on the day when the blockade is raised. Great Britain was willing to accept the final offer, and to let the question of preference be decided by The Hague tribunal, but Germany and Italy still held out for a percentage of the customs revenue to be reserved for the satisfaction of their original cash demands, amounting to \$340,000 and \$360,000 respectively. England and Italy finally agreed to accept a cash payment of £5,500 each. The German Cabinet insisted on \$340,000, which Mr. Bowen conceded under protest. The protocols provide that the blockade shall be lifted immediately. Venezuela shall set aside 30 per cent. of the customs of the two ports for the payment of claims to all countries, which money shall accumulate till the court of The Hague decides the question of preferential treatment and until all claims have been adjudicated, when *pro rata* payments shall begin and continue monthly. If Venezuela defaults in the payment of one instalment Belgium shall administer the customs at the two ports until all claims as adjusted by mixed tribunals shall be satisfied.

Renewal of the Rebellion.—The blockade, which cut off President Castro's revenue and prevented his getting supplies of ammunition, was the opportunity of the revolutionists, who still maintained a small army in the field under Gen. Rolando and held the Tuy valley. Gen. Matos despatched a new expedition from Curaçao to the Goajira peninsula. Gen. Manuel Antonio Matos had already expended \$2,000,000 in arming, feeding, and paying the army of 10,000 men that took the field in the summer. He had distinguished himself by bringing the Government out of financial crises as Minister of Finance under President Crespo and President Andrade, and he

denounced the Castro administration as corrupt. President Castro's Government confiscated his large coffee and cacao plantations and his shares in the Bank of Venezuela and the Bank of Caracas. After the blockade food rose to high prices and the Government and national bank soon expended all the money that was left and had no means of raising more. For the first time since 1892 the soldiers could neither be paid nor properly fed. Gen. Rolando gathered 1,200 revolutionists at Lezama, Gen. Riera an equal number at Coro, and other bands assembled in the neighborhood of Barquisimeto. Gen. Antonio Fernandez, in command of the revolutionary forces,

inflicted a severe defeat at Guatire on the Government troops commanded by Gen. Modesta. President Castro sent Gen. Campbell Acosta with 1,500 Andine troops to check the rebel advance if possible. The coasts of Tucacas and Coro, held by the revolutionists, were not blockaded by the allies, and they were able to import arms and ammunition and other supplies freely after Castro's navy was captured. Some of the generals who had fought for the revolution in the former campaign were conciliated by receiving commands in the Venezuelan army.

VERMONT. (See under UNITED STATES.)

VIRGINIA. (See under UNITED STATES.)

W

WASHINGTON. (See under UNITED STATES.)

WEST AFRICA. The coast of Africa from the southern border of Morocco to the mouth of the Congo has in recent times been occupied by European powers which formerly neglected the defense of their few scattered trading stations. The effective occupation of the coast regions was followed by extraordinary exertions to establish claims over the interior. At last the whole of the interior of northern Africa between Barbary and the Congo region from the west coast to the western limits of the Egyptian Soudan has been partitioned into spheres of influence. Germany occupied Togoland and Cameroons in 1884 and in the same year France declared a protectorate over the coast between Cameroons and the Congo, having had factories on the Gabun for forty years, and a British protectorate was proclaimed over the region where the Royal Niger Company claimed to have made political treaties with several hundred native chiefs and tribes. The Germans and the French, as well as the English, were active in explorations and scientific missions which had for their secret object the establishment of treaty relations with the natives of the interior. This era of private expeditions, supported by associations of the advocates of colonial expansion in each country, was succeeded by one of military operations to make good uncertain claims of protectorates based on treaties with native potentates, and by diplomatic negotiations and the delimitation of spheres of influence after a number of international incidents which created ill feeling between the nations that were actively engaged in extending their dominions in northwestern Africa. The doctrine of the Hinterland could no longer be applied when the expeditions of rival powers clashed in the far interior of West Africa in the bend of the Niger, on the upper Binue, and in the region of Lake Chad. The French, advancing from Senegal eastward and from the Ivory Coast and Slave Coast northward, later northward from the Congo and southward from Algeria; the British, controlling the maritime Niger and the navigable Binue, spreading out from their base on these rivers and penetrating simultaneously from the Gold Coast and eastward from Sierra Leone and Senegambia; the Germans, pushing up from Cameroons, endeavoring to establish a foothold on the Binue and Lake Chad, and striving at the same time to establish their influence in the bend of the Niger by occupying the Hinterland of Togoland—all converged toward the same regions, and in the race for the Niger region and the Central Soudan the political and military agents intrigued with the savage enemies of the rival powers, and when military expeditions met in the interior hostile

collisions were not always avoided, though they were glozed over by expedient diplomatic explanations. France and Germany first came to an understanding and signed a convention in December, 1885, by which Germany conceded to France the regions inland from the Cameroons east of 15° of east longitude, reserving the southwest bank of the Shari from 10° of north latitude down to Lake Chad. In the same year Germany made an agreement with Great Britain and a supplementary one in 1886, abandoning pretensions on the Binue and securing access to Lake Chad and the recognition of rights over Admawa. France arranged a delimitation with the Congo State, in a convention concluded in 1885, supplemented by further arrangements in 1887. The boundary of Portuguese Guinea was settled by a convention concluded by France on May 12, 1886. Germany retired from the contest for the Niger regions and the states of the Soudan, being content with a commercial route to Lake Chad. The Anglo-German agreement of August, 1886, defined as the limit between the British and German spheres a line from the Cross river to the Binue east of Yola, fixed by a further agreement on Nov. 15, 1893, at a point 30 miles east of that town. The struggle for the bend of the Niger and the race for Lake Chad was continued by France and Great Britain. On Aug. 5, 1890, an Anglo-French agreement was reached. This agreement defined the limit between the British and the French spheres on the River Niger as a line from Say on the Niger to Barua on Lake Chad drawn in such a manner as to comprise within the sphere of the British Niger Company all that belongs to the Kingdom of Sokoto. This gave to each power access to Lake Chad, but did not decide the fate of the Mohammedan states surrounding that body of water, which then possessed more formidable powers of defense than they had after the conqueror Rabah had overrun these countries; neither did the convention settle the boundaries in the bend of the Niger west of Say, where French and British were busily extending their influence, and the French put a considerable military force into the field to contend with Ahmadu, Samory, and other powerful natives rulers who blocked their progress. In 1889, 1893, and 1895 conventions were signed by France and Great Britain delimiting certain parts of their contiguous possessions in accordance with the advance of effective occupation. The French had not only Senegal as a base but the Ivory Coast, which they occupied in 1883, having had factories on that coast for forty years. In 1894 they conquered Dahomey and aimed to join this territory, the Ivory Coast, and the Senegal protectorate together, leaving

the British Gold Coast, Sierra Leone, and Gambia isolated enclaves. To check this plan the British subjugated the Ashantis behind the Gold Coast in 1896 and the Royal Niger Company began to organize an army. Germany, in February, 1896, recognized the French claim to Bagirmi and definitely accepted the Shari as the limit of the German sphere in the region of Lake Chad. Political and military undertakings having exhausted the resources of the Niger Company and the situation becoming critical on the frontiers, the British Government bought out the chartered company, and on June 14, 1898, concluded a more definite and complete agreement with France, which after long negotiations over details was ratified on June 13, 1899. The spheres of France and Great Britain, both east and west of the Niger, are delimited in this convention. Between the British Gold Coast protectorate and the French Ivory Coast the line is continued from the terminal point of the frontier laid down in the convention of July 21, 1893, which was at the point on the river Volta where it is intersected by the parallel of 9° of north latitude. It ascends this river northward to its intersection by the parallel of 11° of north latitude, then turns to the east, diverging so as to leave Sapele to Great Britain. The boundary between Dahomey and the British colony of Lagos was delimited in 1895 from the sea to the intersection of the river Ocpara by the parallel of 9° of north latitude. The boundary between the French and English spheres proceeds from that point in a northerly direction until it meets the river Niger 10 miles above Gere, runs up the Niger 7 miles, then continues northward, following the Dallul Mauri, to a point 100 miles from the city of Sokoto, from which it follows the arc of a circle with that radius eastward round that city on the north until its second intersection with the parallel of 14° of north latitude, whence it runs due east 70 miles, then south to 13° 20' of north latitude, then east again 250 miles, then north to 14° of north latitude, then east to the meridian that passes 35' east of the town of Kuka on Lake Chad, and then follows this meridian to the shore of the lake. The French effort to obtain access through their own territory to the maritime Niger was frustrated, but the British Government agreed to lease for thirty years to France for commercial purposes a piece of land on the right bank of the Niger, between Lealaba and the confluence of the Moussa and Niger, and one on one of the mouths of the Niger and to extend for that period the same treatment as regards river navigation and tariff and fiscal matters to French as to British persons and merchandise. The line between British Nigeria and German Cameroons is continued from a point on the Binue 5 miles below the confluence of the Faro in a straight line to the intersection of the parallel of 10° of north latitude with the meridian of 13° of east longitude, and thence to a point on Lake Chad east of the town of Kuka. The boundary between German Togoland and Dahomey, by the agreement of July 23, 1897, between France and Germany is the river Mona up to 7° of north latitude and on the north the parallel of 11° of north latitude and the White Volta as far as 10° of north latitude. In the Anglo-German negotiations the Salaga country behind Togoland and the Gold Coast was left undivided for a long time and was treated as a neutral zone until an agreement was reached on Nov. 14, 1899, fixing the Daka river as the dividing line up to 9° of north latitude, the line to be drawn beyond that point by a mixed com-

mission in such manner as to leave Yendi and Chakosi on the German and Mauprui and Gambaga on the English side. On March 29, 1901, an agreement between France and Spain was ratified reducing the area that Spain claimed south of Morocco, leaving the entire Sahara in the French sphere, from the western frontier of Egypt to the Spanish coast strip at Rio de Oro. In compensation France conceded the Spanish claim to the coast district on the Bight of Biafra from the boundary of the German Cameroons to the Rio Muni, with a boundary inland at 11° 20' east of Greenwich. In the same agreement France secured the right of preemption to all the Spanish territories in West Africa and the islands adjacent to the coast.

French Possessions.—Including the Sahara, with an estimated area of 1,544,000 square miles, the French possessions, stretching from the Congo and Ubangi to the borders of Algeria, Tunis, and Tripoli and from the Atlantic to the Egyptian frontier, have a total area estimated at 3,050,000 square miles, and an estimated population of 23,380,000. The administration of French West Africa was reorganized on Jan. 1, 1900. The boundaries of Senegal, the Ivory Coast, French Guinea, and Dahomey were extended, and the Soudan was placed under a military administration independent of the civil administration of Senegal, but under the political direction of the Governor of Senegal, who is Governor-General of French West Africa. The colony of *Senegal*, where a French settlement has existed since 1637, now extends inland 900 miles to within the bend of the Niger. Under the direct administration of the Governor are the communes of St. Louis, Dakar, Goree, and Rufisque, which have a total population of 42,200. Local administrators are placed over 9 circles which have a population of 61,000. The territory under immediate French protection and control has an area of about 1,000,000 square miles, but the total area of the colony and protectorate is 200,000 square miles, with 3,200,000 inhabitants, including the new circles of Kayes, Kita, Sata-dugu, Bammuko, Segu, Jenne, Niore, Gumba, Sokolo, and Buguni. Scattered among the districts under French administrators are some native states whose friendly chiefs have been left undisturbed. These have a population of 80,000. The colony sends a Deputy to the French Chamber. The Governor in 1902 was N. E. Ballay, residing at St. Louis, which has a population of 20,000. The military force in 1900 was 2,600 men, of whom 1,180 were natives. The Government maintains 9 elementary schools in the 4 towns, with 67 teachers and 1,986 pupils, of whom 568 are girls; also schools of agriculture and horticulture. The natives can weave and make pottery and jewelry, and they cultivate millet, corn, and rice, and keep cattle, sheep, goats, and camels. The local revenue in 1901 was 4,644,730 francs, and expenditure the same. The production of earthnuts in 1900 was 140,000 tons. Coconuts, kola, rubber, gums, and castor-oil are other products. Gold, silver, mercury, and copper are found. Earthnuts, gums, and rubber are the chief exports. The total value of imports in 1900 was 46,805,000 francs, and of exports 42,925,000 francs. The ports were visited by 352 vessels, of 460,227 tons. A railroad, 163 miles long, connects Dakar with St. Louis and Rufisque, and one from Kayes, the head of navigation on the Senegal river, had been built through to Bamaku on the navigable Niger, 357 miles, in the beginning of 1902, and was pushed through to Timbuktu in the autumn. A graving dock has

been built at Dakar capable of taking in the largest war-ships, and heavy guns have been mounted in the fortress. There are 1,500 miles of telegraphs and 40 miles of telephones. A cable will be laid between Dakar and Brest.

The *Military Territories* are (1) the bend of the Niger and the town of Timbuktu on the northern bank, which has a population of 12,000, with residences at Dori, Macini, and Yatenga; (2) the district about the source of the Niger, with residences at Mossi and Gurunsi; (3) the district from Zinder on the Niger to Lake Chad, including the river ports of Say, Koni, and Maradi. The chief cultivated products in the upper Niger region are millet, rice, wheat, and earth-nuts. Wild products are rubber and gum, which are exported. The area of the military territories is about 700,000 square miles, with 4,000,000 inhabitants. The military forces in West Africa in 1902 consisted of 31 European officers, 3,043 European non-commissioned officers and privates, and 6,836 native troops; total, 9,910 officers and men. In the region of Lake Chad there were besides 140 European and 722 native troops. The expenditure of France on West Africa amounted to 15,574,173 francs, and on the Lake Chad territory to 1,793,621 francs in 1902.

The Sultanate of *Bagirmi*, between Lake Chad and the Shari, has an area of 65,650 square miles, including tributary territory. A French Resident was received at Massenia in 1897. Afterward Rabah expelled the Sultan. He was defeated and killed by French troops in February, 1900, and the former Government was restored under French protection. The *Sahara* has a normal population estimated at 550,000. Including the Libyan desert, the area is about 1,544,000 square miles. The semi-civilized state of *Wadai* is about 170,000 square miles in extent, with 2,000,000 inhabitants.

In August, 1901, Capt. Dangeville with 230 Spahis of the Chad command marched 180 miles in six days, often through water waist-high, surprised Fadlullah, the son and successor of Rabah, in his fort at Gudjba, killed him and 500 of his men, captured his brother Ebe and 1,500 men, and liberated 5,000 slaves, while the French loss was only 1 man killed and 6 men wounded. The defeat of Rabah had cleared away the last formidable adversary of the French in the Soudan, and now that the remnant of Rabah's power was crushed they were for the moment without enemies and had established their dominion or influence over every country except Wadai, the most powerful of the Mohammedan states, with which the whites had as yet no communications. In Wadai a revolution occurred early in 1902. The Sultan Ahmed was overturned after a fierce battle, and Mohammed Dudu, son of the former Sultan Yussef, came to the throne. On Nov. 9, 1901, a column of 200 men marching toward Mao, northeast of Lake Chad, was attacked by a band of followers of the Sheik el Senussi. Capt. Billot and 5 men were killed, while the assailants were repelled with heavy loss. Lieut.-Col. Destenave thereupon established a post in Nguri and one in Ngagana, the latter in touch with the post on the Shari. The chief was supposed to belong to the Senussi sect that is the most active and influential religious body in this part of Africa. Later it was believed that the incitement to the anti-Christian movement came from a certain sheik called el Senussi, who was a brother-in-law of Rabah. The French have endeavored to cultivate good relations with the Senussis, and the head of this sect has never countenanced hostilities against Christians or pagans. The Senussis are influential among the

desert tribes of the Sahara, have been predominant in Wadai for ten years, and in the central Soudan they have opened schools, the greatest number among the Tubus of Kanem, northeast of Lake Chad. These were the people who attacked the French party. On Jan. 20, 1902, the French were attacked again, and both sides lost severely. Instead of fleeing at the first onset, as the blacks do, the Arabs charged the French square repeatedly and fought till they were practically exterminated, standing before the fire of the artillery and the bayonet charge that was necessary to secure the victory. The French captured the town of Bir Alali, the home of the chief whose followers had attacked them, and established a post there, giving him back his town uninjured as a proof that peace and friendship were wanted rather than hostility. Messengers were sent to Sidi-el-Mahdi, the head of the Senussis, asking him the meaning of the hostile attitude of his adherents in Kanem. He replied in March that the aggressive acts were not committed by his desire, that he wished to be on friendly terms with the whites. Sidi-el-Mahdi, who was a brother of Mohammed-el-Mahdi, the late head of the sect, who died in 1895, and a son of Mohammed-el-Mahdi, its original founder, who died in 1860, died himself in the summer, and designated one of his nephews as his successor, his children still being too young. The Arabs and the Sahara tribes were made uneasy by the presence of the French in Kanem, whether the Senussis, who have hitherto confined their efforts to peaceful missionary and reformatory labors, were or were not the instigators. On June 1 the garrison at Bir Alali, near Lake Chad, was attacked by 1,000 Tuaregs, who were repulsed with a loss of 100 men, and returned to the upper Ubangi. The post of Government Commissioner at Lake Chad was abolished in July and the territory was made a province of the French Congo, and thus placed under civil rule. In dealing with the organized semi-civilized states of the Soudan the Government preferred to have the action of military officers under the control of the Governor-General of the Congo. A further advance eastward toward Wadai in the face of such resistance requires a stronger force than the French had on the ground. The question of communications is the most important one. The French some years ago endeavored to make themselves masters of the principal caravan routes in the rear of Tripoli and Benghazi. The project was abandoned because the Turks strengthened their garrison in Tripoli. The good understanding since reached with Italy regarding Tripoli prevents any renewal of the efforts to make this part of the Sahara French. The route from the Congo is the shorter, but it is an impossible one on account of the long distances where human portage is necessary. Large quantities of ammunition have been brought to Say from Senegal by railroad and steamboat. The French were dissatisfied with this route to the central Soudan. The boundary which they obtained from the British, following an arc 100 miles from Sokoto, appears to leave them nothing but desert. This was not yet known because the exact location of Sokoto was uncertain. The trade with the Soudan has always been carried on over the desert by the Arab merchants of Tripoli. It is for this reason mainly that the French desire to be on friendly terms with the Senussis, as these control the caravan routes. The trade with Bornu was destroyed by Rabah, who devastated and depopulated the country and seized the stocks of the Tripolitan merchants.

The *French Congo* has an area of about 450,000 square miles and a population variously estimated at from 8,000,000 to 15,000,000. The Commissioner-General is A. Grodet. Col. Gentil is Commissioner for the Shari protectorate, which includes the northern Congo and Ubangi regions, where military administration is in force. There are 45 schools in the colony, with 2,654 pupils. The expenditure of France in 1902 was 500,000 francs. The local budget of revenue and expenditure in 1900 was 3,834,000 francs. A loan of 2,000,000 francs was raised for roads and telegraphs. The natives cultivate manioc and Europeans raise coffee, vanilla, and cacao. Rubber is collected in the forests. The total value of imports in 1900 was 10,550,000 francs; exports, 7,550,000 francs. The exports of rubber were 3,015,000 francs; of ivory, 2,927,000 francs; of woods, 1,150,000 francs. Minor exports are palm-oil, palm-kernels, cacao, kola-nuts, and piassava. The ports were visited in 1900 by 99 vessels, of 137,698 tons. A railroad from Libreville, the seat of Government, to the Congo is projected. France, Portugal, and Belgium renewed in 1902 the protocol signed at Lisbon in 1892 relative to import duties in the western basin of the Congo. The ad valorem system was temporarily maintained pending the establishment of specific duties, which shall not exceed 10 per cent., and the existing rate of 6 per cent. ad valorem was raised to 10 per cent. The French Government granted in 1893 a territorial concession of 104,000 square kilometers in the Ogowe district to a French company, and in 1899 divided the whole of the French Congo between 40 concessionaire companies domiciled in France though largely controlled by Belgians. English trading companies have hitherto enjoyed the whole trade in these regions. In the Congo basin by the act of Berlin there must be complete freedom of trade; no monopoly or favor of any kind can be granted in matters of trade. The Ogowe district of Gabun is not included in the free-trade zone. The companies that obtained concessions in the French Congo bound themselves to allow every latitude to the trading operations of the foreign firms for two years, and at the end of that period to buy them out. For two years the French companies did nothing, and the English companies still had all the trade. In 1901 the French companies established factories, and informed the natives that they must trade only with them. The English merchants through their native agents had all the produce, consisting of india-rubber, palm-oil, palm-kernels, ebony, and ivory tusks, brought to their factories and induced the natives to have no dealings with the concessionaire companies. Thereby the foreign merchants came into conflict with the French authorities, who told them they could no longer trade with the natives, that these must bring their produce to the concessionaires. When the merchants, nevertheless, continued to carry on trade the French officials seized and threw into the bush their cotton cloth and other trade goods, seized the native produce and delivered it to the concessionaires. The merchants applied to the local courts, and these decided that, all lands vacant and without ownership having been incorporated in the public domain, and the right to the produce of the public domain having been conceded to the companies, these had the sole right to buy produce except the produce of the native reservations. In the native reservations the foreign merchants would enjoy complete freedom of trade. There were, however, no native reservations yet delimited, and to survey and delimit them would be the work of years.

VOL. XLII.—58 A

As in the meantime they could do no business, the French companies could buy them out at any price. They did not abandon the contest, however. They continued to trade even after the companies obtained damages against them for illegal trading and trespass. They influenced the natives to go back into the bush and bring down no produce at all, and demanded of the French authorities full compensation for the business they lost, not only in the Congo basin but in the Ogowe district. Where the local officials had broken into the English factories, seized trade goods in the possession of the merchants, and forcibly closed trade routes, the French Government acknowledged that the merchants had claims for redress, but that they had a right to continue to buy produce from the natives was not acknowledged. The French had to send out punitive expeditions against the natives to prevent them from secretly dealing with the English merchants, whose native agents when caught carrying on the clandestine trade were punished. Two Mohammedan chiefs on the upper Ubangi who sold ivory to the English fell upon a punitive expedition and fatally wounded the French officer in command. Another French officer was assassinated by Pahouins near Libreville. An expedition was attacked by the Pumos on the Sanga river. The manager for one of the concessionaire companies was murdered at his factory at Likelemba, and the neighboring factory at Pembe was pillaged. In Ngounie a punitive expedition destroyed the villages and plantations of the natives, who fought the soldiers fiercely.

French Guinea, lying between Portuguese Guinea and Sierra Leone, has an area of about 95,000 square miles and a population estimated at 2,200,000. The Futa Jallon has been added to the territory, which has been extended so as to include Dinguiray, Sigui, Kurussa, Kankan, Kissidugo, and Beyla. There are 7 Government schools, with 426 pupils. The natives cultivate rice, millet, and earthnuts, and gather gums and rubber. Cattle are raised in Futa Jallon. The local revenue and expenditure in 1901 balanced at 6,895,000 francs. A harbor will be constructed at Konakry and a railroad built to the Niger, a loan of 4,000,000 francs having been authorized for the purpose. French, English, and German steamers call at that port. The number of vessels entered at the ports during 1899 was 5,072, of 312,391 tons; cleared, 5,002, of 308,523 tons. The value of imports in 1900 amounted to 14,275,452 francs; exports, 9,779,772 francs. The exports of rubber were 7,322,000 francs; of cattle, 1,000,500 francs; of palm-kernels, 477,000 francs; imports of cotton cloth, 5,325,000 francs.

The *Ivory Coast*, which has been extended so as to include the Kingdom of Kong, has an area of 125,000 square miles and 2,500,000 inhabitants. The budget of revenue and expenditure in 1901 was 1,908,000 francs. The natives grow corn and rice. White planters raise coffee with success. Coconuts and rubber are gathered by the blacks, and woods are brought down from the forests. The value of imports in 1900 was 9,080,873 francs; exports, 8,074,589 francs. The exports of rubber were 4,725,000 francs; of palm-oil, 1,475,000 francs; of mahogany, 1,200,000 francs. During 1900 the number of vessels entered at Grand Bassam was 871, of 1,140,307 tons; cleared, 865, of 1,126,943 tons. A campaign in the Hinterland resulted in the submission of the natives of Baule in the early part of 1902.

Dahomey, including the added territories of Say and Nebba, has an area of about 60,000

square miles and 1,000,000 inhabitants. Porto Novo, the capital, has a population of 50,000. The natives cultivate corn, manioc, and yams and obtain from the forests palm-kernels, coconuts, etc. The budget of revenue and expenditure in 1901 was 2,974,200 francs. Kotonu, a port having about 15,000 inhabitants, is connected by telegraph with the Niger, and a railroad is being built by a company to Abomey, the capital of the former Kingdom of Dahomey. The king was exiled to the French Congo in 1900. The value of imports in 1900 was 15,221,419 francs; exports, 12,755,894 francs. Liquor, cotton goods, and tobacco are the largest imports. The exports of palm-kernels were 6,595,800 francs in value; of palm-oil, 5,352,225 francs. The ports were visited in 1900 by 415 steamers, of 393,401 tons.

British Possessions.—The *Gold Coast* is a Crown colony. The Governor is Major Matthew Nathan. The colony proper has an area of 40,000 square miles, with 1,473,882 inhabitants. The number of Europeans is about 500. There are 11,000 pupils in the missionary schools. The exports are palm-oil, palm-kernels, rubber, and cabinet woods. Gold-mines have been opened and a railroad is being built to enable mines to be worked in Ashanti, which was conquered and made a British protectorate in 1896. The northern territories of Adansi and Ashanti and the part of the neutral zone which by the Anglo-German agreement of Nov. 14, 1899, falls to the share of Great Britain, which is to be marked out by a joint boundary commission, are under the direction of a Commissioner, Col. A. H. Morris. The revenue of the colony in 1899 was £322,500; expenditure, £309,660; imports, £1,323,220; exports, £1,111,740; tonnage entered and cleared, 1,250,410 tons. The exports of rubber were £555,731; of palm-oil, £183,204; of kernels, £106,156; of gold dust, £51,300; of kola-nuts, £57,020. The northern territories have an area of 50,000 square miles. Many mining concessions have been taken out, and companies have been floated that had no auriferous deposits that can be made profitable. This circumstance and the lack of transportation have militated against the progress of gold-mining. The railroad has been built as far as the Offin river. The inhabitants are good material for soldiers and many are recruited for the British West African regiments. Pabia is a district that both Germany and Great Britain claim, and both had military to watch events until the boundary commission came. The western boundary of the Gold Coast was delimited by an Anglo-French Commission in the fall of 1902.

Lagos, another Crown colony, is administered by a Governor, Sir William McGregor. It has an area of 985 square miles and 85,607 inhabitants. The Government maintains 31 schools, with 3,371 pupils. Palm-oil, palm-kernels, ivory, gum copal, cotton, rubber, cacao, and coffee are exported, and spirits, cotton cloth, tobacco, and hardware are imported. A railroad was built from Lagos to Abeokuta, 60 miles, and the extension to Ibadan, 66 miles, is now completed. The Lagos protectorate has an area of 21,000 square miles and a population of about 3,000,000. It includes all towns belonging to Ibadan and Oyo, Ikirun, and all the Yoruba country. The revenue of the colony in 1899 was £192,790; expenditure, £223,290; imports, £966,600; exports, £915,940; tonnage entered and cleared, 968,828 tons. The exports of palm-oil were £168,458 in value; of palm-kernels, £412,817; of rubber, £160,315.

Gambia is governed by an Administrator, Sir

George C. Denton. The colony has an area of 69 square miles with 13,456 inhabitants, of whom 62 are Europeans. There are 6 schools, with 883 pupils. The main export is earthnuts. Minor exports are hides, beeswax, cotton, corn, rice, and rubber. The protectorate has an area of 2,700 square miles, with about 200,000 inhabitants. The revenue of the colony in 1901 was £43,726; expenditure, £48,518; imports, £252,646; exports, £233,667; tonnage entered and cleared, 284,635 tons. The Gambia protectorate has 90,000. The Jolabs, a wild tribe near the French frontier, murdered two commissioners and some of the police. An expedition was sent to punish them by burning their towns and seizing their grain and cattle. The people of this and other protectorates are rapidly becoming converted to Mohammedanism, even some who had previously embraced Christianity. The spread of Mohammedanism causes a great decline in the spirit trade. The Marabouts, as the native Mohammedans are called, form nearly 75 per cent. of the population.

Sierra Leone has an area of about 4,000 square miles, with 74,835 inhabitants, of whom 224 are Europeans. There are 65 schools, with 5,583 pupils in average attendance. Freetown, the capital, which has 30,033 inhabitants, is a fortified naval station and the headquarters of the British forces in West Africa, consisting of a West India regiment of 800 men and a West African regiment raised in 1898, besides engineers and artillery. There is also an armed constabulary of 600 men for frontier defense. The exports are palm-oil, palm-kernels, benni-seed, earthnuts, kola, rubber, gum copal, and hides. A railroad from Freetown to Rotofunk, 60 miles, is being carried farther to Bo, 80 miles. The revenue of the colony in 1899 was £168,380; expenditure, £145,090; imports, £689,810; exports, £336,010, including palm-kernels for £163,271, rubber for £43,730, and kola-nuts for £61,456; tonnage entered and cleared, 1,181,748 tons. The Sierra Leone protectorate has an extent of about 30,000 square miles, with about 375,000 inhabitants.

Nigeria has an area of about 400,000 square miles and a population estimated at from 25,000,000 to 40,000,000. It comprises Benin, Ilorin, and the coast region formerly called the Oil Rivers protectorate and the regions on the middle Niger and the Benue that were the field of the commercial operations of the Royal Niger Company, founded by Sir George Goldie in 1882, and of the political activity of that company which secured this extensive, populous, and productive country to Great Britain. British protectorates over these regions were proclaimed in 1884 and 1887, and in 1900 the Niger Company surrendered its charter and handed over the administration to the Imperial Government. The territories south of a line drawn from Owo on the Lagos frontier through Idda on the Niger to Ashaku on the frontier of the Cameroons, most of which formed the Niger Coast protectorate that was not controlled by the Royal Niger Company, were added to Nigeria, but are still administered separately from the northern protectorate. A part of the lower Niger region was added to Lagos. The revenues collected from imports and exports in Lagos and Southern Nigeria will be divided with Northern Nigeria, which has no present source of revenue. In 1901 the revenue amounted to £380,984, of which £362,472 came from customs. The expenditure was £304,143. The value of imports was £1,199,690, and of exports £1,166,147. The tonnage entered and cleared was 550,681 tons. Southern Nigeria is thickly inhabited by pagan

tribes. The products are palm-oil, palm-kernels, ivory, rubber, ebony, camwood, indigo, gums, hardwood, and hides. Cotton cloth, spirits, hardware, tobacco, gunpowder, implements, pottery, provisions, and brass and copper rod are the chief imports. A military force of 1,080 native troops is maintained. The number of Europeans in 1900 was 399. Custom-houses are established at the ports of Wari, Burutu, Akassa, Brass, New Calabar, Bony, Opobo, and Old Calabar. The British Government has advanced £43,000 for harbor improvements. The High Commissioner for Southern Nigeria is Sir R. D. R. Moor. The fetish-worshipping Aros were thoroughly subdued early in 1902 by a strong expedition. The majority of the chiefs made their submission without fighting, and markets were established in their towns protected by military posts. Those who resisted fought stubbornly, and inflicted considerable losses on the columns of native soldiery. Aro Chuku, the center of fetish worship for Southern Nigeria, was made a British post. The inhabitants were set to work building roads through the country.

Northern Nigeria embraces the former Fula Empire of Sokoto and the tributary states of Gando, Kano, Katsena, Bautshi, Muri, Zaria, Ilorin, Nupe, Kontagora, and the part of Adamawa not included in the German sphere. In these Mohammedan lands liquor is not allowed to be sold, though on the border there is a neutral zone where it may be stored and dispensed in limited quantities. The Royal Niger Company abolished by proclamation the legal status of slavery, and this law the imperial authorities intend to enforce wherever effective occupation exists. The part of the protectorate that is under military control is divided into the provinces of Borgu, Ilorin, Kontagora, Kabba, Bida, Bassa, Upper Binue, Lower Binue, and Gwari. The High Commissioner is Brig.-Gen. Sir F. J. D. Lugard. Col. J. Morland commands the troops, consisting of 2,500 native infantry, besides engineers and artillery. The natives grow and weave cotton, manufacture leather, raise indigo, gather gum, copal, and other forest products, and obtain ivory for export. Silver, tin, antimony, and lead have been found.

During 1901 the West African frontier force organized by Sir Frederick Lugard established British rule in Kontagora and Bida and in British Adamawa, where the Emir of Yola was deposed and a new one set up in his stead. In 1902 the operations were extended to Lake Chad, into the region where the French had been compelled to enter British territory, when they had the only force in this region, in their campaigns against Rabah and his son. The British expedition under Lieut.-Col. Morland, 1,000 strong, ascended the Benue from Lokoja and marched first against the slave-raiding Emir of Bautshi, who fled to Kano. A new Emir was installed, with a British garrison to protect him. Col. Morland then proceeded with 350 men toward Lake Chad, occupied the town of Gombe, captured Mallam Gibrella, a religious leader whose cavalry charged the column courageously, left a garrison in Gujba, established a post at Mongornu, planted the British flag on the shore of Lake Chad, brought from the French camp established temporarily in German territory Shefogarbai, the rightful Sultan, and set him up as Emir of British Bornu in Mongornu pending the rebuilding of Kuka, which Rabah had destroyed. The people settled down to work under the new rule and cultivated more land than they had for many years. The hamlet that was made the Sultan's residence grew rap-

idly into a town of 25,000 inhabitants. The Sultans of Kano, Gando, and Sokoto still refused to acknowledge British authority. The former made military preparations to resist the invasion of his territory and persuaded the chief of the town of Zaria, which was occupied by the British, to rebuild his defenses and make preparations to expel the garrison, which was therefore strengthened. The Emir of Gando, who rules over a third of the Hausa states, changed his attitude and promised to open his country to trade. An expedition was sent against a Mohammedan chief at Abuja, between the Benue and the Niger, and he was caught and shot for having murdered a native missionary. Zunguru, the new capital of northern Nigeria, was connected with Zaria and Bautshi by telegraph. A railroad is being built between Zunguru and the Niger, a distance of 80 miles. A joint commission set out in November to delimit the frontier between northern Nigeria and the French sphere in accordance with the Anglo-French agreement of 1898 and in continuation of the work begun by the joint commission of 1900. The frontier from the northern boundary of Lagos to the Niger had been delimited. A temporary boundary was fixed by English and German officers between British and German Bornu to stop friction caused by the raids into British territory of the chief of Dikoa and engaging in hostilities with the recently installed Emir of Bornu. In July Baron Lambert, Belgian Minister of State, delivered his decision as arbitrator in the old disputes between France and England concerning the Waima incident and the seizure by the officers of the Royal Niger Company of the French steamboat *Sergeant Malamine* on the Niger in 1894, pursuant to an arbitration convention signed on April 3, 1901. At Waima, which was decided afterward to be in British territory, in the rivalry of territorial occupation French and British native troops came into collision. The seizure of the French steamboat prevented Lieut. Mizon from carrying out a political mission to the Benue and the middle Niger. As the Niger is an international river by treaty the arbitrator decided that the British Government should pay £6,500 to the French Government.

German Possessions.—*Togoland*, lying between the English Gold Coast colony and Dahomey on the Slave Coast, has an area of about 33,000 square miles and a population of 2,500,000. There were 135 Europeans in 1900. The military force consists of 7 Germans and 150 natives. Besides the missionary schools there is a Government school, with 50 pupils. The natives cultivate corn, yams, tapioca, ginger, and bananas, and obtain coconuts, palm-kernels, palm-oil, gum, rubber, and dyewoods from the forests. Coffee has been planted, and there are large plantations of coconut palms. The budget for 1903 amounts to 1,650,000 marks, of which 1,015,000 marks are contributed by the Imperial Government. The imports in 1900 amounted to 3,516,800 marks, and exports to 3,058,900 marks, including palm-kernels of the value of 1,422,800 marks, palm-oil of the value of 1,015,000 marks, and rubber of the value of 521,400 marks. The ports were visited by 95 vessels, of 110,241 tons.

The *Cameroons* protectorate has an area of 191,130 square miles and a population estimated at 3,500,000. There were 528 Europeans in 1900. The military force consists of 95 Germans and 900 natives. The missionary schools have 5,000 pupils. Cacao, coffee, and tobacco have been planted, and cloves, rubber-trees, ginger, vanilla, and pepper are being tried in the Government

experimental station. The natives barter rubber, ivory, and palm-oil. The northwest Cameroons Company has undertaken to develop 34,000 square miles in the interior. The revenue and expenditure for 1903 balance at 4,236,600 marks. The imperial contribution is 2,205,100 marks. The imports in 1899 amounted to 11,133,200 marks; exports to 4,840,800 marks, including rubber for 1,898,000 marks, palm-kernels for 1,266,000 marks, palm-oil for 850,000 marks, ivory for 604,000 marks, and cacao for 192,000 marks. The ports were visited by 66 vessels, of 81,891 tons. The German Government is carrying on experiments in the cultivation of cotton in both East and West Africa, and has engaged American negroes as expert instructors to teach the natives. The traders who bartered European goods for palm-oil, palm-kernels, and rubber used to set an enormous price on the former, and thereby made much money. The planters when they came gave their laborers 8 marks a month and a dwelling. When German money got into circulation the wages would buy little clothing and other European articles, and therefore they established stores to furnish their laborers with what they needed at prices corresponding to those prevailing in Europe. Some of the trading firms established plantations, and through this circumstance there was a degree of accommodation. Still there has been much antagonism between the traders and the planters. The missionaries, who also carry on trade, have revived the attacks on the planters, whose enterprises they think ought to be replaced by independent cultivation by the natives. Wages have risen to 12 or 15 marks a month, but still the lot of the laborers is considered as unsatisfactory and the colonial officials are accused of favoring the owners of the great plantations on the slopes of the Cameroon mountains and countenancing the oppression of the indigenous population. Domestic slavery in Togoland and Cameroons is being gradually abolished, children of slaves being free in the former protectorate and children of half free in the latter, and children of half free persons entirely free, while bondage for debt and the sale or exchange of house slaves are prohibited. The German planters have been most successful in raising cacao. The planters have colonies of negroes settled on their land that they succeed in making work without any further rise in wages by methods described as patriarchal, though the friends of the blacks consider it a kind of slavery. A new region will be opened up by the railroad from Victoria to Lisoka. The Germans in the winter of 1901 undertook an expedition into Adamawa. They encountered the resistance of the inhabitants, and in consequence of this Lieut.-Col. Pavel, commanding the colonial troops, marched against the Bangwa, Bandeng, and Bafut tribes and reduced them to submission. Military stations were established at Buea and Banyo and at Garva on the Benue. In the capture of the Sultan of Banyo Lieut.-Col. Nolte was mortally wounded. From here an exploratory expedition was undertaken to Lake Chad. Hostilities again resulted, and in the end the whole of German Adamawa up to Lake Chad was brought under German rule. A new expedition to promote the commercial development of the country started in the summer from the mouth of the Niger, where the Germans established a base of supplies. The jealousy of German and French enterprises in the interior that the English formerly displayed has disappeared since the boundaries of the different spheres of interest have been sufficiently established, and each nation helps the others in

extending commerce and civilization to Lake Chad. The French defeated and killed Rabah in German territory before German authority was established there, and they crossed German territory to attack Fadullah in British Bornu. A French post was established in the German sphere until the Germans occupied the country.

WEST INDIES. The important islands of the West Indies, now freed from European rule, are described elsewhere (see CUBA, HAYTI, PORTO RICO, SANTO DOMINGO). The British colonies remain intact, but the right of self-government has been curtailed in several of them. Denmark is negotiating for the transfer of the Danish Antilles to the United States. The French colonies have suffered from a volcanic eruption which destroyed the chief town of Martinique.

British Colonies.—The island of *Jamaica* has an area of 4,200 square miles and Turks and Caicos and smaller islands attached to Jamaica have an area of 224 square miles. The population of Jamaica is 745,104, of whom only 14,692 are white. Kingston, the capital, has 46,542 inhabitants. There were 14,656 East Indians in the colony in 1899, of whom 1,683 were under indentures. The number of marriages in 1900 was 3,767; of births, 31,259; of deaths, 16,880. There were 746 Government schools with 98,598 pupils on the rolls in 1900. There were 178,667 acres tilled in 1900 and 379,380 acres in pasture. Sugar-cane covered 25,616 acres; coffee, 24,865 acres; bananas, 27,543 acres; coconut-palms, 12,382 acres; corn, 430 acres; cacao, 1,815 acres; ground provisions, 85,417 acres; guinea-grass, 124,193 acres; plain pasture, 353,588 acres; pasture and pimento, 25,620 acres; pimento, 172 acres. The Governor is Sir Augustus Hemming. The Legislative Council consists of the Governor, 5 official members, 10 nominated members, and 14 members elected for five years. The revenue for the year ending March 31, 1900, was £906,037, and expenditure £917,653. Of the revenue £340,679 came from customs. The principal expenditures were £111,700 for debt charges and £53,720 for police. The regular forces in Jamaica in 1900 numbered 1,739 officers and men. There were 13 ships of the British navy on the North American and West Indian station. The public debt of the colony, including guaranteed debts, amounted in 1900 to £3,824,782. The value of imports in the year ending March 31, 1900, was £1,722,069; exports, £1,797,077. The imports of textiles were £167,302; of flour, £133,936; of rice, £44,745; exports of sugar, £165,941; of rum, £152,144; of coffee, £157,485; of bananas, £618,036; of oranges, £115,473; of spices, £110,602; of woods, £117,099. The tonnage entered and cleared was 1,742,224 tons in 1900. The registered shipping of the colony comprised 142 sailing vessels, of 9,211 tons. There are 9 railroads having a total length of 185 miles; receipts in 1901 were £109,130, and expenses £86,482; the number of passengers carried was 381,408. There are 643 miles of telegraph-lines and 154 miles of telephones. The number of telegrams sent in the year ending March 31, 1901, was 85,052; receipts, £4,715; expenses, £7,426. The post-office transmitted 5,239,083 letters and postal cards.

Previous to 1899 the 14 elected members of the Legislative Council exceeded in number the official and nominated members. Sir David Barbour, who examined into the financial condition of the colony, recommended the appointment of additional members so as to give the Government a majority. When this was done the elected members refused to act, but the Government carried through the measures deemed necessary for restoring the financial equilibrium, and then the additional

members were withdrawn. The Colonial Secretary, in order to avoid having again to resort to such a temporary expedient, directed the Governor to appoint the 4 additional nominated members permanently with a right to vote on any question that the Governor pronounces to be of paramount importance. The representative members, thus stripped of their legislative powers, have ever since protested in the Council and have petitioned the British Government to restore the old Constitution. Mr. Chamberlain declines to sanction any change until existing conditions have had a fair trial and have by common consent been found wanting. No question has yet arisen in the Council on which the elective members have been unanimous in their opposition to the Government necessitating its being declared of paramount importance by the Governor. The change in the Constitution secures government by white men, in which the vast majority of the colored population acquiesce. Householders who pay £1 a year in taxes and rates are alone qualified to vote, and only a part of the qualified do vote. In January, 1902, the elected members sent a petition to Mr. Chamberlain setting forth that the present system is not working satisfactorily, and asking for a return to the system by which the representative members have a normal majority; in this event they would agree to an alteration in the order in Council providing that when the Governor declares a matter to be of paramount importance the elected members shall not vote. The financial difficulties of the Government were acute in the beginning of 1902, and the economic situation was one of extreme depression, although the elements of prosperity were at work. Additional taxes were imposed to avert a deficit. These could not be collected, and the Government drew the conclusion that the limit of taxation had been reached.

An outbreak occurred at Montego, on the north side of the island. A mob overpowered the police and terrorized the town on April 5. On April 6 the police killed a citizen, after which a score of policemen were badly injured and troops were sent for. The withdrawal of constitutional privileges by Mr. Chamberlain and the alteration of the incidence of taxation were the reasons given for the rioting, which was preceded by political meetings and violent speeches. Some of the influential people of the island refused to pay the taxes, after which the Government repealed the obnoxious tax law after prosecuting many persons for non-payment. Lesser riots occurred at Annotta Bay and other places. Previous to and leading up to the outbreak of disaffection the elected members of the Legislative Council proposed reductions in salaries and other expenditures to balance the budget. Acting-Gov. Olivier would not accept any of the proposed reductions, whereupon the elected members, believing their presence in the Council useless, and not wishing to accept any responsibility for the estimates, decided to absent themselves until they were passed.

The Government passed a bill to guarantee loans for the erection of central sugar factories. Of the advance of £250,000 by the British Parliament to enable embarrassed West Indian sugar-planters to continue cultivation and pay wages until the European sugar bounties are abolished in the fall of 1903, only £10,000 were assigned to Jamaica. Thrice this sum was applied for at the prescribed interest rate of 6 per cent. per annum, and the Legislative Council voted to advance the difference out of the island revenues. The fruit season of 1902 was good, and the Government revenues and the trade of the island in the course of

the year showed a remarkable improvement. Instead of a deficit there was a surplus of £23,000 for the fiscal year ending June 30, 1902. The tourists from England and the United States brought much money into the island. There was an increase of 88 per cent. in coffee exports, 39 per cent. in pimento, 36 per cent. in bananas, 54 per cent. in oranges, 47½ per cent. in coconuts, and 19 per cent. in dyewoods. The company which established a direct steamship line from Great Britain changed the distributing port for fruit from Bristol to Manchester, and placed the business in Jamaica in the hands of the American company that raises and exports bananas to the United States, the picking, sorting, and packing of fruit under the supervision of its own agents having been so imperfectly done that the losses on spoiled cargoes and unmarketable shipments reduced the total profits on fruit to nothing. A reciprocity treaty was made between the United States and Jamaica, Turks, and Caicos Islands, and British Guiana.

Turks and Caicos Islands, having an area of 165 square miles, had in 1901 a population of 5,350, of whom 2,464 were males and 2,886 females. About 1,500,000 bushels of salt are exported every year to the United States and Canada. The Commissioner is William Douglas Young. The Cayman Islands in 1901 had 4,322 inhabitants, comprising 1,904 males and 2,418 females. The Morant and Pedro Cays are also dependencies of Jamaica. The imports of the Turks Islands in 1900 were valued at £29,564; exports, £34,584; tonnage entered and cleared, 290,839 tons.

The *Leeward Islands* have a total area of 701 square miles, with 127,434 inhabitants in 1901. There were 114 Government schools in 1900, with 24,974 pupils. Sugar and molasses are still the principal products of the islands, though fruits and other products have been planted on some of them. The Governor is Henry Moore Jackson. The islands are divided administratively into the presidencies of Antigua, with Barbuda and Redonda; St. Kitts, with Nevis and Anguilla; Dominica, Montserrat, and the Virgin Islands. The Legislative Council consists of 8 nominated members and 8 members elected by the non-official members of the local legislative councils of St. Kitts and Nevis, Antigua and Dominica. The elective element in the Legislatures of Antigua and Dominica was abolished in 1898, when the Imperial Government contributed money to aid those islands in their financial difficulties.

Antigua has an area of 108 square miles and Barbuda and Redonda together have an area of 62 square miles. The population of these islands declined from 36,819 in 1891 to 34,971 in 1901. St. John, in Antigua, the capital of the colony, had 9,282 inhabitants in 1901. Sugar and pineapples are the chief products. Steamers run to New York, Canadian ports, and England. The local revenue in 1900 was £42,652; expenditure, £49,435. The receipts from customs were £23,081. The value of imports in 1900 was £125,304; exports, £111,849. The tonnage entered and cleared was 451,592 tons. The debt of the island is £137,071.

The *Virgin Islands* have an area of 58 square miles, with 4,908 inhabitants in 1901, compared with 4,639 in 1891. Sugar and cotton are grown by the colored people, who own their small holdings. The local revenue in 1900 was £2,117; expenditure, £2,197; imports, £3,387; exports, £2,812; tonnage entered and cleared, 12,076.

St. Kitts is 65 square miles in extent, with 29,782 inhabitants in 1901, having declined from 30,876 in 1891. *Nevis*, 50 square miles in extent, declined in population from 13,087 to 12,774. *An-*

gulla, 35 square miles, increased in population from 3,699 to 3,890. Anguilla grows vegetables and produces salt.

The revenue of the presidency in 1900 was £39,904; expenditure, £43,964; debt, £73,950; imports, £136,435; exports, £109,783; tonnage entered and cleared, 523,213 tons.

Dominica has an area of 291 square miles. The population increased from 26,841 in 1891 to 28,894 in 1901. The products are Liberian coffee, fruits, cacao, limes, and sugar. The revenue in 1900 was £28,113; expenditure, £26,780; debt, £70,900; imports, £80,144; exports, £68,452; tonnage entered and cleared, 467,686 tons.

Montserrat has an area of 32 square miles. The population increased from 11,762 in 1891 to 12,215 in 1901. The products are coffee, sugar, cacao, arrowroot, and lime-juice. The revenue in 1900 was £6,664; expenditure, £9,597; debt, £11,400; customs receipts, £4,958; imports, £26,911; exports, £8,115; tonnage entered and cleared, 198,730 tons.

The imports of cotton goods into the Leeward Islands in 1900 were £64,677; of flour, £51,722; of fish, £20,503. The expenditure on public works was £17,225; on police, £10,451; debt charges, £10,451.

Trinidad has an area of 1,754 square miles. The population in 1901 was 253,250. Port of Spain, the capital, has 55,000 inhabitants. The dependent island of Tobago has an area of 114 square miles and 18,750 inhabitants. The people of both islands are mostly of mixed blood. French, Spanish, Corsicans, Venezuelans, Portuguese, and British have settled in Trinidad at different times, and the negro slave population was once large. The present population comprises 89,178 Roman Catholics, 74,549 Anglicans, 29,771 other Christians, and about 78,000 East Indians. The number of marriages in 1900 was 1,081; of births, 10,021; of deaths, 6,841. The area under sugar-cane in 1900 was 51,500 acres; under cacao, 150,800 acres; under coffee, 3,980 acres; under ground provisions, 34,400 acres; under coconut-palms, 11,200 acres; in pasture, 15,000 acres. From the pitch lake in the center of Trinidad 158,750 tons of asphalt were exported in 1900. There are 80 miles of railroad and 690 miles of telegraphs. In Tobago, which is often visited by tourists from the United States and Great Britain, cotton and tobacco are cultivated. Petroleum has recently been discovered. The revenue of Trinidad and Tobago for the year ending June 30, 1900, was £661,874, and expenditure £630,200. The revenue from customs was £318,941. The expenditure on public works was £37,801; on police, £46,706; debt charges, £50,623; amount of public debt, £918,473. The value of imports in 1900 was £2,500,258; exports, £2,584,549. The imports of flour were £152,270; of textile goods, £381,106; of rice, £111,745; of machinery and hardware, £154,744; exports of sugar, £552,206; of cacao, £979,672; of asphalt, £176,079; of hides, £108,151; of rubber, £53,101. The tonnage entered and cleared was 1,178,494 tons. The Governor of Trinidad in 1902 was Sir Cornelius Alfred Moloney. The Legislative Council consists of 9 official and 11 appointed non-official members. Tobago was made a ward of Trinidad on Jan. 1, 1899.

The *Windward Islands* have a common Governor, Sir Robert Baxter Llewelyn, but each island has its Legislative Council, containing official members and nominated non-official members. *Grenada* has an area of 133 square miles, with 65,523 inhabitants. There are 41 schools, with 9,529 pupils. Cacao, spices, cotton, and sugar are the chief products. The island of Carriacou, one

of the Grenadines attached to Grenada, has a population of 6,000.

St. Vincent has an area of 132 square miles and 41,054 inhabitants, of whom 2,445 are whites. Kingstown, the capital, has 4,547 inhabitants. Sugar, rum, arrowroot, and spices are produced and timber is cut in the forests. The northern end of the island was devastated in 1902 by an eruption of La Soufrière and 1,600 people perished, while 5,000 were made destitute.

St. Lucia has an area of 233 square miles, with 49,895 inhabitants. The town of Castries has 7,910. The number of births in 1900 was 1,995; of deaths, 1,087. The main products are sugar, rum, logwood, and cacao.

The revenue of St. Lucia in 1900 was £72,108, of which customs produced £35,980; expenditure, £64,750, of which £7,850 went for public works and £13,219 for debt charges; public debt, £176,680; imports, £403,593, of which £30,291 represent cotton goods; exports, £104,881, of which £53,578 represent sugar and £38,247 cacao; tonnage entered and cleared, 1,841,593 tons.

The revenue of St. Vincent was £27,674, of which customs produced £15,032; expenditure, £36,121, of which £1,432 were spent on public works; debt, £14,470; imports, £98,591; exports, £100,327; tonnage entered and cleared, 289,712 tons.

The revenue of Grenada in 1900 was £70,363, of which £36,584 came from customs; expenditure, £62,718, of which public works took £3,169; public debt, £127,570; imports, £232,790; exports, £311,681, of which £269,931 represent cacao; tonnage entered and cleared, 439,009 tons.

Barbados has an area of 166 square miles and a population estimated at 195,000. The number of births in 1900 was 7,337; of deaths, 4,663. The Governor is Sir Frederic Mitchell Hodgson. There were 169 elementary schools with 13,795 pupils in 1900. There are about 30,000 acres in sugar, yielding 50,571 hogsheads in 1900. The export of glance pitch in 1900 was 1,120 tons, valued at £8,162. About 1,000 men and 250 boats are engaged in fishing, and the annual value of the catch is £17,000. The shipping of the colony in 1900 consisted of 46 sailing vessels and 2 steamers of an aggregate tonnage of 6,768 tons. There are 24 miles of railroad and 635 miles of telephone-line. The revenue in 1900 was £185,475, of which £105,290 were derived from customs; expenditure, £182,866, of which £22,712 were spent on police, £9,677 on public works, and £19,497 on debt charges. The amount of the debt was £416,850. The value of imports in 1900 was £1,045,252, of which £160,987 were for textiles, £67,223 for flour, £84,412 for rice, and £57,677 for fish. The exports were valued at £909,011, of which £509,706 represent sugar and £148,936 molasses. The tonnage entered and cleared was 1,361,466 tons.

The *Bahamas*, consisting of 20 inhabited islands, besides many which are uninhabited, off the southeast coast of Florida, have an area of 5,450 square miles, with a population in 1901 of 53,735. The number of births in 1900 was 2,030; deaths, 1,234. There were 43 Government schools with 5,776 pupils enrolled. Pineapples, oranges, and grapes are grown for export and the cultivation of sisal fiber is increasing, the area planted being 22,341 acres in the beginning of 1901. Sponges, shells, pearls, and ambergris are valuable sea products. The Governor in 1902 was Sir Gilbert T. Carter. The revenue in 1900 amounted to £78,860, of which £67,992 came from customs; expenditure, £82,837, of which £12,111 were for public works, £16,614 for debt, and £5,933 for police. The amount of the debt was £112,226. The value

of imports in 1900 was £335,269, of which £56,528 represent textiles and £28,264 flour; exports, £207,223, of which £104,219 represent sponges, £59,191 pineapples, and £16,246 fiber; tonnage entered and cleared, 1,113,866 tons.

The revenues of all the British West Indian colonies in 1900 amounted to £2,133,965, against £1,993,861 in 1899 and £1,888,259 in 1898; expenditures amounted to £2,117,171, against £1,974,253 in 1899 and £1,904,369 in 1898. The imports of all the islands made the sum of £6,739,567 in 1900, against £6,709,142 in 1899, and £6,323,413 in 1898; exports amounted to £6,360,344, against £6,262,454 in 1899 and £5,657,391 in 1898. The tonnage entered and cleared in all British West Indian ports was 9,910,300 tons in 1900, against 9,155,155 tons in 1899. As a result of the report of the Royal Commission appointed to inquire into the condition of the West Indian sugar-growing colonies, to the effect that the sugar industry was in danger of great reduction, and even of extinction in some islands from the competition of bounty-fed beet-sugar, and that its total or partial extinction would reduce the revenues so that in many cases they would be insufficient to meet the cost of administration, the British Parliament in 1899 authorized advances to the colonial governments from the imperial treasury amounting to £663,000, distributed as follows: Jamaica, £150,000 in aid of revenue and £303,000 for public works and railroads; Trinidad, £110,000 for railroads and public works; Barbados, £50,000 as relief from the effects of the hurricane of 1898; St. Vincent, a hurricane loan of £50,000. Other assistance was given to the islands.

French Colonies.—The colony of *Guadeloupe* with its dependencies has an area of 688 square miles and a population in 1901 of 172,097. The 2 islands divided by a narrow channel which form the colony of Guadeloupe proper have an area of 583 square miles. The dependent islands are Marie Galante, Les Saintes, Désirade, St. Barthélemy, and St. Martin. The population includes 15,276 East Indian coolies. A lyceum with 268 pupils and a female college with 134 pupils are the superior schools, and there are 101 elementary schools with 321 teachers and 10,979 pupils. Pointe à Pitre, the principal town, has 16,506 inhabitants; Basse Terre, the capital, 7,838. The revenue in 1900 was 6,120,581 francs, and expenditure the same. The expenditure of France in 1902 was 1,737,289 francs. The debt is 1,200,000 francs. The garrison consists of 170 French soldiers. The Governor in 1902 was M. Merlin. The members of the Legislative Council are elected by the people. Sugar was grown on 22,740 hectares in 1901, coffee on 5,251 hectares, cacao on 2,935 hectares. The exports of sugar in 1899 were 39,390 tons; of coffee, 1,587,000 pounds; of cacao, 915,530 pounds. Bananas, sweet potatoes, manioc, corn, and vegetables are the food crops, and tobacco is raised for local consumption. The imports in 1899 were valued at 19,155,751 francs, of which 13,286,000 francs were special imports from France; exports at 18,707,558 francs, of which 11,032,000 francs were special exports to France. The imports from France for home consumption in 1900 were only 9,715,000 francs; exports to France, 10,559,000 francs. The number of vessels that visited Pointe à Pitre in 1899 was 438, of 221,303 tons, mostly French and English steamers that make regular trips between European and West Indian ports.

The island of *Martinique* has an area of 380 square miles, with 189,599 inhabitants in 1901. There is an elective Legislative Council. The

Governor in 1902 was L. Mouttet. The population includes 1,307 persons born in France, 4,665 East Indians, 432 Chinese, and 5,371 African immigrants. There is a law school with 86 students, 3 secondary schools with 745 pupils, a normal school, and 152 elementary schools with 11,988 pupils. The military force consists of 1,180 French soldiers. St. Pierre, the chief seaport, had 25,792 inhabitants in 1901; Fort de France, 17,274. Sugar, coffee, cacao, tobacco, and cotton are the chief products. The value of imports in 1900 was 24,929,348 francs, of which 10,760,063 francs came from France, 1,706,338 francs from French colonies, and 12,462,947 francs from foreign countries. The exports were valued at 27,160,890 francs, of which 24,738,693 francs went to France, 996,295 francs to French colonies, and 1,425,952 francs to foreign countries. The tonnage entered in 1899 was 315,509; cleared, 313,840. French, American, and British steamers visit the island regularly. The local revenue in 1900 was 5,729,793 francs; the expenditure of France in 1902 was 3,135,516 francs; debt, 1,460,000 francs and an annual *rente* of 95,000 francs. The eruptions of Mont Pelée in 1902 caused the death of 35,000 persons and left 50,000 homeless and destitute. The relief sent from the United States, France, and other countries enabled the colony to survive the disaster. St. Pierre, which was effaced, was the largest town in the French islands and one of the prettiest in the West Indies. An area of 30 square miles was desolated by the eruption. (See EARTHQUAKES AND VOLCANOES.)

Dutch Colony.—The Netherlands has in the West Indies the colony of *Curaçao*, consisting of the island of that name, Bonaire, Aruba, part of St. Martin, St. Eustache, and Saba. Curaçao, area 210 square miles, had 30,119 inhabitants on Dec. 31, 1899; Bonaire, area 95 square miles, had 4,926; Aruba, area 69 square miles, had 9,591; St. Martin, area 17 square miles, had 3,485; St. Eustache, area 7 square miles, had 1,383; Saba, area 5 square miles, had 2,189. The members of the Colonial Council are appointed. The Governor in 1902 was J. O. de Jong van Beek en Donk. There are 33 schools with 5,400 pupils. The revenue for 1901, derived from import and export duties, excise, land taxation, and indirect taxes, was estimated at 602,000 guilders and expenditure at 700,000 guilders. The Dutch garrison in 1900 consisted of 9 officers and 175 soldiers, the militia of 28 officers and 349 men. The imports in 1899 were valued at 1,922,917 guilders. The chief products are corn, beans, cattle, salt, and lime. The ports were visited in 1899 by 2,455 vessels, of 480,565 tons.

Danish Colony.—The Danish Antilles are the islands of *Santa Cruz*, *St. Thomas*, and *St. John*, having a total area of 138 square miles and 30,504 inhabitants. The Governor in the beginning of 1902 was Col. C. E. von Hedemann. The value of imports in 1900 was 86,000 kroner; exports, 59,000 kroner. Sugar and rum are the chief products.

After long negotiations, a treaty for the sale of the islands to the United States was signed on Jan. 24, 1902. It was ratified by the United States Senate on Feb. 17, 1902. The Danish Landsting rejected the treaty on May 16. The United States proposed a prolongation of the period of ratification, and Denmark assented. Half the members of the Landsting were renewed by election, and the treaty came before the body again and was once more rejected by a small majority on Oct. 22. In November the Government appointed a commission to go to the Danish West Indies in order to study what can be done

for the economic development of the islands. Although they have cost the Danish Government \$200,000 a year, the United States agreed to pay \$5,000,000 for them.

WEST VIRGINIA. (See under UNITED STATES.)

WIRELESS TELEGRAPHY. The continued development and improvement of wireless communication (see Annual for 1898) seemed perhaps to place us little nearer the commercial utilization of this great discovery, until in the latter part of 1901, and again in 1902, Guilielmo Marconi, who since 1897 has been most usually associated in the public mind with the subject, demonstrated by successful experiment the possibility of transatlantic telegraphy without wires.

In December, 1901, Mr. Marconi sailed for Newfoundland in order to conduct his first experiments in transatlantic wireless telegraphy, and set up his temporary station on Signal Hill, at the entrance of St. John's harbor. Previous to leaving England he had arranged with his operators at the Poldhu station, upon receiving instructions, to send out daily, from 3 to 6 P. M. Greenwich time (11.30 A. M. to 2.30 P. M. St. John's time), the letter S of the Morse code (...) as a signal. Upon his arrival he at once sent up balloons and kites to which were attached the aerial electrodes of his receiving apparatus. At the beginning of the experiments his first balloon broke away, and afterward he used only the kites. One of these sent up Dec. 12 to a height of 400 feet remained there four hours. The signals were received from Poldhu and plainly distinguished, repeated at intervals, beginning at 12.30 P. M. and lasting irregularly for three minutes; resuming at 1.10, and renewing at 2.20 for shorter intervals, in all 25 times.

As soon as his success was announced the Anglo-American Cable Company, which holds a monopoly from the Newfoundland Government, declared that it would enforce its rights, and he was compelled to go elsewhere to establish a permanent station. He finally chose Table Head, a bleak promontory east of Glace Bay, Cape Breton Island, and upon the assurance of the cooperation of the Canadian and Nova Scotian governments at once began the erection of a station similar to that at South Wellfleet, Cape Cod, Mass., and later chosen for the plan of the new station at Poldhu. In general they consist of 4 square wooden towers, 28 feet across at the base, 9 to 11 feet across at the top, and 250 feet high. The towers stand at the corners of a square, whose sides are 210 feet long. Each one is cross-braced with steel-wire rope. Then all 4 are connected with each other by diagonal stays. Finally, to render the structure still more rigid and wind-proof, stout cables are run up over the tops of each pair of towers on all sides, and secured to anchorages in the earth. From each of the 4 horizontal bridges which connect the tops of the towers are suspended 50 copper cables. The cables are composed of 7 strands, an eighth of an inch in diameter, tightly twisted together. The reason for using many fine strands instead of a few large rods is to secure a larger amount of surface for a given amount of copper. It will thus be seen that the solitary "vertical wire" of the original Marconi experiments has now been enormously multiplied. Since the length of a Hertz wave is four times the length of the vertical wire, or antenna, waves not far from 860 feet (or a sixth of a mile) long should be developed. This corresponds to a frequency of about 1,100,000 a second. The 50 cables of each of the 4 groups converge a little as they go downward, and also

incline slightly toward the center of the quadruplex edifice. The lower ends, therefore, are arranged along the sides of a square much smaller than that formed by their supports at the top, and terminate in the operating-room of the station.

The distance from St. John's to Poldhu is about 1,800 miles, and as the greatest distance, up to that time, that Marconi had succeeded in overcoming was about 60 miles, much doubt was expressed as to the success of these experiments. But even the most skeptical were convinced, when on Feb. 25, 1902, and the day following, Mr. Marconi, on board the steamship Philadelphia on his way to America, received worded messages, certified by the ship's officers, up to a distance of 1551.5 miles and signals at a distance of 2,099 miles.

During the summer he continued his experiments, his most notable achievements being the exchanging of messages between Poldhu and the Italian cruiser Carlo Alberto, in the harbor of Cronstadt, Russia, in the presence of the Czar and the King of Italy in July, a distance of about 1,400 miles; and a similar exchange between Poldhu and Spezzia, Italy, in September. The King of Italy not only bestowed upon Mr. Marconi many distinguished honors, but late in September granted him for six months, at the expense of the Government, the cruiser Carlo Alberto for making wireless experiments. He arrived at the Cape Breton station, then nearing completion, Oct. 31. The cruiser was in constant communication with Poldhu during the voyage, and continued to receive messages after her arrival in Sydney, Cape Breton, harbor; however, she was unable with her apparatus to send messages farther than a few hundred miles. After installing the machinery and sending and receiving some experimental messages, on Dec. 21 the first official transatlantic wireless telegrams were sent from Table Head. The messages were from Lord Minto, Governor-General of Canada, to King Edward VII of England, and from Mr. Marconi to King Edward and to King Victor Emmanuel of Italy, and from the commander of the Carlo Alberto to the King of Italy, with other minor messages.

Mr. Marconi left Sydney for Cape Cod Jan. 14, 1903, arriving at the South Wellfleet station Jan. 16, and on Jan. 18 sent direct from that station to Poldhu, a distance of 3,000 miles, a message from President Roosevelt to King Edward of England.

In place of the induction coils of his early apparatus, Mr. Marconi used in these experiments a transformer and a 40 horse-power, alternating current dynamo. The transformer raises the voltage from 2,000 to 20,000, and this is further increased by means of condensers to from 50,000 to 70,000 volts. For the coherer he has substituted a "magnetic detector," connected with a telephone receiver, which enables him to increase greatly the speed of receiving, and consequently of sending messages. To insure non-interference he employs the tuning system invented by Prof. Michael I. Pupin, of New York city, whose rights he purchased in 1901. There has been much discussion of the integrity of Marconi's so-called inventions, and litigation is in progress over many of the patents claimed by the various companies interested in developing wireless telegraphy.

Marconi has now 35 or more stations in various parts of the world, or about 70, including those on ships. Of these, 12 land stations and 17 ships are fitted for sending commercial tele-

grams. The Italian Government, which has used the system largely on its war-ships, is so assured of its success that it has granted a subsidy of £40,000 a year, while the English Government pays royalties for the use of the instruments on their war-ships. Companies have been organized in Great Britain, Canada, and the United States for exploiting and controlling the use of the Marconi system.

Germany from the beginning has not favored the Marconi system and has turned to the development of the system that bears the names of Prof. Slaby and Count d'Arco. This it has used with great success in the recent maneuvers of the army and navy. France also has adopted the Slaby-Arco system, and the United States Government has experimented extensively with it. In addition to the Marconi system the United States has also experimented with a system invented by Prof. Reginald A. Fessenden, of Washington, D. C., in which he uses in place of the coherer what he calls a "magnetic wave detector." At 50 miles he was able to receive messages with precision at the rate of 25 words a minute, and he predicts a possible rate of 500 words a minute for this instrument. Gen. A. W. Greely, of the United States Signal-Service, looks with special favor upon the system invented by Dr. Lee De

Forest, of New York city. His system has met many severe tests and was used successfully in the army and navy maneuvers off the eastern end of Long Island in 1902. It has since been installed in several of the forts and at Annapolis, whence test messages have been sent to Washington. De Forest was the first to use the alternating current and "step up" transformer, which is now known to have been used by Marconi in his long-distance work. He receives the messages from the aerial conductor in a "transformer" connected to an ordinary telephone receiver, which work on an altogether different principle, and does away with the slow and delicate coherer of Marconi's earlier experiments. With it he has attained a speed of 40 to 50 words a minute. With the coherer the maximum safe speed is only about 12 words a minute.

The United States Government has committed itself to no particular system, but is investigating all with impartiality. Contracts have been awarded the Marconi and De Forest companies for establishing stations in Alaska, and the army, the navy, and the Weather Bureau have experts detailed to the work of developing its greatest usefulness.

WISCONSIN. (See under UNITED STATES.)

WYOMING. (See under UNITED STATES.)

Y

YACHTING IN 1902. The first conspicuous yachting event of the season was unique and of international and diplomatic import. It is well known that the German Emperor long since established a world-wide reputation as a cruising yachtsman—that is, as one who loves to go to sea for the pleasure of it and not merely for the excitement of racing and of being the mere owner of racing machines. For this reason he was naturally attracted to the best type of sea-going craft, and after sundry experiments with cutters as developed under the English builders he seemingly arrived at the conclusion that schooners were best adapted to his purpose, and therefore he became the owner of the famous American yacht Yampa, which had distinguished herself in many deep-water races and proved her sea-going capacity in many extended cruises. But she was not quite large enough and seaworthy enough to meet the Emperor's wishes, and he consulted her designer, A. Cary Smith, of New York, with a view to securing a more suitable craft. Plans were drawn and submitted, and as they received the Emperor's approval the work of construction was begun in 1901 at Shooter's island, near New York.

As the vessel approached completion, or perhaps as the result of previously conceived plans, the Emperor decided to make the occasion of the launching an affair of state, and it was announced that his brother, Prince Henry of Prussia, with the royal yacht Hohenzollern, would be sent over to take part in the ceremonies.

It presently transpired that correspondence of a more personal nature had passed between President Roosevelt and the Emperor, and it was announced that Miss Alice Roosevelt would name the yacht Meteor with the formalities usual on such occasions. The vessel was completed and rigged on time and launched on Feb. 25, under wintry conditions, but without the slightest accident until after she was afloat, when, through the blunder of a tugboat captain, she suffered some slight damage. It was not serious enough,

however, to prevent her from proceeding almost immediately to sea. A crew of English cuttermen with an English sailing-master were brought over to take charge of this Yankee schooner, and she was successfully navigated across the ocean, and her interior fittings were completed under the Emperor's directions by English workmen. Since that time there has been a deal of curiosity and some criticism upon her performance during the races in which she has taken part. Much of this, however, has resulted from a misunderstanding of her design. The order from the Emperor as originally given was by letter in which the words "cruising type" were twice underscored, and this wish on the part of his Majesty was emphasized on every occasion in which he expressed his preferences in regard to the boat. Having been the owner and practically master of an American schooner, he must have acted with full intelligence when he prescribed the "cruising type." The vessel was intended as an improvement upon the Yampa, whose draft was 13 feet and 6 inches, while the Meteor's was 15 feet, though the designers well knew that to make a record in the racing events 20 feet draft should have been given to her. Such a depth, however, would have rendered her useless except in the open sea, and in the opinion of her designer this draft, though necessary for the greatest speed, would have been a detriment to a sea-boat.

The Iroquois, whose sea record is unsurpassed, draws only 9 feet and 6 inches with a load water-line of 80 feet, and her performance in riding out the famous blizzard of 1888 is well remembered, for the ocean was strewn with the wrecks of all kinds of vessels. Her performance last autumn in winning the ocean race from Sandy Hook to Cape May and return goes to establish the American theory that great draft in a sea way is not a prime necessity. She won from modern-built vessels 20, 30, and even 45 feet longer than she on the water-line, and this in a reefing breeze to windward. All this seems to show that,

though fifteen years old, she is not yet on the retired list.

The record of the Meteor is like that of all very large schooners when they are matched against smaller vessels with much larger sail-plans, especially in smooth water and light air. Whenever she has been favored with a strong wind and something of a sea, she has shown what she can do by easily beating Sybarita, and breaking the record over the Queen's course at Cowes in three hours, fifty minutes, twenty-seven seconds. Moreover, letters have been received by the designer from his Majesty's representatives, expressing great satisfaction with the Meteor's performance under all circumstances, but especially when there has been, as sailormen say, a "breeze o' wind."

It is constantly of record in all racing fleets that large schooners are beaten by single-masted vessels in light air. Thus Corona has been beaten in the Goelet races at Newport in the open sea by the Amarita and Elmina; the Corona is 85 feet long, the Amarita 69 feet, and the Elmina 66 feet and 7 inches, load water-line. It must also be remembered that American crews have no equals in the management of sailing schooners. English cutter-men are not at all trained to the situation, and their national conservatism is very much against their success in acquiring the art. With an American captain and crew, it is very probable that the Meteor would have established a different record. When we remember that in the matter of handling the Shamrock was far behind the Columbia, and that the pride of every Englishman is distinctively in cutter sailing, it is easy to see that in the handling of a schooner there must be special training both for the crew and for the sailing-master. Whoever has read about the historic performances of the old America when she won that troublesome cup, and of her subsequent performances when in the hands of an English crew, will readily understand what has been the matter with the Meteor. Under the circumstances, no one need wonder at the record as thus far established, and no American need feel any anxiety as to the reputation or success of American seagoing schooners.

In the Annual Cyclopædia for 1901 a condensed account of the International Cup Races was given, in view of the visit of Sir Thomas Lipton and the retention of the America's cup as the result of the races of that year. Shortly after that event was decided, another challenge was received from Sir Thomas through the Royal Ulster Yacht Club of Cork. This was promptly accepted by the New York Yacht Club, and at this writing both vessels are well advanced for completion early in the coming season. The specified dimensions are 90 feet water-line, and cutter rig. The appointed dates for the races are Aug. 20, 22, and 25, and the following Thursdays, Saturdays, and Tuesdays, if necessary.

For the history of the International Races the reader is referred to the Annual Cyclopædia for 1901.

By common consent the series of races for the Canada cup, between the Royal Canadian Yacht Club of Toronto (defenders) and the Rochester (N. Y.) Yacht Club (challengers) was postponed for one year.

The international races for the Seawanhaka-Corinthian International Cup for small yachts, which trophy has been held by Canada since 1895, was sailed on Lake St. Louis, near Montreal, on Aug. 7, 8, 9, and 11; the Trident of the Royal

St. Lawrence Yacht Club was the defender, and the Tecumseh of the Bridgeport (Conn.) Yacht Club was the challenger. Four races were sailed, the Trident winning three and the Tecumseh one. Another series of races is in prospect for 1903, the challengers being the Manchester (Mass.) Yacht Club. As usual, the winning boat was something of an innovation, though not to such an objectionable degree as aforesaid. She was provided with two light bilge-keels set at such an angle that the leeward one was nearly vertical when the boat heeled to her bearings. This arrangement reduced the draft to 4 feet, and left the middle of the cockpit free for "working ship." The Canadians certainly deserve very high credit first for having won this coveted international trophy from the best amateur sailors of the United States, and secondly for having so successfully defended it during a series of years.

YOUNG MEN'S CHRISTIAN ASSOCIATION. The reports of the Young Men's Christian Association for 1902 enumerate 1,575 associations in the United States and Canada, with 323,224 members, showing an increase for the year of 99 associations and 54,744 members. The property owned by these associations was valued at \$24,101,229. The English Year-Book gives, for the United Kingdom, 1,533 centers with (approximately) 120,550 members and property valued in the total at £731,264; in the Colonies, 296 associations, with 32,941 members; and in foreign countries, 5,698 centers, with 467,230 members, and property valued at £4,824,090; making a total for the world of 7,507 centers with 620,721 members, and property aggregating £5,926,595 in value.

The fifteenth world's conference of the Young Men's Christian Associations met at Christiania, Norway, Aug. 20 to 24. Grants toward paying the expenses of the convention had been made by the Storting and the municipal authorities of the city. Twenty-one hundred delegates were enrolled, of whom 900 were official delegates, representing the United States, Canada, Great Britain, and Ireland, France, Germany, Holland, Belgium, Austria-Hungary, Spain, Portugal, Italy, Denmark, Norway, Sweden, Iceland, Russia, South Africa, Australia, New Zealand, India, China, and Japan. The English, German, French, and Norwegian languages were used in the proceedings. The European general secretaries reported having organized during the past four years 81 new associations and 3 national unions. Many papers were presented to the conference on topics relating to Christian life and the various aspects of the work of the associations. Authority was given to the World's Committee to appoint an additional secretary, for which an increase of appropriations was made, bringing the whole amount up to \$9,000.

The Student Volunteer Missionary Movement.—The Student Volunteer Missionary Movement was begun in 1886 in connection with the work of the Young Men's Christian Association for the purpose of developing the interest and activity of students in institutions of learning in missionary enterprise. In 1902, according to a report made to the convention in Toronto, it had been introduced into 798 institutions, in more than half of which nothing had been done in behalf of foreign missions prior to its inception, and it had greatly stimulated interest in them wherever it existed. An educational department was instituted about 1874 for promoting the special study of missions. While at that time there were about 20 mission-study classes in the colleges and seminaries of North America, the report made to the

convention of 1902 mentioned 325 such classes with 4,797 students. It is intended to hold the general conventions of the Student Volunteers about every four years, so that the terms shall correspond with the ordinary length of a "college generation." A convention held at Chicago in 1891 was attended by 680 delegates, representing 151 institutions, the principal mission bands of North America, and most of the foreign mission fields. At the convention of 1899 in Detroit, Mich., 1,300 delegates from 294 institutions were present, and at the convention of 1898, in Cleveland, Ohio, out of 1,991 delegates, 1,598 were students and 119 professors representing 461 institutions of learning, the others representing mission boards and missions and Young Men's and Young Women's Christian Associations. A convention attended by 1,000 delegates was held at Liverpool, England, in 1896, and more than 1,600 delegates were present at a meeting held in London in 1900. The fourth general convention in America met in Toronto, Ontario, Feb. 26, 1902, and included 2,955 delegates from 22 countries, among whom 357 colleges were represented by 1,616 students and 121 members of faculties, 51 medical schools by 151 students and 26 professors, and 507 theological schools by 478 students and 65 teachers—2,296 students and 212 professors in all. Mr. John R. Mott, chairman of the Executive Committee of the movement, and presiding officer of the convention, who had just returned from an official visit to the foreign mission-fields for the organization of the movement in them, spoke of its activity in Great Britain, Scandinavia, France, and Holland, and stated reasons why the missionary work should be prosecuted with the greatest energy. The addresses, delivered in general and sectional meetings, related to such subjects as the missionary education of the young, the systematic study of missions in Sunday-schools, the place of missionary study in colleges and theological schools, The Printed Page as a Missionary Force, the office of the pastor in promoting interest in missions, etc. Mr. John R. Mott spoke of the need of the foreign evangelization movement in the non-Christian world; Prebendary F. H. Forp, honorary secretary of the Church Missionary Society, of the increasing openings and opportunities for missionary effort as challenging the present generation of Christians; and Mr. Robert S. Spear, of the Presbyterian Board of Foreign Missions, described The Abounding Resources of the Christian World. Nine sectional conferences were held for the consideration of matters relating to different parts of the mission-field, and 27 denominational conferences. About \$15,000 were subscribed for carrying on the work of the movement for the next four years. A report was made that the names were known of 1,953 volunteers who had sailed, up to the present year, to enter the mission service, going out in connection with about 50 different societies and taking posts of labor in all parts of the non-Christian world; and that 60 per cent. more had gone out since the convention of 1898 at Cleveland, Ohio, than during the four years preceding. Of the 46 volunteers who had served as members of the Executive Committee, 27 had sailed and 9 others were under appointment or had applied for appointment.

At a conference of Young Men's Christian Associations of theological seminaries in the West, held in Dayton, Ohio, the preparation of a textbook was proposed for use in voluntary classes among theological students having especially in view qualification for personal Christian work for individuals. The seminaries were urged to despatch evangelistic bands in term time as well as

in vacation, to reach neglected districts within range of the influence of the institution. Faculties and associations in the seminary were asked to devise means for increasing the number of well-qualified volunteers.

World's Student Federation.—At the fifth convention of the World's Student Federation, held at Soroe, Denmark, in August, General Secretary John R. Mott reported that the federation now embraced within the 11 national and international movements of which it is composed 1,540 associations with an aggregate of more than 82,000 members. It was reported two years previously that there were 39 buildings devoted to the student-movement in different lands, and that their combined value was fully \$1,000,000. Since then 11 other buildings had been erected or provided for financially, having a total valuation of \$425,000, of which 6 were in America, 2 in India, 1 in Norway, 1 in Japan, and 1 in China. At the convention in Soroe, 90 college men, representing the students of 27 different countries, took part; Dr. Karl Fries, of Stockholm, presided. The federation had been formed seven years previously at a meeting held in Waldstena Castle, Sweden; and since then it had been effective in creating auxiliary national federations in Australia, South Africa, India, China, and Japan. Of the 6 other national federations, 3 had been helped through times of dangerous crises by the support of the international fellowship. The number of students pursuing the systematic study of the Bible had increased 20 per cent. in the last two years, and now aggregated 30,000 in the whole world. There were more than 500 Student Volunteers in the colleges of India, China, and Egypt. Interest in missionary studies had notably increased in all lands, but nowhere quite so remarkably as in South Africa.

Young Women's Christian Associations.—General conferences of Young Women's Christian Associations in the United States were held during the year at Asheville, N. C.; Capitola, Cal.; Silver Bay, N. Y., and Geneva Lake, Wis. The conference at Geneva Lake, in August, was especially devoted to methods of work for young women in colleges and cities, and was attended by 600 young women from 22 States, representing 165 educational institutions and several cities. Discussions on Bible study, a missionary institution, student conferences, and conferences on spiritual life were special features of the meeting. Besides these general conferences an institute for the instruction of secretaries was held at Milwaukee, Wis. Paid local secretaries for young women's work exclusively had been appointed in 15 colleges.

At the second world's conference of Young Women's Christian Associations, held at Geneva, Switzerland, in August, 17 nationalities were represented and 60 delegates were present from the United States. The chief interest of the meeting centered in the religious activities and possibilities of the association's work rather than in its social, physical, and economic features. The Swedish section reported 12 fields of missionary activity, extending from Paris to Pekin.

YUKON TERRITORY. British Alaska, or the Klondike country, as it is commonly called, is a territory under the control of the Canadian Department of the Interior: area, 198,300 square miles; population about 20,000. Capital, Dawson City.

Government and Politics.—The Commissioner at the beginning of 1902 was the Hon. J. H. Ross, formerly a member of the Government of the Northwest Territories. Toward the close of the year he resigned to contest the new seat in the Dominion Parliament and was elected by a large

majority as a Liberal and supporter of the Laurier Government. Major Z. T. Wood, of the mounted police, acted as Commissioner pending a definite appointment. Meanwhile, the other members of the Council were E. C. Senkler, Gold Commissioner; J. E. Girouard, Registrar; H. H. Newlands, Legal Adviser; C. A. Dugas, Judge; and Messrs. Wilson and Prudhomme elected members. On Jan. 17 the Dominion Government received a petition from the Yukon Council making the following requests: 1, Representation in the Senate; 2, the addition of 5 elected members to the present Yukon Council; 3, the division of the territory into electoral districts and the setting apart of money for election purposes and members' traveling expenses; 4, control of the liquor traffic in the Yukon; 5, the nomination of an inland revenue officer in the Yukon; 6, the right to establish breweries; 7, the setting apart of a fund for the maintenance of schools; 8, the setting apart of a fund to maintain roads; 9, the right for the Yukon Council to adopt all ordinances relative to Yukon matters independently of the Ottawa Government, which, however, should retain the right of veto on Yukon statutes.

Railway and Trade.—The all-important question of railway rates was hastened toward a solution early in 1902. In the previous year the Dominion Government, through its Railway Department, had fixed a tariff on the White Pass and Yukon Railway of about \$18 a ton for fifth-class goods between Skagway and White Horse, but the company refused to accept this or the proposal that no overcharge should be made on the American end of the line to compensate for this Canadian reduction. Finally President S. H. Graves, of the railway, came out from England, met Mr. Tiffin, of the Government Railways, and after negotiations accepted the following arrangement as to rates: Class 1, which at present is \$2.85 per hundredweight, was reduced to \$1.90 per hundredweight; class 2 was reduced from \$2.84 to \$1.66; class 3 from \$2.82 to \$1.42; class 4 from \$2.80 to \$1.19; class 5 from \$2.75 to 95 cents; class 6 from \$2.74 to 90 cents; class 7 from \$2.73 to 75 cents; class 8 from \$2.72 to 73 cents; class 9 from \$2.71 to 73 cents; class 10 from \$2.70 to 70 cents. Gov. Ross said that "about 60 per cent. of the goods going into Dawson was Canadian, and the percentage was steadily growing." In a report to the Canadian Manufacturers' Association, made public in October, 1902, S. Morley Wickett gave the figures of Yukon trade in certain years, ending June 30, as follow:

	Foreign Imports.	Foreign Exports.	Total.
1900.....	\$2,678,121	\$9,095,904	\$11,774,075
1901.....	2,822,623	13,914,676	16,738,309
1902.....	2,019,732	14,083,437	16,103,269

Financial Conditions.—It was expected that the assessment of Dawson for 1902 would fall substantially below that of the past year. The closing of the gambling-halls, the lowering of prices for building materials, and the springing up of several villages in the creeks promised such a result. But the returns finally received and giving the revised assessment figures for 1901 and 1902 showed very little difference. Realty, 1901, was assessed at \$4,154,840; in 1902 at \$4,145,090; personalty in 1901 was assessed at \$6,293,700; in 1902 at \$5,856,800; income in 1901 was assessed at \$1,199,100; in 1902 at \$656,550; the total in 1901 was \$11,647,640; in 1902 it was \$10,658,440.

The lower personalty valuation was accounted for by many shipments arriving in 1902 unusually late and after the assessment had been made.

Further evidence that Dawson was well holding its own was found in the extent of the money-orders. In October, 1902, orders to the value of \$148,807 were sold. The Yukon has not been a charge on the Dominion, and its indirect value to Canada as a nation has been undoubtedly great.

The Federal Government appropriations for 1902 amounted to \$1,092,800, which it was estimated would be met by the revenue. Of this sum, \$178,500 was for roads, \$25,000 for buildings, and \$125,000 for postal service. In 1901 the revenue was \$1,993,983, including \$592,661 royalty in gold; \$125,861 from free miners' certificate; \$225,595 from various mining fees and leases; \$88,297 from the sale of Government reserved claims; \$74,894 from timber dues; \$630,959 from customs duties; \$108,272 from telegraphs. The expenditures were \$1,671,085, including \$30,548 on customs; \$319,761 on salaries, surveys, and contingencies; \$74,788 on justice; \$498,825 on mounted police; \$117,915 on postal service; \$386,064 on public works; \$215,576 on river improvements and maintenances of telegraph-lines and federal buildings.

Mining.—By official figures, the production of gold in the Yukon was \$2,500,000 in 1897; \$10,000,000 in 1898; \$16,000,000 in 1899; \$22,275,000 in 1900; \$18,000,000 in 1901. The total since statistics were kept in the matter was \$70,313,513. In April, 1902, Mr. R. G. McConnell, of the Dominion Geological Survey, published a report of explorations in the preceding summer, which, upon the whole, showed a satisfactory condition in production and resources. George E. Hees, of Toronto, paid the country a visit in the summer of 1902 and published impressions and statements which aroused considerable criticism. In *Industrial Canada* of August he wrote as follows: "Since 1897 hundreds and thousands of prospectors have been exploring and prospecting every creek and mountain in that country, and no new discovery of importance has been made for more than a year. I have permission from Mr. Senkler, Canadian Assistant Gold Commissioner, to use his name as saying the output of gold in the Klondike last year was over \$24,000,000. The production of the coming year, according to the Government's estimate, will not exceed \$14,000,000. The reason for this very large decline is, that the old creeks or finds are being worked up, and no new discoveries have been made for more than a year. The hope of the Klondike now is the discovery of gold-bearing quartz of sufficient richness to pay to work. So far no such quartz has been discovered." Several authorities contradicted this.

In the summer of 1902 Mr. Morley Wickett, of Toronto, was appointed by the Canadian Manufacturers' Association to visit the Yukon and report upon its resources, conditions, and development. Summed up, his elaborate data may be given as follows: The gold-bearing sands are of immense area, and the camp will remain important for many years. While the yields are not so striking as in the early years, the cost of production has fallen fully 50 per cent. since 1899. He pointed out the immense area yet to be prospected, but at the same time sounded the warning that geological investigations do not warrant the belief that another Eldorado will be found, and that public opinion has settled down to the belief that the rest of the country is largely made up of lower-grade gravel. Dawson City is in a state of transition between the old order of things and the new. Credit is no longer given promiscuously, and consolidation is going on. If mining suffered no temporary relapse there should be no change in business conditions in the near future.

INDEX

TO THE VOLUMES FOR 1900, 1901, AND 1902.

- Abbott, F. W., obit. (1901), 405.
 Abdurrahman Khan, port. (1901), 4; obit., 478.
 Abel, Sir Frederick A. (1902), obit. and port., 484.
 Abydos, Egypt, objects from tombs, illus. (1900), 30.
 Abyssinia (1900), 1; (1901), 1; boundary, 1; (1902), 1.
 Acland, Henry, obit. (1900), 508.
 Acton, John E. E. D., obit. and port. (1902), 484.
 Adams, Charles K., obit. (1902), 435.
 Adams, Herbert B., obit. (1901), 405.
 Adamson, Robert, obit. (1902), 485.
 Aden (1900), 278; (1901), 297; (1902), 322.
 Adenis de Colombeau, Jules, obit. (1900), 508.
 Adna, illus. (1900), 1.
 Adventists (1902), 1.
 Aerial navigation (1902), 3.
 A dye, Sir J. M., obit. (1900), 508.
 Afghanistan (1900), 2; (1901), 3; (1902), 8.
 Africa, German Southwest (1900), 11; southern, colonies in (1900), 3; Portuguese East (1900), 10; protectorate, British Central (1900), 9; West Africa (1901), 786.
 Agnew, Daniel, obit. (1902), 435.
 Ahmed ben Musa, obit. (1900), 508.
 Ahmed Djavad Fasha, obit. (1900), 509.
 Alabama (1900), 11; (1901), 664; (1902), 687; dispensary (1900), 13; annexation of northern Florida (1901), 666; Constitution (1900), 667; soldiers' home (1902), 688.
 Alaï (1902), 267.
 Alaska (1901), 4; (1902), 691; boundary (1900), 721; (1902), 92; mineral resources (1902), 692.
 Albert, John, obit. (1900), 509.
 Albert, King of Saxony, obit. (1902), 485.
 Alcohol in the human body (1902), 380.
 Alden, Alonzo, obit. (1900), 458.
 Aldrich, Louis, obit. (1901), 403.
 Alexander III Bridge, illus. (1900), 200.
 Alexander City (1902), 690.
 Alexander, Robert, obit. (1901), 406.
 Algeria (1900), 239; (1902), 263.
 Allens, exclusion of (1902), 685.
 Allen, John F., obit. (1900), 458.
 Allibone, C. O., obit. (1901), 406.
 Alloys (1901), 360; (1902), 388.
 Alsace-Lorraine (1902), 281.
 Altgeld, John P., obit. (1902), 435.
 Althaus, Julius, obit. (1900), 500.
 Aluminum (1900), 355; (1902), 386.
 Amsterdam (1900), 242; island of (1902), 265.
 Anderson, Andrew M., obit. (1901), 406.
 Anderson, John, obit. (1900), 500.
 Anderson, John F., obit. (1902), 435.
 Andorra (1900), 239.
 Andrews, Charles B., obit. (1902), 435.
 Andrews, George P., obit. (1902), 435.
 Anesthesia, spinal (1901), 352; intraspinal (1902), 375.
 Angell, G. R., obit. (1900), 458.
 Anglican Churches (1900), 13; (1901), 17; (1902), 8.
 Anglo-Japanese alliance (1902), 112.
 Angola (1900), 11; (1901), 550.
 Angus, Joseph, obit. (1902), 486.
 Anhalt (1902), 280.
 Annam (1902), 266.
 Anopheles, illus. (1901), 345-347.
 Antarctic regions (1902), 275.
 Anti-Horse-Thief Association (1900), 546.
 Antilliquor law, Kansas (1902), 731.
 Antislavery league (1902), 765.
 Antitrust law, Indiana (1902), 721.
 Antitrust statute, Illinois (1902), 686.
 Appropriations, congressional (1902), 208.
 Arbitration, Illinois (1902), 720; Indiana (1902), 720.
 Archeology (1900), 22; (1901), 26; (1902), 17.
 Archer, Frederic, obit. (1901), 406.
 Archer, Robert S., obit. (1901), 406.
 Arctic regions (1902), 271.
 Argentine Republic (1900), 31; (1901), 36; (1902), 31; and Chile boundary (1902), 33.
 Argyll, G. D. C., obit. (1900), 509.
 Arizona (1900), 32; (1901), 668; (1902), 695; Capitol (1901), 669; statehood (1901), 670.
 Arkansas (1900), 33; (1901), 670; (1902), 697.
 Armenian question (1901), 638.
 Armor-plate (1902), 384.
 Armour, Herman O., obit. (1901), 406.
 Armour, Philip D., obit. and port. (1901), 406.
 Armstrong, A. C., obit. (1900), 458.
 Armstrong, W. G., obit. (1900), 511.
 Army bill (1901), 180.
 Arnold, Abraham K., obit. (1901), 407.
 Arnold, George B., obit. (1902), 486.
 Arnold, Sir Arthur, obit. (1902), 486.
 Arnold, Thomas, obit. (1900), 511.
 Arriaga, Antonio L., port. (1902), 123.
 Arthur, William, obit. (1901), 479.
 Ascension (1902), 326.
 Ashmead-Bartlett, Sir E., obit. (1902), 486.
 Associations, law of the (1902), 261.
 Assouan, storage dam at (1902), 230.
 Astronomers, woman (1901), 46.
 Astronomical progress in 1900-1901 (1901), 38; (1902), 35.
 Atkinson, J. C., obit. (1900), 511.
 Atomic weights (1900), 85; (1901), 107; (1902), 103.
 Atwater, Ernest R., obit. (1900), 458.
 Auburn, Ind. (1900), 307.
 Audran, Edmond, obit. (1901), 478.
 Ausgleich, the (1902), 57.
 Australasia (1900), 35; federation (1901), 39.
 Australia, Commonwealth of (1902), 41.
 Austria-Hungary (1900), 47; (1901), 60; (1902), 52.
 Automobiles (1901), 66; steam, illus., 67; electric, illus., 68.
 Averill, W. W., obit. and port. (1900), 458.
 Aycock, Charles B., port. (1900), 444.
 Ayres, Alfred, obit. (1902), 436.
 Babcock, Maltbie D., obit. (1901), 408.
 Babcock, Nathan, obit. (1902), 436.
 Bacheider, Nathan J., port. (1902), 762.
 Bacon, Charles A., obit. (1901), 408.
 Baden (1902), 280.
 Baden-Powell, B. H., obit. (1901), 479.
 Bagnall, Benjamin, obit. (1900), 459.
 Bagshawe, J. B., obit. (1901), 479.
 Bahama Islands (1900), 774; (1901), 794; (1902), 838.
 Bahrain Islands (1900), 278.
 Bailey, Philip J., obit. and port. (1902), 486.
 Bailly, Silas M., obit. (1900), 459.
 Baker Islands (1902), 328.
 Balaguer, Victor, obit. (1901), 479.
 Baldwin, Stephen L., obit. (1902), 436.
 Bail, E. B., obit. (1900), 459.
 Ballard, Charles H., obit. (1901), 408.
 Ballard, Stephen, obit. (1901), 408.
 Balloons. See AERIAL NAVIGATION (1902), 3.
 Bamboo rafts, Manila, illus. (1900), 562.
 Bancroft, C. F. P., obit. (1901), 408.
 Bangs, Mark, obit. (1902), 436.
 Bankruptcy law (1902), 685.
 Banks, insolvent national (1902), 683.
 Banta, William S., obit. (1900), 459.
 Baptists (1900), 52; (1901), 71; (1902), 61; colored (1900), 54; (1902), 65; Congress, 54; jubilee in New Zealand (1902), 67.
 Bara, Jules, obit. (1900), 511.
 Barall, Gen. du, obit. (1902), 487.
 Baratieri, Oreste, obit. (1901), 479.
 Barbadoes (1900), 775; (1901), 794; (1902), 838.
 Barbier, Paul J., obit. (1901), 480.
 Barbour, John H., obit. (1900), 459.
 Barker, William M., obit. (1901), 408.
 Barlow, William H., obit. (1902), 487.
 Barnard, Henry, obit. (1900), 459.
 Barwell, Robert W., obit. (1902), 436.
 Barrows, John H., obit. and port. (1902), 436.
 Barry, Charles, obit. (1900), 511.
 Bartlett, Charles G., obit. (1901), 408.
 Bartol, Cyrus A., obit. (1900), 460.
 Basutoland (1900), 7; (1902), 637.
 Barchelder, R. N., obit. (1901), 409.

- Bates, John L., port. (1902), 748.
 Bavaria (1902), 279.
 Baxter, Mrs. Lucy E., obit. (1902), 487.
 Beach, Miles, obit. (1902), 436.
 Beale, Annie, obit. (1900), 511.
 Beard, William H., obit. and port. (1900), 460.
 Beardshear, William M., obit. (1902), 436.
 Beatty-Kingston, W., obit. (1900), 512.
 Bechuanaland (1900), 7; (1901), 606; (1902), 637.
 Beckles, Edward H., obit. (1902), 487.
 Beecher, Charles, obit. (1900), 460.
 Beecher, Thomas K., obit. and port. (1900), 460.
 Beekman, H. R., obit. (1900), 461.
 Beet-sugar (1901), 700; (1902), 702, 808.
 Behman, Louis C., obit. 1902, 437.
 Behrends, A. J. F., obit. (1900), 462.
 Belcredi, Count Richard, obit. (1902), 487.
 Belgium (1900), 57; (1901), 77; (1902), 67.
 Belknap, Charles, obit. (1901), 409.
 Benedetti, Vincent, obit. (1901), 512.
 Benedict, Charles L., obit. (1901), 409.
 Benjamin, W. H., obit. (1900), 462.
 Bennett, A. H., obit. (1901), 480.
 Bennett, Alfred W., obit. (1902), 487.
 Bennigsen, Rudolf von, obit. (1902), 487.
 Benoit, Pierre, obit. (1901), 480.
 Bentley, John F., obit. (1902), 488.
 Bergholz, William R., obit. (1901), 409.
 Bermudas (1900), 281; (1901), 300; (1902), 326.
 Bertrand, Joseph, obit. (1900), 512.
 Besant, Sir Walter, obit. and port. (1901), 480.
 Betz, Franz, obit. (1900), 512.
 Bhopal, Shah Jehan, obit. (1901), 481.
 Bible Christian Church (1902), 402.
 Biddle, Horace P., obit. (1900), 462.
 Bidwell, Dollie, obit. (1900), 462.
 Bidwell, John, obit. (1900), 462.
 Bierstadt, Albert, obit. (1902), 437.
 Bigelow, Marshall T., obit. (1902), 437.
 Billings, John Shaw, port. (1900), 353.
 Binary stars (1902), 38.
 Bingham, John A., obit. (1900), 462.
 Binna, R. W., obit. (1900), 512.
 Biologic station, Louisiana (1902), 737.
 Bird, Rowena, obit. (1900), 463.
 Bishop, Joe P., obit. (1901), 409.
 Bismarck Archipelago (1900), 255; (1902), 291.
 Bismarck, Count Wilhelm, obit. (1901), 481.
 Blackmore, R. D., obit. (1900), 513.
 Blaisdell, E. W., obit. (1901), 410.
 Blanchard, George R., obit. (1900), 463.
 Blankets, patent (1901), 570.
 Blast-furnace gases (1901), 355.
 Blau-Thiel process (1902), 384.
 Bliss, Aaron T., port. (1900), 377.
 Bliss, Z. R., obit. (1900), 463.
 Bloch, Jean de, obit. (1902), 488.
 Block, Maurice, obit. (1901), 481.
 Blodget, Lorin, obit. (1901), 410.
 Blood, examination of (1902), 379.
 Bloodgood, Delavan, obit. (1902), 437.
 Böcklin, Arnold, obit. (1901), 481.
 Boer War final campaign (1902), 629.
 Bokolleppoff, N. P., obit. (1901), 482.
 Bokhara (1901), 599.
 Bolides (1902), 36.
 Bolivia (1900), 59; (1901), 81; (1902), 74; boundary dispute (1902), 75.
 Boll-weevil (1902), 804.
 Bolter, Andrew, obit. (1900), 463.
 Bolton, Charles E., obit. (1901), 410.
 Bonehill, Bessie, obit. (1902), 488.
 Bookbinding (1901), 81; Roycroft, illus., 82; Viennese inlay, illus., 83; by Toof, illus., 84; pyrographic, illus., 84.
 Booth, Sallie, obit. (1902), 488.
 Borneo, British (1901), 298; (1902), 323.
 Bosnia (1902), 60.
 Boston Public Library, illus. (1900), 332; (1902), 744.
 Botha, Christian, obit. (1902), 489.
 Bousfield, Henry B., obit. (1902), 489.
 Boutelle, Charles A., obit. (1901), 410.
 Bouton, John B., obit. (1902), 437.
 Bowdoinham, Me. (1902), 736.
 Bowen, Anna M., obit. (1900), 464.
 Bowman, William S., obit. (1900), 464.
 Boxer uprising, the (1900), 96.
 Boyd, Belle, obit. (1900), 484.
 Boyle, George D., obit. (1901), 482.
 Boyle's law (1902), 547.
 Boynton, James S., obit. (1902), 437.
 Bracelet, ancient, illus. (1901), 32.
 Bradbury, J. W., obit. (1901), 411.
 Braden, John, obit. (1900), 464.
 Brames, John, obit. (1902), 489.
 Brandt, Kaethe, obit. (1902), 489.
 Brandywine Rock Wall (1900), 396.
 Brantley, John J., obit. (1902), 437.
 Brass-furnace, Chartier (1902), 390.
 Brass instruments, air-pressure in (1902), 547.
 Brazil (1900), 59; (1901), 84; (1902), 76.
 Brazos river survey (1900), 672.
 Bremen (1902), 280.
 Breton, J. L., obit. (1901), 482.
 Bretschneider, E., obit. (1901), 482.
 Brett, William H., port. (1900), 335.
 Brewerton, G. D., obit. (1901), 411.
 Bridges, construction of (1902), 207.
 Bridges, Eloise, obit. (1902), 437.
 Bridgewater (1901), 714.
 Bright, William, obit. (1901), 482.
 Brinker, Henry, obit. (1901), 411.
 Briquetting process (1902), 389.
 British Columbia (1900), 62; (1901), 86; (1902), 78.
 British Pacific cable (1902), 82; illus., 81.
 Brogden, C. H., obit. (1901), 411.
 Brogile, Albert, obit. (1901), 483.
 Brohan, Emilie M., obit. (1900), 513.
 Brokers, tax on (1902), 685.
 Brook, James, obit. (1901), 483.
 Brooks, Elbridge S., obit. (1902), 438.
 Brown, Charles Henry, obit. (1901), 411.
 Brown, Egbert B., obit. (1902), 438.
 Brown, George D., obit. (1902), 489.
 Brown, John A., obit. (1902), 438.
 Brown, John W., obit. (1900), 464.
 Brown, Junius H., obit. (1902), 438.
 Brown, Moses T., obit. (1900), 464.
 Brown, Susan D., obit. (1902), 438.
 Brown University (1902), 704.
 Brown, William B., obit. (1902), 438.
 Browne, W. H., obit. (1900), 464.
 Brozik, Vasclav, obit. (1901), 483.
 Bruce, Catherine W., obit. (1900), 465.
 Bruce, John, obit. (1901), 412.
 Bruce, Saunders D., obit. (1902), 439.
 Brunswick (1902), 280.
 Bryant, John H., obit. (1902), 439.
 Bryant, Neil, obit. (1902), 439.
 Bryant, Montgomery, obit. (1901), 412.
 Bryce, Joseph S., obit. (1901), 412.
 Brydon, J. McK., obit. (1901), 484.
 Buchanan, R. W., obit. and port. (1901), 484.
 Buck, Alfred E., obit. (1902), 439.
 Bulgaria (1900), 65; (1901), 92; (1902), 82.
 Bulloch, James D., obit. (1901), 412.
 Bunce, F. M., obit. (1901), 412.
 Bunting, C. A., obit. (1901), 412.
 Burdett, Charles L., obit. (1902), 439.
 Bureau of American Republics, International (1902), 86.
 Burgess, Alex., obit. (1901), 413.
 Burke, Joseph, obit. (1902), 439.
 Burke, Joseph W., obit. (1900), 465.
 Burleson, R. C., obit. (1901), 413.
 Burnham, Sarah M., obit. (1901), 413.
 Burr, Alfred E., obit. (1900), 465.
 Burr, F. L., obit. (1901), 413.
 Burr, Mrs. K. D., obit. (1901), 484.
 Burroughs, George S., obit. (1901), 413.
 Burton, Edmond F., obit. (1902), 489.
 Burton, F. W., obit. (1900), 513.
 Bursiel, C. A., obit. (1901), 413.
 Bute, John P. C. S., obit. (1900), 513.
 Butler, Samuel, obit. (1902), 489.
 Butler, William A., obit. and port. (1902), 439.
 Butterfield, D., obit. (1901), 413.
 Butterfield, W., obit. (1900), 514.
 Calcos Islands (1901), 793.
 Cairnes, William E., obit. (1902), 490.
 Calgary exhibition (1900), 449.
 California (1900), 67; (1901), 673; (1902), 699; semicentennial (1900), 70.
 Calla, Philip, obit. (1902), 490.
 Cambodia (1902), 266.
 Cameroons (1901), 792.
 Camp, Henry, obit. (1900), 465.
 Campoamor, Ramon de, obit. (1901), 484.
 Canada, Dominion of (1900), 70; (1901), 95; (1902), 88; relations with United States (1901), 99; land grants (1901), 517; fourth census (1902), 93; Synod of (1902), 16.
 Canal, interoceanic (1900), 722.
 Cancer (1902), 377.
 Cannon, G. Q., obit. (1901), 414.
 Canossa, Luigi di, obit. (1900), 514.
 Canterbury, Convocation of (1901), 21; (1902), 12.
 Cape Colony (1900), 3; (1901), 604.
 Cape Verde Islands (1901), 550; (1902), 571.
 Carbon, properties of (1902), 383.
 Carleton, G. W., obit. (1901), 414.
 Carlin, J. W., obit. (1900), 465.
 Carlton, Charles, obit. (1902), 440.
 Carman, Elbert S., obit. (1900), 465.
 Carnegie, Andrew, port. (1902), 96.
 Carnegie, libraries (1901), 389; (1902), 424; Institution (1902), 95.
 Caroline Islands (1900), 256; (1902), 291.
 Carpenter, F. B., obit. (1900), 465.
 Carrier's liability (1902), 685.
 Carte, Richard d'O., obit. (1901), 485.
 Carter, T. T., obit. (1901), 485.
 Casati, Gaetano, obit. (1902), 490.
 Cates, Arthur, obit. (1901), 485.
 Catherwood, May H., obit. (1902), 440.
 Cavanagh, J., obit. (1901), 415.
 Cave, Alfred, obit. (1900), 514.
 Cayman Islands (1901), 793.
 Casin, J. C., obit. (1901), 485.
 Census, twelfth (1901), 658; Bureau (1902), 194.

- Centennial anniversaries, Maine (1902), 739.
 Central Africa, British (1901), 626; Protectorate (1902), 641.
 Century, close of the old (1900), 428.
 Ceramics (1902), 767.
 Ceylon (1900), 279; (1901), 298; (1902), 323.
 Chamberlain, Mellen, obit. (1900), 465.
 Chamberlain, N. H., obit. (1901), 415.
 Chamberlain, Sir Neville B., obit. (1902), 490.
 Channing, Blanche M., obit. (1902), 440.
 Channing, W. E., obit. (1901), 415.
 Channing, William F., obit. (1901), 416.
 Charles (Brother), obit. (1902), 440.
 Charleston Exposition (1901), 760.
 Chase, Jefferson, obit. (1902), 440.
 Chemical physics (1902), 99.
 Chemistry (1900), 77; (1901), 101; (1902), 96.
 Chenery, Leonard, obit. (1901), 416.
 Cheney, Albert N., obit. (1901), 416.
 Cheney, Person C., obit. (1901), 416.
 Cherokee Nation, lands of (1902), 207.
 Cheyne, John P., obit. (1902), 490.
 Chicago (1902), 719.
 Children's Home Society (1901), 732.
 Chili (1900), 87; (1901), 110; (1902), 106.
 Chilpancingo, Mexico, ruined church in, illus. (1902), 219; statue in, illus. (1902), 218.
 China (1900), 89; (1901), 113; (1902), 108; military operations in, 121; peace negotiations, 115; publishing interests of (1902), 396.
 Chincholle, Charles H. H., obit. (1902), 490.
 Chinese exclusion (1902), 185.
 Chinese question in British Columbia (1902), 80.
 Chippewa Indians (1902), 207.
 Chisholm, H. W., obit. (1901), 495.
 Chisnell, N. C., obit. (1901), 416.
 Chittenden, Lucius E., obit. (1900), 466.
 Cholera (1902), 378.
 Christian archeology (1900), 120.
 Christian Connection (1902), 121.
 Christian Endeavor (1900), 121; (1901), 128; Friends' (1902), 270.
 Christian Science (1900), 121; (1901), 129.
 Christian, Victor, obit. (1900), 514.
 Christich, Nicola, obit. (1902), 490.
 Christie, Richard C., obit. (1901), 485.
 Christmas (1902), 326.
 Chrysander, F. K. F., obit. (1901), 486.
 Church Army (1900), 15.
 Church Congress (1900), 21; (1902), 15.
 Church, Frederick E., obit. (1900), 466.
 Church of God (1902), 3; in Christ Jesus (1902), 3.
 Churches, Federation of (1901), 224.
 Churchill, John W., obit. (1900), 466.
 Circulation (1901), 540; (1902), 558.
 Cist, Henry Martyn, obit. (1902), 440.
 Cities, population of (1901), 660.
 Clapp, Dwight H., obit. (1900), 466.
 Clark, Edward, obit. (1902), 440.
 Clark, Heman, obit. (1902), 440.
 Clark, J. G., obit. (1900), 466.
 Clark, Lewis W., obit. (1900), 466.
 Clark, William, obit. (1902), 441.
 Clarke, Annie, obit. (1902), 441.
 Clarke, Sir Andrew, obit. (1902), 490.
 Clarke, Thomas C., obit. (1901), 416.
 Clayden, Peter W., obit. (1902), 491.
 Claymont, illus. (1902), 480.
 Clayton, T. J., obit. (1900), 466.
 Cluseret, G. P., obit. (1900), 514.
 Cluysenaar, Alfrid, obit. (1902), 491.
 Cnossus, illus. (1900), 27.
 Coal discovered (1902), 793.
 Coal-miners, strike of the (1902), 448.
 Cobb, Silas B., obit. (1900), 467.
 Cochery, Louis A., obit. (1900), 514.
 Cochín-China (1902), 266.
 Cocos Islands (1902), 325.
 Codman, John, obit. (1900), 467.
 Coffee (1902), 122; Conference (1902), 123.
 Coghlan, E. E. M., obit. (1900), 514.
 Coles, C. C., obit. (1901), 416.
 Collis, Charles H. T., obit. (1902), 441.
 Colombia (1900), 123; (1901), 130; (1902), 124; boundary (1900), 179; civil war in (1902), 126.
 Colon (1900), 123.
 Colorado (1900), 125; (1901), 675; (1902), 702; water-supply (1902), 207.
 Columbus, monument to (1901), 712.
 Comets (1902), 39.
 Commerell, Sir John E., obit. (1901), 496.
 Comoro Islands (1900), 242.
 Confederate dead, monument to (1900), 756.
 Confederate reunion (1901), 765; (1902), 805.
 Confederate Soldiers' Home (1901), 688; (1902), 713.
 Conference of American States, International (1902), 341.
 Conference, second Fulham (1902), 14.
 Conger, E. H., illus. (1900), 107.
 Congo, Independent State (1900), 127 (1901), 134; (1902), 128; insurrections, 136; French (1901), 789.
 Congregationalists (1900), 130; (1901), 136; (1902), 129; constitutional readjustment (1901), 141.
 Congress (1900), 134; (1901), 143; (1902), 136; apportionment, 159.
 Conklin, J. M. D., obit. (1900), 467.
 Connecticut (1900), 176; (1901), 677; (1902), 704; constitutional convention (1901), 680; (1902), 706; anniversaries (1900), 178.
 Conrad, Victor L., obit. (1900), 467.
 Constant, Benjamin, obit. and port. (1902), 491.
 Consular officers (1902), 207.
 Consumption (1902), 378.
 Convocations of clergy bill (1901), 23.
 Cooch's Bridge (1901), 682.
 Cook, C. C., obit. (1900), 467.
 Cook Islands (1900), 281.
 Cook, Joseph, obit. (1901), 417.
 Cooke, Lorrin A., obit. (1902), 441.
 Coolbrith, Inn, port. (1900), 335.
 Cooper, Thomas S., obit. (1902), 491.
 Cop (1902), 389.
 Copper (1900), 356; (1902), 388.
 Cornwall, James, obit. (1902), 492.
 Cornu, Alfred, obit. (1902), 492.
 Coronation Conference, the (1902), 91.
 Coronation of Edward VII (1902), 320.
 Coronini, Franz, obit. (1901), 486.
 Corrigan, Michael A., obit. and port. (1902), 441.
 Cory, Florence E., obit. (1902), 442.
 Cosmogony (1902), 543.
 Costa Rica (1900), 179; (1901), 194; (1902), 208.
 Coston, W. F., obit. (1901), 417.
 Courtney, Edna, obit. (1900), 467.
 Court of Fountains, illus. (1901), 215.
 Courts-martial (1902), 685.
 Cowell, Anna, obit. (1900), 468.
 Cowie, Benjamin M., obit. (1900), 515.
 Cowie, George, obit. (1902), 442.
 Cowper, William M., obit. (1902), 492.
 Cowrie, William G., obit. (1902), 492.
 Cox, Charles H., obit. (1901), 417.
 Cox, Jacob D., obit. (1900), 468.
 Cox, Sir George W. (1902), 492.
 Coyne, Gardiner, obit. (1900), 468.
 Crane, N. M., obit. (1901), 417.
 Crane, Stephen, obit. and port. (1900), 468.
 Cravath, E. M., obit. (1900), 469.
 Creek Indians (1902), 207.
 Creighton, Mandell, obit. (1901), 496.
 Crete (1900), 180; (1901), 194; (1902), 209.
 Criminal, requisition for a (1902), 746.
 Crispi, Francesco, obit. and port. (1901), 486.
 Crocker, M. E., obit. (1901), 418.
 Crocker, Uriel H., obit. (1902), 443.
 Croke, Thomas W., obit. (1902), 493.
 Croly, Jennie C., obit. (1901), 418.
 Crops, the (1901), 231; (1902), 244.
 Cropsey, J. F., obit. (1900), 468.
 Crowell, Floy, obit. (1901), 418.
 Crupden, Frederick M., port. (1900), 334.
 Crystallization (1902), 546.
 Cuba (1900), 180; (1901), 197; (1902), 206; constitutional convention (1900), 181; made a republic (1902), 211; reciprocity with United States (1902), 203, 212.
 Cuban and Philippine policy, the (1901), 169.
 Culberson, David B., obit. (1900), 469.
 Culex teniorhynchus (1901), 348.
 Cumberland, the (1900), 669.
 Cummings, Amos J., obit. (1902), 443.
 Cummins, Albert (1901), 695.
 Curaçao (1900), 776; (1901), 796; (1902), 839.
 Curry, Robert, obit. (1901), 418.
 Curtiss, James E., obit. (1901), 418.
 Cushing, F. H., obit. (1900), 469.
 Cushing, S. T., obit. (1901), 418.
 Cutler, Henry S., obit. (1902), 443.
 Cutts, Edward L., obit. (1901), 468.
 Cyclonic motion (1902), 545.
 Cyprus (1900), 278; (1901), 296; (1902), 322.
 Da Costa, J. M., obit. (1900), 470.
 Daggett, Mrs. L. H., obit. (1901), 418.
 Dahomey (1901), 789.
 Dairy-products (1902), 108.
 Dalon, Jules, obit. (1902), 493.
 Dalziel, George, obit. (1902), 494.
 Damao (1902), 571.
 Dam at Assouan, illus. (1902), 231.
 Dame, H. P., obit. and port. (1900), 470.
 Damour, M., obit. (1902), 494.
 Dana, John C., port. (1900), 335.
 Danish Antilles (1902), 839.
 Danish colonies (1900), 776.
 Danish West Indies (1901), 795.
 Danube, Commission of (1900), 621; (1902), 604.
 Dartmouth College (1901), 730; (1902), 765.
 Davidson, Andrew, obit. (1902), 443.
 Davidson, Andrew B., obit. (1902), 494.
 Davidson, Thomas, obit. (1900), 470.
 Davis, C. L., obit. (1901), 470.
 Davis, Cushman K., obit. (1901), 471.
 Davis, F. W., obit. (1900), 471.
 Davis, Kate, obit. (1901), 418.
 Davis, Noah, obit. and port. (1902), 443.
 Dawson, G. M., obit. (1901), 488.
 Daylight astronomy (1902), 35.
 Dazian, Wolf, obit. (1902), 443.

- Dead, prayers for the (1900), 20.
 Dean, John W., obit. (1902), 443.
 Dean, Sidney, obit. (1901), 419.
 Dearden, Henry W., obit. (1902), 494.
 De Bradsky (1902), 6.
 Decisions, court (1902), 698.
 De Cordova, E. J., obit. (1901), 419.
 De Forest, Augusta, obit. (1901), 419.
 Defenses, new, Maine (1902), 739.
 De Groot, Ann B., obit. (1901), 419.
 Delagoa Bay award (1900), 10.
 De la Harpe, J. A., obit. (1901), 419.
 Delaware (1900), 181; (1901), 681; (1902), 213, 707.
 Del Puente, Giuseppe, obit. (1900), 515.
 Denison, Frederic, obit. (1901), 419.
 Denmark (1900), 188; (1901), 202; (1902), 213.
 Density (1902), 545.
 Denver water-supply (1902), 207.
 Depue, David A., obit. and port. (1902), 444.
 De Puy, W. H., obit. (1901), 419.
 Derby, Conn. (1902), 706.
 Desbordes, Borgnis, obit. (1900), 515.
 Desboutin, Marcellin, obit. (1902), 404.
 Detweiler, Isaac C., obit. (1900), 471.
 De Vere, Aubrey T., obit. (1902), 494.
 Dewey, Justin, obit. (1900), 471.
 Dickerman, Lysander, obit. (1902), 444.
 Dickinson, C. W., obit. (1900), 471.
 Dickinson, L. A., obit. (1901), 420.
 Dickinson, Mahlon H., obit. (1900), 471.
 Dickson, Sir J. R., obit. (1901), 489.
 Dickson, W. P., obit. (1901), 489.
 Didon, Henri, obit. (1900), 515.
 Dietrich, Charles H., port. (1900), 398.
 Digestion (1901), 541; (1902), 559.
 Dillingham, Annie, obit. (1901), 420.
 Dimitry, J. B. S., obit. (1901), 420.
 Disciples of Christ (1900), 185; (1901), 205; (1902), 216.
 Dlu (1902), 571.
 Dixon, Richard W., obit. (1900), 515.
 Doche, Madame, obit. (1900), 515.
 Dockery, A. M., port. (1901), 722.
 Doel, James, obit. (1902), 494.
 Dominica (1902), 838.
 Donahoe, P., obit. (1901), 420.
 Doukhobors, the, with illus. (1902), 370.
 Donkin, Bryan, obit. (1902), 495.
 Donnelly, I., obit. (1901), 421.
 Donnelly, Sir John F., obit. (1902), 495.
 Dorian, Thomas A., obit. (1900), 471.
 Dornton, Charles, obit. (1900), 516.
 Dosabhoj, F., obit. (1902), 495.
 Dougherty, A., obit. (1901), 421.
 Douglass, A. E., obit. (1901), 421.
 Dover, new admiralty harbor at, illus. (1902), 310.
 Dowson, Ernest C., obit. (1900), 516.
 Dramashop bonds, tax on (1902), 687.
 Draper, H. L., obit. (1901), 421.
 Draper, William H., obit. (1901), 421.
 Drayson, A. W., obit. (1901), 489.
 Drummoud, Josiah H., obit. (1902), 444.
 Dry dock, floating steel (1901), 712.
 Drysdale, W., obit. (1901), 421.
 Du Barry, B., obit. (1901), 422.
 Ducle Island (1902), 326.
 Duckett, Sir F., obit. (1902), 495.
 Dudoza Island (1902), 326.
 Duff Island (1902), 326.
 Dufferin, Marquis of, obit. and port. (1902), 495.
 Duffield, John T., obit. and port. (1901), 422.
 Dun, R. G., obit. (1900), 471.
 Dunbar, C. F. obit. (1900), 472.
 Dunglison, Richard J., obit. (1901), 422.
 Durand, Mme. Alice M. C., obit. (1902), 495.
 Durbin, W. T., port. (1901), 692.
 Durfee, Thomas, obit. (1901), 423.
 Dutch East Indies (1900), 402.
 Duthiers, H. de L., obit. (1901), 489.
 Dutton, Everell F., obit. (1900), 472.
 Earl, Robert, obit. (1902), 444.
 Earthquakes (1902), 217.
 East Africa (1900), 186; (1901), 208; (1902), 222; British (1902), 223; German (1902), 222.
 East Indies, the Dutch (1901), 379; (1902), 414.
 Eaton, C. Harry, obit. (1901), 423.
 Eça de Queiroz, obit. (1900), 516.
 Ecuador (1900), 189; (1901), 210; (1902), 226.
 Edward VII, port. (1900), frontispiece.
 Edwards, Alphonse M., obit. (1900), 516.
 Edwards, Arthur, obit. (1901), 423.
 Eddy, William W., obit. (1900), 472.
 Egbert, Henry, obit. (1900), 472.
 Eggleston, Edward, obit. and port. (1902), 444.
 Eggleston, Thomas, obit. (1900), 472.
 Egypt (1900), 190; (1901), 210; (1902), 227.
 Eiffel Tower, illus. (1900), 202.
 Eldridge, George, obit. (1900), 472.
 Electricity (1901), 534; (1902), 552; measurement (1901), 527; cutting of iron (1902), 391; electric power, 702; resistance, effect of field on, 556; conductivity, 552; alternating currents, 553; the arc, 556; contact, 552; convection, 553; discharge phenomena, 552; hall effect, 553; ionization, 556; leakage, 556.
 Electrification of air (1902), 556.
 Electrolysis (1902), 553.
 Elementary schools of England (1902), 316.
 Ellice Islands (1902), 326.
 Ellicott, Henry J., obit. (1901), 423.
 Elliot, George, obit. (1901), 489.
 Elliot, George H., obit. (1900), 472.
 Ellis, Mrs. Annie, obit. (1901), 489.
 Ellis, Howard, obit. (1902), 445.
 Elton, C. I., obit. (1900), 516.
 Elwell, J. J., obit. (1900), 473.
 Emerson, Joseph, obit. (1900), 473.
 Emerson, William, obit. (1902), 445.
 Emery, John James, obit. (1901), 423.
 Employment agency, free, Kansas (1902), 730.
 Endicott, W. C., obit. (1900), 473.
 English, Thomas Dunn, obit. and port. (1902), 445.
 Epileptic village (1902), 768.
 Eritrea (1902), 552.
 Errazuriz, Federico, obit. (1901), 490.
 Escobedo, Mariano, obit. (1902), 496.
 Esher, John Jacob, obit. (1901), 423.
 "Ethiopian" Church (1902), 17.
 Evangelical Free Churches, Council of (1902), 237.
 Evarts, William Maxwell, obit. and port. (1901), 424.
 Everett, C. C., obit. (1900), 473.
 Everett, Erastus, obit. (1900), 473.
 Exchange, foreign (1902), 244.
 Explosives (1900), 195.
 Exposition, Pan-American, illus. (1901), 213.
 Exposition, Paris, illus. (1900), 199.
 Eyre, Charles, obit. (1902), 496.
 Eyre, E. J., obit. (1901), 490.
 Eytinge, Harry, obit. (1902), 445.
 Faber du Faur, O., obit. (1901), 490.
 Faed, John, obit. (1902), 496.
 Faed, Thomas, obit. (1900), 518.
 Fairfax, J. C., obit. (1900), 473.
 Faiguère, J. A. J., obit. (1900), 517.
 Falk, Paul, obit. (1900), 517.
 Falkland Islands (1900), 281; (1901), 300.
 Famine (1900), 302.
 Fancher, E. L., obit. (1900), 473.
 Fanning Islands (1902), 326.
 Farmer, John, obit. (1901), 490.
 Farmers' Congress (1900), 208; (1901), 220; (1902), 232.
 Farmington, Conn. (1902), 706.
 Faye, Hervé A. E., obit. (1902), 496.
 Federation of Churches (1900), 212; (1902), 235.
 Fee, John G., obit. (1901), 424.
 Feehan, Patrick A., obit. (1902), 445.
 Fenger, Christian, obit. (1902), 445.
 Fernald, Orlando M., obit. (1902), 445.
 Fernando Po (1901), 793.
 Ferraris, Luigi, obit. (1900), 517.
 Ferris, Andrew C., obit. (1902), 446.
 Fex, illus. (1902), 409.
 Fibich, Zdenko, obit. (1900), 517.
 Fick, Adolf, obit. (1901), 490.
 Fiction, American (1900), 214; (1901), 329.
 Fiji (1900), 46; (1901), 59.
 Filhol, Pierre A. H., obit. (1902), 496.
 Filipinos, illus. (1900), 563.
 Films, colors of (1902), 550.
 Financial measure in Congress (1900), 156.
 Financial review (1900), 217; (1901), 226; (1902), 238.
 Fine arts (1900), 227; (1901), 234; (1902), 247.
 Finland (1900), 640; (1901), 596.
 Firearms, sale of (1902), 207.
 Fisher, W. A., obit. (1901), 425.
 Fisk, Franklin W., obit. (1901), 425.
 Fliske, John, obit. (1901), 425.
 Fitz, E. B., obit. (1901), 425.
 Fitzgerald, G. F., obit. (1901), 490.
 Flanders, George L., port. (1901), 222.
 Fletcher, William I., port. (1900), 334.
 Flohr, William H. R., obit. (1901), 425.
 Florida (1900), 232; (1901), 683; (1902), 708.
 Floyd-Jones, De Lancey, obit. (1902), 446.
 Foa, E., obit. (1901), 490.
 Folders (1901), 506.
 Foot and mouth disease (1902), 794.
 Footman, Henry, obit. (1902), 497.
 Forbes, Archibald, obit. (1900), 517.
 Ford, Albert M., obit. (1901), 425.
 Ford, E. O., obit. (1901), 491.
 Ford, Paul Leicester, obit. and port. (1902), 446.
 Forests (1901), 650; (1902), 802.
 Formosa (1900), 318; (1902), 356.
 Fort Hall Reservation (1902), 716.
 Fort Lincoln, N. Dak. (1902), 781.
 Foster, Rebecca S., obit. (1902), 446.
 Fowler, Joseph S., obit. (1902), 446.
 Fox, Junius B., obit. (1900), 473.
 Fraley, Frederick, obit. (1901), 426.
 France (1900), 235; (1901), 241; (1902), 253; elections in (1902), 259.
 Francisco d'Assisi, obit. (1902), 497.
 Franklin, J. G., obit. (1900), 473.
 Frazer, Everett, obit. (1901), 426.
 Freedman's Aid (1900), 396; (1902), 392.
 Free-Will Baptist Church (1901), 252.

- Frémont, Jessie B., obit. (1902), 446.
 French, John W., obit. (1901), 426.
 French-shore questions (1901), 387.
 French, Thomas H., obit. (1902), 446.
 French West Indies, relief of (1902), 207.
 Friends (1900), 246; (1901), 253; (1902), 268.
 Fries, Wulf C. J., obit. (1902), 447.
 Fringe, false, from tomb of Zer, illus. (1901), 31.
 Fritschel, Sigmund, obit. (1900), 474.
 Frost, William H., obit. (1902), 447.
 Frothingham, Ellen, obit. (1902), 447.
 Fry, Charles C., obit. (1901), 428.
 Fuchs, Lazarus, obit. (1902), 497.
 Fuel-oil (1901), 673; (1902), 700.
 Fuels (1902), 388.
 Fuller, M. J., obit. (1901), 491.
 Fuller, Thomas O., obit. (1901), 428.
 Fullerton, W., obit. (1900), 474.
 Fulton, Albert R., obit. (1900), 474.
 Fulton, Justin D., obit. (1901), 426.
 Funeral urn, illus. (1902), 20.
 Furnaces (1902), 389; electrical (1902), 390.
 Futuna (1902), 267.
 Futures, dealing in (1902), 686.
 Gace, Frederick A., obit. (1902), 497.
 Gagneur, Mme. Marie L., obit. (1902), 497.
 Gainsborough, tercentenary, the (1902), 135.
 Gallaudet, Thomas, obit. and port. (1902), 447.
 Galloupe, Dwight, obit. (1900), 474.
 Galveston, storm at (1900), 671; (1902), 806.
 Gambia (1901), 790.
 Gambler Islands (1900), 243.
 Gardiner, Charles R., obit. (1902), 447.
 Gardiner, Samuel W., obit. and port. (1902), 497.
 Gardner, Anna, obit. (1901), 427.
 Gardner, William M., obit. (1901), 427.
 Garland, George V., obit. (1902), 498.
 Garrard, Theophilus T., obit. (1902), 447.
 Garrison, L. McK., obit. (1900), 474.
 Garvin, Lucius C., port. (1902), 793.
 Gases (1902), 547.
 Gear, J. H., obit. (1900), 474.
 Gelatinization (1902), 546.
 Gell, Frederick, obit. (1902), 498.
 Gelshart process (1902), 388.
 Gemünder, Otto, obit. (1901), 427.
 Geographical progress (1901), 254; (1902), 271.
 Geological maps (1902), 716.
 Georgia (1900), 248; (1901), 685; (1902), 710.
 German Evangelical Church (1902), 278.
 Germany (1900), 250; (1901), 264; (1902), 278.
 Gerry, C. F., obit. (1900), 474.
 Getchell, Emily A., obit. (1901), 427.
 Getty, George W., obit. (1901), 427.
 Giani, Demeter, obit. (1902), 498.
 Gibbs, James E. A., obit. (1902), 448.
 Gibraltar (1900), 278; (1901), 206; (1902), 322.
 Gibson, Charles H., obit. (1900), 474.
 Giebel process (1902), 384.
 Giffard (1902), 3.
 Gifts and bequests (1900), 259; (1901), 272; (1902), 292.
 Ghon, Albert L., obit. (1901), 427.
 Gilbert, H., obit. (1901), 491.
 Gilbert Islands (1902), 326.
 Gilbert, Sir Joseph H., obit. (1902), 499.
 Gilbert, Mahlon N., obit. (1900), 475.
 Gilder, W. H., obit. (1900), 475.
 Gillespie, Elizabeth D., obit. (1901), 428.
 Gladstone, John H., obit. (1902), 499.
 Glands, the (1901), 541; (1902), 560.
 Gleason, E. P., obit. (1901), 428.
 Glenn, William, obit. (1900), 475.
 Glorieu Islands (1902), 266.
 Goa (1901), 549; (1902), 571.
 Gobrecht, W. H., obit. (1901), 428.
 Godkin, Edward L., obit. (1902), 448.
 Goebel murder trials (1900), 325; (1901), 703; (1902), 733.
 Goebel, William, obit. (1900), 475.
 Gold and silver (1901), 358; (1902), 355.
 Gold Coast (1901), 789.
 Gold nuggets (1900), 266; (1901), 354.
 Goltz, K., von der, obit. (1901), 491.
 Good Roads Congress (1900), 322; (1901), 518.
 Gore, case of Bishop (1902), 14.
 Gorham, Charles T., obit. (1901), 428.
 Goshorn, Alfred T., obit. (1902), 448.
 Gospel, propagation of the (1900), 15.
 Gossler, Gustave von, obit. (1902), 499.
 Got, Edmond, obit. (1901), 491.
 Gotwald, Luther A., obit. (1900), 475.
 Goucher, Mary C., obit. (1902), 448.
 Gould, A. A., obit. (1900), 475.
 Gould, Ezra P., obit. (1900), 475.
 Gouthe-Soulard, obit. (1900), 518.
 Graham, Robert, obit. (1901), 429.
 Gramme, Z., obit. (1901), 491.
 Grand Forks, N. Dak. (1902), 781.
 Grange, National (1902), 303.
 Grant, George M., obit. (1902), 499.
 Grant, Julia Dent, obit. and port. (1902), 448.
 Gras, Basile, obit. (1901), 492.
 Gras, Félix, obit. and port. (1901), 492.
 Gray, Ada, obit. (1902), 448.
 Gray, Ellsha, obit. (1901), 429.
 Gray glow (1901), 532.
 Gray, Horace, obit. (1902), 449.
 Gray, William C., obit. (1901), 429.
 Great Britain and Ireland (1900), 269; (1901), 283; (1902), 304.
 Greece (1902), 327.
 Green, Francis M., obit. (1902), 449.
 Green, Henry, obit. (1900), 476.
 Green, Lillian, obit. (1901), 429.
 Green, William H., obit. (1900), 476.
 Greenaway, K., obit. (1901), 492.
 Greenland (1902), 215.
 Greenough, James B., obit. (1901), 430.
 Greece (1900), 287; (1901), 300.
 Gregory, Benjamin, obit. (1900), 518.
 Gregory, Isaac M., obit. (1901), 430.
 Gregory, William, obit. (1901), 430.
 Gregory, William, port. (1900), 608.
 Grekoff, M., obit. (1901), 492.
 Griffin, Simon G., obit. (1902), 449.
 Griffiths, William N., obit. (1901), 430.
 Grimaux, E., obit. (1900), 518.
 Grissom, Arthur C., obit. (1901), 430.
 Grissom, Eugene, obit. (1902), 449.
 Groome, Francis H., obit. (1902), 499.
 Grose, William, obit. (1901), 476.
 Grosvenor, W. M., obit. (1900), 476.
 Grove, George, obit. (1900), 518.
 Grumbkow, Pasha, obit. (1901), 492.
 Guadeloupe (1900), 776; (1901), 795; (1902), 839.
 Guam (1900), 288; (1901), 303; (1902), 328.
 Guatemala (1900), 289; (1901), 303; (1902), 328.
 Guernsey, Alfred H., obit. (1902), 449.
 Guernsey, Mrs. Egbert, obit. (1901), 430.
 Guiana (1900), 403; British, 282; (1901), 300; (1902), 326; French (1900), 243; (1901), 776; (1902), 268; Dutch (1902), 416.
 Guinea, Portuguese (1901), 550; (1902), 571; French (1901), 789.
 Gulfport, Miss. (1902), 754.
 Gurke, Joseph V., obit. (1901), 492.
 Habibullah Khan, port. (1901), 3.
 Hadley, Arthur T., sketch and port. (1901), 680.
 Hale, Charles R., obit. (1900), 476.
 Hale, Horace M., obit. (1901), 430.
 Hale, L. P., obit. (1900), 476.
 Hall, Christopher N., obit. (1902), 499.
 Hall, F., obit. (1901), 493.
 Hall, Thomas W., obit. (1900), 477.
 Haller, Johann, obit. (1900), 519.
 Halvorsen, Jens B., obit. (1900), 519.
 Ham, Charles H., obit. (1902), 449.
 Hamburg (1902), 280.
 Hamilton, Louise, obit. (1900), 477.
 Hamilton, Morris R., obit. (1901), 431.
 Hamlin, Cyrus, obit. (1900), 477.
 Hammersley, James H., obit. (1901), 431.
 Hammond, Jane Nye, obit. (1901), 431.
 Hammond, William A., obit. and port. (1900), 477.
 Hamoud bin Mohammed bin Said, Sultan of Zanzibar, obit. (1902), 500.
 Hampton, Wade, obit. and port. (1902), 450.
 Hanbury, Mrs. E., obit. (1901), 493.
 Hanchett, David, obit. (1902), 450.
 Haney, Jesse, obit. (1901), 431.
 Hardin, George A., obit. (1901), 431.
 Harkins, David H., obit. (1902), 450.
 Harley, Orlando, obit. (1901), 431.
 Harmer, Alfred C., obit. (1900), 478.
 Harnden, Henry, obit. (1900), 478.
 Harper, J. A., obit. (1900), 519.
 Harris, William H., obit. (1901), 431.
 Harrison, Benjamin, obit. (1901), 431.
 Harrison, Gabriel, obit. (1902), 450.
 Harrison, Henry B., obit. (1901), 432.
 Harrowby, Earl of, obit. (1900), 519.
 Hart, James M., obit. (1901), 432.
 Harte, Bret, obit. and port. (1902), 451.
 Hartford, Conn. (1902), 706.
 Hartley, Marcellus, obit. (1902), 451.
 Harvey, Moses, obit. (1901), 493.
 Haskell, Thomas H., obit. (1900), 478.
 Hastings, Silas W., obit. (1900), 478.
 Hastings, William G., obit. (1902), 451.
 Hatch, John P., obit. (1901), 433.
 Hatzfeld, Adolphe, obit. (1900), 519.
 Hauser, W., obit. (1902), 500.
 Haverly, John H., obit. (1901), 433.
 Hawaii (1900), 289; (1901), 304; (1902), 713.
 Hawels, H. R., obit. (1901), 493.
 Hawkins, Frederick, obit. (1900), 519.
 Hay, Adelbert S., obit. (1901), 433.
 Hayden, Charles H., obit. (1901), 433.
 Haym, R., obit. (1901), 493.

- Hayti (1900), 291; (1901), 305; (1902), 329.
 Hazen, Abraham D., obit. (1901), 434.
 Hazen, Henry A., obit. (1900), 478.
 Hazing (1901), 183.
 Healy, James A., obit. (1900), 478.
 Heard, William W., port. (1900), 336.
 Heart, surgery of the (1902), 381.
 Heat (1900), 569; (1901), 532; (1902), 547; radiation of, 547; specific, 548.
 Hector, Mrs. Anne, obit. (1902), 500.
 Heinrich XXII, Prince of Reuss-Greiz, obit. (1902), 500.
 Held, Frederick H., port. (1900), 334.
 Hellmuth, I., obit. (1901), 493.
 Helmuth, William T., obit. (1902), 452.
 Hemphill, William A., obit. (1902), 452.
 Hemming, S. B., obit. (1901), 494.
 Henderson, Alexander, obit. (1901), 434.
 Henderson, D. B., sketch and port. (1900), 292.
 Hendrickson, John, obit. (1902), 452.
 Hendrie, John W., obit. (1900), 478.
 Hennessy, John, obit. (1900), 478.
 Henry, Benjamin C., obit. (1901), 434.
 Henry, John W., obit. (1902), 452.
 Henry, William W., obit. (1900), 478.
 Henschel, Mrs. George, obit. (1901), 434.
 Henty, George A., obit. (1902), 500.
 Hepworth, George H., obit. (1902), 452.
 Herbert, William K., obit. (1902), 501.
 Herbet, Jules, obit. (1901), 494.
 Hermite, Charles, obit. (1901), 494.
 Herne, James A., obit. (1901), 434.
 Herried, Charles N., port. (1900), 353.
 Herron, Francis J., obit. (1902), 452.
 Hertslet Sir Edward, obit. (1902), 501.
 Hertian waves (1902), 554.
 Hertzog, J. G., obit. (1901), 435.
 Herzegovina (1902), 60.
 Hesse (1902), 280.
 Heyden, K. van den, obit. (1900), 519.
 Heygate, William E., obit. (1902), 501.
 Heyward, Duncan C., port. (1902), 795.
 Heywood, Joseph C., obit. (1900), 479.
 Hieroglyphs, oldest, illus. (1901), 83.
 Hill, John F., port. (1900), 343.
 Hill, Nathaniel P., obit. (1900), 479.
 Hinkley, F. E., obit. (1900), 479.
 Hines, Cyrus C., obit. (1901), 435.
 Hinsdale, Burke A., obit. (1900), 479.
 Hinton, Richard J., obit. (1901), 435.
 Hirsch, Solomon, obit. (1902), 452.
 Hitchcock, Hiram, obit. (1900), 479.
 Hittell, John S., obit. (1901), 435.
 Hittite inscription, illus. (1902), 29.
 Hoadly, Charles J., obit. (1900), 479.
 Hoadly, George, obit. (1902), 452.
 Hobart, Harrison C., obit. (1902), 453.
 Hobson, Edward H., obit. (1901), 435.
 Hodge, C. van R., obit. (1900), 490.
 Hodge, John A., obit. (1901), 435.
 Hoffman, Edward M., obit. (1901), 435.
 Hoffman, Eugene A., obit. (1902), 453.
 Hoffman, James H., obit. (1900), 480.
 Hoffman, Wickham, obit. (1900), 480.
 Hogan, John B., obit. (1901), 436.
 Hohenlohe-Schillingaufurst, obit. (1901), 494.
 Hokkaido (1902), 355.
 Holbrook, Martin L. (1902), 453.
 Holbrook, Z. S., obit. (1901), 436.
 Holland (see NETHERLANDS), 331.
 Holm, Adolf, obit. (1900), 519.
 Holman, David S., obit. (1901), 436.
 Holmes, Nathaniel, obit. (1901), 436.
 Holub, Emil, obit. (1902), 501.
 Honduras (1900), 293; (1901), 305; (1902), 331.
 Honduras, British (1900), 282; (1901), 300; (1902), 327.
 Hong-Kong (1900), 279; (1901), 298; (1902), 325.
 Honolulu, illus. (1900), 291.
 Hood, A. W. A., obit. (1901), 495.
 Hooker, George W., obit. (1902), 453.
 Hooker, John, obit. (1901), 436.
 Hoole, Charles H., obit. (1902), 501.
 Hopetoun, Earl of, port. (1901), 47.
 Hopkins, E. J., obit. (1901), 495.
 Hopkins, George M., obit. (1902), 453.
 Hopkins, John, obit. (1902), 453.
 Hopkins, Samuel M., obit. (1901), 436.
 Hopkins, W. J., obit. (1901), 495.
 Horansky, Ferdinand, obit. (1902), 501.
 Horner, Ann Susan, obit. (1900), 519.
 Horton, Albert H., obit. (1902), 453.
 Horton, David P., obit. (1902), 453.
 Hürup, V. L. B., obit. (1902), 501.
 Hot Springs, Ark. (1902), 668.
 Houghton, Henry C., obit. (1901), 436.
 House, Edward H., obit. (1901), 436.
 Hovey, Richard, obit. (1900), 480.
 Howard, Samuel, obit. (1900), 480.
 Howe, William F., obit. (1902), 454.
 Howgate, Henry W., obit. (1901), 437.
 Howland, Weston (1901), 437.
 Hoyt, Benjamin C., obit. (1901), 437.
 Hoyt, Charles H., obit. (1900), 480.
 Hubbard, Oliver P., obit. (1900), 481.
 Hubbard, Richard B., obit. (1901), 437.
 Huesmann, George, obit. (1902), 454.
 Hughes, Edward, obit. (1900), 520.
 Hughes, Hugh P., obit. (1902), 501.
 Hughes, Richard, obit. (1902), 502.
 Huldekoper, Rush S., obit. (1901), 438.
 Hull, Harmon D., obit. (1902), 454.
 Humbert I., obit. (1900), 520.
 Humphreys, Frederick, obit. (1900), 481.
 Humphreys, Willard, obit. (1902), 454.
 Hungarian Houses of Parliament, illus. (1902), 59.
 Hungary (1900), 51; (1901), 65; (1902), 59.
 Hungerford, Mary C., obit. (1901), 438.
 Hunnewell, H. H., obit. (1902), 454.
 Hunt, Frank W., port. (1901), 688.
 Hunter, W. W., obit. (1900), 521.
 Huntington, C. P., obit. and port. (1900), 481.
 Huon Islands (1902), 267.
 Husbandry, Patrons of (see GRANGE, NATIONAL) (1902), 332.
 Hutton, William R., obit. (1901), 438.
 Hyatt, Alpheus, obit. and port. (1902), 454.
 Hyatt, Thaddeus, obit. (1901), 438.
 Hydrostatic pressure (1902), 546.
 Iceland (1902), 215.
 Ice trust (1900), 428.
 Idaho (1900), 293; (1901), 688; (1902), 714.
 Idol, illus. (1902), 19.
 Ifni (1901), 793.
 Illinois (1900), 295; (1901), 690; (1902), 717; irrigation (1902), 715.
 Illustrating and engraving (1901), 570.
 Immigration (1901), 393.
 Ince and reservation (1902), 15.
 India (1900), 277; (1901), 306; (1902), 332; French (1900), 242; (1902), 246; frontier disturbances (1902), 341.
 Indiana (1900), 305; (1901), 692; (1902), 720.
 Indian education (1901), 734.
 Indianola, Miss. (1902), 753.
 Indian-war veterans (1902), 788.
 Indo-China, French (1900), 242; (1902), 296.
 Ingalls, J. J., obit. (1900), 482.
 Ingate, Clarence L. A., obit. (1900), 482.
 Ingham, Hannah M., obit. (1900), 482.
 Ingram, T. D., obit. (1901), 496.
 Insular Affairs, Bureau of (1902), 178.
 Insurance companies, foreign (1902), 686.
 Intermountain Fair (1902), 716.
 Internal-revenue stamps (1902), 207.
 International arbitration and laws (1902), 413.
 International Conference of American States (1902), 341.
 Interstate commerce, commission overruled (1902), 685; Kentucky Constitution affecting, 685.
 Intervention, Boer appeal for (1900), 678.
 Iowa (1900), 308; (1901), 696; (1902), 723.
 Irby, J. L. M., obit. (1900), 482.
 Ireland (1902), 304.
 Iron (1900), 556; (1901), 356; (1902), 383.
 Irons, Martin, obit. (1900), 482.
 Irrigation (1900), 294, 396; (1901), 689, 725, 727; (1902), 181; Australia (1902), 44; Arizona (1902), 696; Colorado (1902), 703; New Mexico (1902), 771; Utah (1902), 809; Wisconsin (1902), 822.
 Irwin, John, obit. (1901), 438.
 Isham, Edward, obit. (1902), 454.
 Isle of Pines (1902), 267.
 Isfahan, bridge at (1902), illus., 532.
 Isthmian canal, the (1901), 655; congressional action on (1902), 189.
 Italy (1900), 310; (1901), 316; (1902), 346.
 Ivory Coast (1901), 789.
 Jack, A. J., obit. (1901), 496.
 Jackson, Francis A., obit. (1901), 438.
 Jackson, Henry M., obit. (1900), 483.
 Jacksonville (1901), 685.
 Jacobini, Domenico, obit. (1900), 521.
 Jacobs, Henry, obit. (1901), 496.
 Jamaica (1900), 773; (1901), 793; (1902), 836.
 James, Edward C., obit. (1901), 439.
 Jamestown tercentenary (1900), 756.
 Janes, Lewis G., obit. (1901), 439.
 Japan (1900), 314; (1901), 321; (1902), 353; synod in (1902), 16.
 Jarvis (1902), 326.
 Jasper, John, obit. (1901), 439.
 Jeaffreson, J. C., obit. (1901), 496.
 Jellett, Henry, obit. (1901), 496.
 Jennings, W. S., port. (1900), 233.
 Jessing, Joseph, obit. and port. (1900), 483.
 Jews (1900), 318; (1901), 324; (1902), 357.
 Johns Hopkins University (1901), 712; (1902), 741.

- Johnson, John B., obit. (1902), 455.
 Johnson, Lionel P., obit. (1902), 502.
 Johnson, Samuel, obit. (1900), 521.
 Johnston, Robert, obit. (1902), 455.
 Joint conference of Baptist societies (1902), 63.
 Joinville, F. F. d'O., obit. (1900), 522.
 Jolo, city of, illus. (1900), 566.
 Jones, Aaron, port. (1902), 304.
 Jones, Alfred, obit. (1900), 483.
 Jones, Harry, obit. (1900), 523.
 Jones, P. H., obit. (1900), 483.
 Joos, Edward, obit. (1901), 439.
 Jordan, Chester B., port. (1900), 410.
 Joseph, Jacob, obit. (1902), 455.
 Joubert, P. J., obit. (1900), 523.
 Joutet, James E., obit. and port. (1902), 455.
 Judd, Albert F., obit. (1900), 483.
 Judicial decision, Ohio (1902), 783.
 Judicial decision, Rhode Island (1902), 793.
 Jupiter (1902), 36.
 Juries, fees of (1902), 207.
 Kaiser Wilhelmsland (1902), 291.
 Kaizi, J., obit. (1901), 496.
 Kansas (1900), 319; (1901), 698; (1902), 728; semicentennial exposition (1900), 322.
 Karl, Alexander, obit. (1901), 496.
 Kedzie, Robert C., obit. (1902), 456.
 Keeler, James E., obit. (1900), 484.
 Keeley, Leslie E., obit., (1900), 484.
 Keep-Schley, E. A., obit. (1900), 484.
 Kellogg, Elijah, obit. (1901), 439.
 Kellogg, George, obit. (1901), 440.
 Kendall, Edward H., obit. (1901), 440.
 Kendrick, Adin A., obit. (1902), 456.
 Kennedy, George N., obit. (1901), 440.
 Kensington, Conn. (1902), 706.
 Kensit, John (1902), 11.
 Kent, William C. M., obit. (1902), 502.
 Kentucky (1900), 323; (1901), 702; (1902), 732; requisition from (1901), 694; election frauds (1902), 733.
 Kerguelen (1900), 242; (1902), 285.
 Ketteler, K. von, obit. (1900), 524.
 Key, B. L., obit. (1901), 497.
 Key, David McK., obit. (1900), 484.
 Khiva (1901), 599.
 Kiauchau (1902), 291.
 Kimball, Charles D. (1901), 757.
 Kimball, James P., obit. (1902), 456.
 Kimball, Lorenzo W., obit., (1901), 440.
 Kimberley, John Wodehouse, Earl of, obit. and port. (1902), 502.
 Kimberly, Lewis A., obit. (1902), 457.
 King, Clarence, obit. and port. (1901), 440.
 King, John A., obit. (1900), 484.
 Kingsley, Mary H., obit. (1900), 524.
 Kling, Isaac, obit. (1902), 457.
 Knipe, John F., obit. (1901), 441.
 Knowles, Edwin, obit. (1902), 457.
 Knox, Charles E., obit. (1900), 484.
 Koehler, S. R., obit. (1900), 485.
 Koenig, R., obit. (1901), 497.
 Korea (1900), 329; (1901), 325; open ports, 326.
 Kowalevsky, Alexander, obit. (1902), 503.
 Kraus, Adolf R., obit. and port. (1901), 441.
 Kraus, Franz X., obit. (1902), 503.
 Kreutzer, William, obit. (1901), 441.
 Kruger, S. du P., obit. (1901), 497.
 Krupp, F. A., obit. and port. (1902), 503.
 Kuria Murla Islands (1901), 298.
 Kyle, James Henderson, obit. (1901), 442.
 Labor congresses (1902), 290.
 Labor Day, Oregon (1902), 789.
 Ladue, Joseph, obit. (1901), 442.
 Laffin, Byron, obit. (1901), 442.
 La Follette, Robert M., port. (1900), 783.
 Lago, Carlo, obit. (1902), 504.
 Lagos (1901), 790.
 Laity, position of the (1902), 13.
 Lake Borgne Canal (1900), 706.
 Lake George Battle Park (1900), 422.
 Lambert, Edgar L., obit. (1901), 442.
 Landesman, Heinrich, obit. (1902), 504.
 Landis, C. K., obit. (1900), 485.
 Lane, Thomas H., obit. (1900), 485.
 Langlois, A. B., obit. (1900), 485.
 Lankenau, John D., obit. (1901), 442.
 Lankester, Phebe, obit. (1900), 524.
 Laos territories (1902), 287.
 Latane, James A., obit. (1902), 457.
 Latey, John, obit. (1902), 504.
 Latham, Henry, obit. (1902), 504.
 Laurie, Mrs. J. W., obit. (1902), 504.
 Laurier, Wilfrid, port. (1901), 95.
 Lavroff, Pierre, obit. (1900), 524.
 Lawes, John B., obit. (1900), 524.
 Lawler, Francis X., obit. (1900), 485.
 Lawlessness (1900), 13, 127, 307, 321, 324, 337, 386, 557, 649; (1901), 33, 649, 668, 670, 671, 678, 684, 701, 704, 707, 721, 728, 745, 751, 756, 760, 778; (1902), 689, 699, 722, 733, 738, 745, 758, 779, 792, 797, 806, 814.
 Lawrence, Ada, obit. (1900), 485.
 Lawson, John, obit. (1901), 442.
 Leake, George, obit. (1902), 504.
 Leary, Richard P., obit. (1901), 442.
 Leathes, Stanley, obit. (1900), 525.
 Leavenworth, Abel E., obit. (1901), 443.
 Leavitt, Andrew J., obit. (1901), 443.
 Lebaudy, Paul (1902), 7.
 Le Brun, Napoleon E. C. H., obit. (1901), 443.
 Lecky, Squire T. S., obit. (1902), 504.
 Le Conte, Joseph, obit. and port. (1901), 443.
 Ledochowski, Miescelaus, obit. (1902), 505.
 Lee, Frederick G., obit. (1902), 505.
 Leeward Islands (1900), 774; (1901), 794; (1902), 837.
 Legal decisions (1902), 719; in North Dakota, 781; Oregon, 789; Texas, 805; Tennessee, 802; Virginia, 813; Washington, 817; Wisconsin, 820.
 Legations in China, siege of the (1900), 107.
 Leighton, George E., obit. (1901), 444.
 Lenihan, Thomas N., obit. (1901), 444.
 Leonce, E. T., obit. (1900), 528.
 Lester, John H., obit. (1900), 485.
 Lewelling, Lorenzo D., obit. (1900), 486.
 Lewis, Charles N., obit. (1901), 444.
 Lewis, John Randolph, obit. (1900), 486.
 Lewis, John T., obit. (1901), 497.
 Lewisohn, Leonard, obit. (1902), 458.
 Liberation Society (1900), 15; (1901), 20; (1902), 11.
 Liberia (1901), 793.
 Libraries, public (1900), 331; (1901), 327; (1902), 380; travelling (1902), 361; Kansas (1902), 729.
 Lidderdale, William, obit. (1902), 505.
 Lieber, Ernst, obit. (1902), 505.
 Liebknecht, W., obit. (1900), 528.
 Light (1900), 570; (1901), 532.
 Light, absorption (1902), 548; action on metallic surfaces, 550; fluorescence, 549; radio-activity, 550; refraction, 549; spectroscopy, 549; white, 549.
 Li-Hung-Chang, sketch and port. (1901), 328.
 Lincoln, Abraham, monument (1902), 207.
 Linsley, Joseph H., obit. (1901), 444.
 Lippe (1902), 280.
 Lippincott, J. H., obit. (1900), 486.
 Lippitt, Francis J., obit. (1902), 458.
 Liquids and gases (1900), 568; (1901), 530; (1902), 545.
 Liscum, E. H., obit. (1900), 486.
 Lissagaray, M., obit. (1901), 498.
 Litchfield, Henry G., obit. (1902), 458.
 Little, J. Z., obit. (1900), 486.
 Littlejohn, Abram N. (1901), 444.
 Little Rock, Ark. (1902), 698.
 Liu-Kun-Yi, obit. (1902), 508.
 Llamas in Desaguadero, illus. (1900), 558.
 Loch, Henry, obit. (1900), 527.
 Locke, E. W., obit. (1900), 486.
 Lockwood, Henry C., obit. (1902), 458.
 Long, Charles D., obit. (1902), 458.
 Lord, James B., obit. (1902), 458.
 Lorenz, Adolf, port. (1902), 381.
 Lorillard, Pierre, obit. (1901), 445.
 Loring, Charles G., obit. (1902), 458.
 Louisiana (1900), 335; (1901), 704; (1902), 734; old State bonds, 705; Agricultural and Mechanical College, transfer of military reservation (1902), 207; Louisiana Purchase Flag-Day (1902), 726.
 Louisiana Purchase Exposition (1902), 362, 775.
 Lowrie, John C., obit. (1900), 487.
 Loyalty Islands (1902), 287.
 Lübeck (1902), 280.
 Luby, Thomas C., obit. (1901), 445.
 Ludlow, George C., obit. (1900), 487.
 Ludlow, William, obit. (1901), 445.
 Lumley, R. B., obit. (1900), 527.
 Lund, Unni, obit. (1901), 445.
 Lutherans (1900), 340; (1901), 332; (1902), 364.
 Lyall, James, obit. (1901), 445.
 Lyman, Henry H., obit. (1901), 446.
 Lynch, James C., obit. (1901), 446.
 Lyon, Appleton P., obit. (1901), 446.
 McAdam, David, obit. (1901), 446.
 Macao (1901), 550; (1902), 571.
 Macaulay, James, obit. (1902), 508.
 McCartee, Divie B., obit. (1900), 487.
 McClelland, J. A., obit. (1900), 487.
 McClure, D., obit. (1900), 487.
 McClurg, Alexander C., obit. (1901), 446.
 McClurg, Joseph W., obit. (1900), 487.
 McComb, James J., obit. (1901), 446.
 McCormac, W., obit. (1901), 498.
 McCormick, Leander J., obit. (1900), 487.
 McCulloch, Hugh, obit. (1902), 458.
 McCullough, John G., port. (1902), 810.
 McDonald, William, obit. (1901), 447.
 Macedonian agitation (1901), 637.
 MacEvilly, John, obit. (1902), 508.
 MacFeely, Robert, obit. (1901), 447.
 MacGibbon, David, obit. (1902), 508.
 McGiffert case, the (1900), 592.
 McGill, Alexander Taggart, obit. (1900), 487.

- McGlynn, Edward, obit. and port. (1900), 488.
 McIlwraith, T., obit. (1900), 527.
 Mackay, Alexander, obit. (1902), 506.
 Mackay, Andrew J., obit. (1901), 447.
 Mackay, John W., obit. (1902), 458.
 McKeever, Chauncey, obit. (1901), 447.
 McKellar, Archibald, obit. (1901), 447.
 McKenzie, J., obit. (1901), 498.
 McKinley, William, sketch (1901), 835.
 MacLagen, C., obit. (1901), 498.
 McLaurin (1902), 205.
 McLean, George P., port. (1900), 177.
 Maclear, George F., obit. (1902), 506.
 McLeay, F., obit. (1900), 527.
 Macleod, Henry D., obit. (1902), 507.
 McMahon, James, obit. (1901), 447.
 McMillan, James, obit. (1902), 459.
 McNair, Frederick V., obit. (1900), 488.
 McNulta, John, obit. (1900), 489.
 Macon, Nathaniel monument to (1902), 779.
 Macpherson, H. A., obit. (1901), 408.
 McQueen, Georgianna M., obit. (1901), 448.
 McVickar, William B., obit. (1901), 448.
 Madagascar (1900), 341; (1901), 340; (1902), 368.
 Madan, H. G., obit. (1901), 498.
 Magee, Christopher L., obit. (1901), 448.
 Magnetism (1900), 576; (1901), 538; (1902), 556.
 Magneto-optics (1902), 557.
 Magnetostriction (1902), 557.
 Mail-coach station, illus. (1901), 57.
 Mail delivery, rural free (1901), 341.
 Mails, exclusion from the (1902), 685.
 Maine (1900), 342; (1901), 701; (1902), 737.
 Malaria parasite (1901), 344.
 Malay States, Federated (1902), 324.
 Malay States, the (1902), 627.
 Maiden (1902), 326.
 Maldiv Islands (1902), 323.
 Malta (1900), 278; (1901), 297; (1902), 322.
 Manchurian question, the (1901), 124; agreement (1902), 113.
 Manihiki Islands (1902), 328.
 Manila, bridge, illus. (1900), 564; wharf, 561.
 Manitoba (1900), 344; (1902), 368.
 Manly, George E., obit. (1901), 448.
 Manuel, Eugene, obit. (1901), 498.
 Manufacturers' pavilion, illus. (1900), 206.
 Manufacturing industries (1902), 247.
 Mapleson, J. H., obit. (1901), 499.
 Marble bas-relief discovered in Pompell, illus. (1902), 24.
 Marble, Edward E., obit. (1900), 489.
 Marchand, Gabriel, obit. (1900), 528.
 Margareta, Sophia, Duchess of Württemberg, obit. (1902), 507.
 Marianne Islands (1900), 256; (1902), 291.
 Marie Henrietta, Queen of the Belgians, obit. (1902), 507.
 Marine-Hospital Service (1902), 207.
 Maritime conferences (1902), 289.
 Markoe, Thomas M., obit. (1901), 448.
 Marquand, Henry G., obit. (1902), 459.
 Marquesas Islands (1900), 243.
 Mars, illus. (1901), 41.
 Marsh, Mrs. Caroline C., obit. (1901), 448.
 Marsh, Lucius B., obit. (1901), 448.
 Marsh, Luther R., obit. (1902), 459.
 Marshall Islands (1900), 255; (1902), 291.
 Marshall, John P., obit. (1901), 449.
 Martin, Arthur P., obit. (1902), 507.
 Martin, Augustus P., obit. (1902), 459.
 Martineau, James, obit. (1900), 528.
 Martinez de Campos, A., obit. (1900), 528.
 Martinique (1900), 776; (1901), 795; (1902), 839.
 Maryland (1900), 347; (1901), 710; (1902), 740.
 Masks from the Quirinal, Rome, illus. (1902), 24.
 Mason and Dixon's line (1900), 348; (1901), 756.
 Mason, John L., obit. (1902), 459.
 Massachusetts (1900), 349; (1901), 712; (1902), 743; State-House (1900), 350.
 Mather, Fred, obit. (1900), 489.
 Mathews, L. W., obit. (1901), 498.
 Matter, properties of (1902), 544.
 Maurer, Konrad von, obit. (1902), 507.
 Mauritius (1900), 280; (1901), 299; (1902), 325.
 Maury, D. H., obit. (1900), 489.
 Max Müller, Friedrich, obit. and port. (1900), 529.
 Maxwell, Henry W., obit. (1902), 459.
 Maya rebellion (1901), 372.
 Mayo, Edwin Frank, obit. (1900), 490.
 Mayo, W. K., obit. (1900), 490.
 Mayo-Smith, Richmond, obit. (1901), 449.
 Mayotte (1900), 242; (1902), 265.
 Mazzella, Camillo, obit. (1900), 530.
 Mechanics (1902), 544.
 Mecklenburg-Schwerin (1902), 280.
 Mecklenburg-Strelitz (1902), 280.
 Medicine, recent advances in (1901), 343; (1902), 374.
 Meehan, Thomas, obit. (1901), 440.
 Melkielejohn, John M. D., obit. (1902), 507.
 Melanesian mission, the (1902), 10.
 Melbourne post-office, illus. (1901), 52.
 Mello, Custodio José de, obit. (1902), 507.
 Mercury (1902), 36, 385.
 Meridian, one hundredth (1902), 806.
 Merrill, Moses, obit. (1902), 459.
 Mesdag, Hendrik W., obit. (1902), 507.
 Mestayer, C. H., obit. (1900), 490.
 Metallurgy (1900), 351; (1901), 354; (1902), 382.
 Metaphysics, American (1900), 362.
 Meteoric stones (1902), 37.
 Meteorite in Mexico, illus. (1902), 37.
 Methodists (1900), 365; (1901), 363; (1902), 392.
 Mexico (1900), 374; (1901), 371; (1902), 403.
 Meyer, Lucas, obit. (1902), 507.
 Michie, Alexander, obit. (1902), 508.
 Michie, Peter S., obit. (1901), 449.
 Michigan (1900), 376; (1901), 715; (1902), 747.
 Michler, Francis, obit. (1901), 449.
 Mickey, John, port. (1902), 759.
 Milan, King, obit. (1901), 499.
 Military justice (1901), 187.
 Miller, Abram O., obit. (1901), 450.
 Miller, Adam, obit. (1901), 450.
 Miller, Alfred B., obit. (1902), 459.
 Mills, Mary Ann, obit. (1902), 460.
 Mine law, Illinois (1902), 686.
 Miner, James G., obit. (1901), 450.
 Miners, protection of (1902), 207.
 Minnesota (1900), 380; (1901), 718; (1902), 749.
 Mint, new (1902), 704.
 Minute masses, measurement of (1902), 544.
 Miquel, J. von, obit. (1901), 500.
 Miquelon (1902), 268.
 Missionary residence, illus. (1901), 12.
 Missions, Ecumenical conference (1900), 382; Society of Foreign (1901), 372.
 Mississippi (1900), 384; (1901), 719; (1902), 751; State ode (1902), 754.
 Missouri (1900), 888; (1901), 722; (1902), 764; department store taxation (1900), 390; Louisiana Purchase Exposition, 390.
 Mitchell, E. C., obit. (1900), 490.
 Mitchell, Henry, obit. (1902), 460.
 Mitchell, William, obit. (1900), 490.
 Mittlewitz, Eugene S. de K., obit. (1901), 450.
 Mivart, St. George (1900), 390.
 Mobara reservation (1902), 207.
 Mobile (1900), 12; (1902), 690.
 Molecular fields, force (1902), 544.
 Momerie, A. W., obit. (1900), 530.
 Monaco, illus. (1902), 405.
 Mond nickel process (1902), 388.
 Money (1902), 239.
 Mongolian labor (1900), 64.
 Monkhouse, H., obit. (1901), 501.
 Monkhouse, W. C., obit. (1901), 501.
 Monochromatic shades (1902), 391.
 Monroe, Halsey H., obit. (1901), 451.
 Montana (1900), 391; (1901), 723; (1902), 757.
 Montenegro (1902), 406.
 Montepin, Count Armon Xavier de, obit. (1902), 508.
 Montpeller, Vt. (1902), 811.
 Montreal Power Company (1901), 577.
 Montserrat (1902), 838.
 Monuments (1900), 427; Independence, 672; Utah's, 731.
 Moore, Edward M., obit. (1902), 460.
 Moore, John, obit. (1901), 451.
 Moore, Marcus M., obit. (1900), 490.
 Moore, William P., obit. (1901), 451.
 Moraes, José P. de, obit. (1902), 508.
 Moran, John, obit. (1902), 460.
 Morant, Fanny, obit. (1901), 451.
 Moras, campaign against the (1902), 540.
 Moravians (1900), 394; (1901), 372; (1902), 406.
 Moreau de Tours, Georges, obit. (1901), 502.
 Morgan, Edward, obit. (1901), 451.
 Morgan, Thomas J., obit. and port. (1902), 460.
 Morgan, William J., obit. (1900), 490.
 Mormons (1900), 731.
 Morocco (1900), 395; (1901), 373; (1902), 406; rebellion in (1902), 408.
 Morrill, Mary S., obit. (1900), 491.
 Morris, Felix, obit. (1900), 530.
 Morris, Michael, obit. (1901), 502.
 Morris, W. H., obit. (1900), 491.
 Morrow, G. E., obit. (1900), 491.
 Morse, James C., obit. (1901), 452.
 Morton, Henry, obit. and port. (1902), 460.
 Morton, Julius S., obit. (1902), 461.
 Mosby, Tom, obit. (1901), 452.
 Moses, Adolph, obit. (1902), 461.
 Mosquito diseases (1902), 374.
 Mothers' Congress (1900), 731.
 Motor control, illus. (1901), 70.
 Motor cycle, illus. (1901), 69.
 Mott, George S., obit. (1901), 452.
 Mount, James A., obit. (1901), 452.
 Mrak, Ignatius, obit. (1901), 452.
 Muhfeld, Lucien, obit. (1902), 508.
 Muhlburg, Frederick A., obit. (1901), 452.
 Mulhail, M. G., obit. (1900), 531.
 Mullen, Tobias, obit. (1900), 491.
 Mundé, Paul F., obit. (1902), 461.
 Munkacsy, M. de., obit. (1900), 531.
 Muntery, Thomas H. M., obit. (1902), 462.

- Munster zu Derneberg, G. H., obit. (1902), 509.
 Muraviev, M. N., obit. (1900), 532.
 Murlo-Celli, obit. (1900), 532.
 Murphy, Franklin, port. (1901), 731.
 Murphy, Thomas, obit. (1901), 452.
 Murray, Francis H., obit. (1902), 509.
 Murray, Randolph, obit. (1901), 453.
 Muscular system (1900), 581; (1901), 543; (1902), 561.
 Museum of Art, illus. (1902), 422.
 Museum of Natural History, American, illus. (1900), 757; auditorium, 758; hall of paleontology, 759; Jesup collection, 760.
 Musical scale, decimal (1902), 547.
 Musick, John R., obit. (1901), 453.
 Myers, F. W. H., obit. (1901), 502.
 Nachbauer, Franz, obit. (1902), 509.
 Nast, Thomas, obit. (1902), 462.
 Natal (1900), 7; (1901), 605; (1902), 637.
 Natick, South (1901), 713.
 National banks, charter of (1902), 207.
 Navajo Reservation (1902), 206.
 Nebraska (1900), 397; (1901), 726; (1902), 759.
 Nebulae (1902), 38.
 Needham, George C., obit. (1902), 463.
 Negley, James S., obit. (1901), 453.
 Nervous system (1900), 581; (1901), 543; (1902), 561.
 Neville, Juliette, obit. (1900), 532.
 Netherlands (1900), 599; (1901), 375; (1902), 411.
 Nettleship, John T., obit. (1902), 509.
 Neutrality, violation of, Louisiana (1902), 737.
 Nevada (1900), 403; (1901), 728; (1902), 761.
 Nevlin, Ethelbert, obit. (1901), 453.
 New Brunswick (1900), 405; (1901), 380; (1902), 416.
 New Caledonia (1900), 243; (1902), 207.
 Newell, Charles M., obit. (1900), 491.
 Newell, Robert H., obit. (1901), 453.
 Newell, William A., obit. (1901), 453.
 Newfoundland (1900), 406; (1901), 384; (1902), 418; reciprocity with the United States (1901), 387; union with Canada (1902), 420; reciprocity treaty (1902), 420.
 New Guinea (1900), 46; British (1901), 60; (1902), 51.
 New Hampshire (1900), 407; (1901), 729; (1902), 762; Old Home Week (1900), 411; State library, 410; (1902), 763; illus., 764.
 New Hebrides (1902), 267.
 New Jersey (1900), 411; (1901), 730; (1902), 766.
 New Mexico (1900), 414; (1901), 734; (1902), 769.
 New Milford, Conn. (1902), 706.
 New Ontario, development of (1901), 518.
 New Orleans (1901), 706.
 New rules, parliamentary (1902), 315.
 New South Wales (1900), 43; (1902), 48.
 New York city (1900), 423; (1901), 388; (1902), 421; aquarium (1902), 422; monuments (1902), 426; Museum of Art (1902), 422.
 New York State (1900), 416; (1901), 736; (1902), 771; history (1900), 421; Pallsades (1900), 422; geological survey in (1901), 730; State library (1902), 775.
 New Zealand (1900), 46; (1901), 57; (1902), 428.
 Nicaragua (1900), 429; (1901), 395; (1902), 429; canal (1900), 169, 430; (1901), 395; illus., 397.
 Nickel (1900), 356; (1902), 388.
 Nicolay, John G., obit. and port. (1901), 454.
 Nietzsche, F. W., obit. (1900), 532.
 Nigeria (1901), 791.
 Ninde, William X., obit. (1901), 454.
 Nineteenth century, important events of the (1900), 430.
 Nome conspiracy (1902), 695.
 Nordenskiöld, A. E., obit. and port. (1901), 502.
 Nordhoff, Charles, obit. (1901), 454.
 Norris, Frank, obit. (1902), 463.
 North Borneo, British (1900), 278.
 North Carolina (1900), 442; (1901), 743; (1902), 777.
 North Dakota (1900), 445; (1901), 746; (1902), 780.
 Northrup, G. W., obit. (1900), 491.
 Northwest Territories of Canada (1900), 448; (1901), 398; (1902), 431; Immigration (1902), 432; provincial autonomy (1902), 432.
 Norwalk, Conn. (1901), 680.
 Norway (1900), 662; (1901), 632; (1902), 661.
 Nott, Cicely, obit. (1900), 533.
 Nova Scotia (1900), 449; (1901), 401; (1902), 433.
 Nugent, Robert, obit. (1901), 455.
 Nurses, trained (1900), 452.
 Nyssens, Albert, obit. (1901), 503.
 Obituaries, American (1900), 458; (1901), 405; (1902), 435.
 Obituaries, foreign (1900), 508; (1901), 477; (1902), 484.
 Obok (1900), 241.
 Ocean, exploration of (1901), 263.
 Oceania, French establishments in (1902), 268.
 Ocelot, or tiger, illus. (1902), 18.
 Ochiltree, Thomas F., obit. (1902), 463.
 Odell, Benjamin B., port. (1900), 422.
 Ohio (1900), 543; (1901), 748; (1902), 782.
 Oil (1902), 715.
 Oil-fields (1902), 805.
 Oklahoma (1900), 545; (1901), 750; (1902), 784; land opening (1901), 751; statehood (1902), 786.
 Old Catholic Church (1900), 547; (1902), 523.
 Oldenburg (1902), 280.
 Old Home Week (1901), 709; (1902), 765.
 Old Ute Reservation (1902), 703.
 Oleomargarine (1902), 198, 687.
 Oliver, Edward E., obit. (1901), 503.
 Oliver, Marshall, obit. (1900), 491.
 Olsson, Olaf, obit. (1900), 491.
 Ommanney, George D. W., obit. (1902), 509.
 Oneida Indians (1902), 821.
 Ontario (1900), 547; (1901), 516; (1902), 524; prohibition referendum (1902), 525.
 Open door, the (1900), 94.
 Orange Free State, annexation of, (1900), 676; (1901), 551.
 Orange River Colony (1901), 607; (1902), 638.
 Oregon (1900), 551; (1901), 752; (1902), 786; centennial, 754; Portland, 753; scalp bounty, 753; State monument, 754; national park (1902), 207.
 Orleans, Henry, obit. (1901), 503.
 Orman, James B. (1901), 675.
 Ormerod, Eleanor A., obit. (1901), 503.
 Ornaments, removal of (1900), 20.
 Osborn, Luther W., obit. (1901), 455.
 Osborn, Virginia R., obit. (1902), 463.
 Osborne, William M., obit. (1902), 463.
 Osman Pasha, obit. (1900), 533.
 Osmun, T. E., obit. and port. (1902), 463.
 Osteopathy (1900), 324, 554.
 O'Sullivan, Percy B., obit. (1902), 422.
 Otis, F. N., obit. (1900), 491.
 Ott, Joseph, obit. (1900), 482.
 Ottendorfer, O., obit. (1900), 492.
 Owen, Robert, obit. (1902), 509.
 Pacific, cable (1902), 528; ocean commerce, 528.
 Packard, Joseph, obit. (1902), 464.
 Palae, Levi L., obit. (1902), 464.
 Palacio Andueza, obit. (1900), 534.
 Palao Islands (1902), 291.
 Pallsade Park (1901), 740.
 Palizzolo, Raffaele, trial of (1902), 351.
 Pallavicini di Priola, E., obit. (1901), 504.
 Palmer, Alice F., obit. (1902), 464.
 Palmer, Benjamin M., obit. (1902), 464.
 Palmer, Francis A., obit. (1902), 464.
 Palmer, Hugh P. F., obit. (1901), 455.
 Palmer, John McA., obit. (1900), 492.
 Palmer, Potter, obit. (1902), 464.
 Palmyra (1902), 326.
 Panama Canal (1900), 124; (1902), 125.
 Pan-American Congress (1902), 529.
 Pangborn, Zebina K., obit. (1902), 464.
 Paper-feeding machines (1901), 509.
 Paraguay (1901), 519; (1902), 529; revolution in (1902), 529.
 Parent, Marie, obit. (1901), 455.
 Parke, Edward A., obit. (1900), 492.
 Parke, John G., obit. and port. (1900), 493.
 Parker, Edwin W., obit. (1901), 455.
 Parker, Joseph, obit. and port. (1902), 509.
 Parker, Julia, obit. (1900), 493.
 Parker, Laura W., obit. (1901), 455.
 Parodi, A., obit. (1901), 504.
 Parsell, Henry Van A., obit. (1901), 455.
 Parsons, C. R., obit. and port. (1901), 456.
 Partridge, Mary L., obit. (1900), 493.
 Passavant, William A., obit. (1901), 456.
 Patent cases (1902), 684.
 Patents (1901), 650; (1902), 673.
 Paton, John, obit. (1901), 456.
 Paton, Joseph N., obit. (1901), 504.
 Patrons of Husbandry (1902), 529.
 Patterson, Calvin, obit. (1902), 465.
 Patterson, Martha, obit. (1901), 456.
 Patton, F. J., obit. (1900), 493.
 Paul, Charles K., obit. (1902), 510.
 Paul, Charles Rodman, obit. (1901), 456.
 Paul, John, obit. (1901), 457.
 Paul, William M., obit. (1901), 457.
 Pauncefote, Julia, obit. and port. (1902), 510.
 Pawtucket (1900), 610.
 Payne, D. L., memorial (1900), 547.
 Peabody, Charles A., obit. (1901), 457.
 Peabody, Mass. (1902), 744.
 Peach, Edward, obit. (1902), 511.
 Peakes, James G., obit. (1901), 457.
 Peck, Ferdinand W., port. (1900), 207.
 Pekin, plan of, illus. (1900), 90; siege of, illus., 108, 111, 116.
 Pelew Islands (1900), 256.
 Pellechet, M. C. H., obit. (1900), 534.
 Pellieux, Gen. de, obit. (1900), 534.
 Pemaquid, Me. (1902), 739.
 Pennington, S. H., obit. (1900), 493.
 Pennoyer, Sylvester, obit. (1902), 465.
 Pennsylvania (1900), 555; (1901), 754; (1902), 790.
 Pensions (1900), 693; (1901), 649; (1902), 712; of the Indian wars (1902), 207.
 Perkins, Commodore, statue to (1902), 796.
 Perkins, Maurice B., obit. (1901), 457.
 Perkins, William O., obit. (1902), 465.

- Persia (1900), 557; (1901), 520; (1902), 529.
 Peru (1900), 557; (1901), 521; (1902), 533.
 Peter, obit. (1900), 534.
 Pettit, D. M., obit. (1901), 504.
 Petroleum (1901), 770; utilizing (1902), 391.
 Pettenkofer, M. von, obit. (1901), 504.
 Pfeuffer, Carl, obit. (1901), 457.
 Phelps, E. J., obit. and port. (1900), 493.
 Phelps, James, obit. (1900), 494.
 Phelps, Thomas S., obit. and port. (1901), 457.
 Phillip, John W., obit. (1900), 494.
 Philippine Islands (1900), 559; (1901), 523; (1902), 534; civil government (1900), 563; (1902), 541; insurrection (1901), 524; debate on (1902), 155; bills in Congress relative to (1902), 155; end of insurrection (1902), 537; the friars (1902), 542.
 Phoenix (1902), 328.
 Phosphate (1902), 710.
 Photography, stellar (1902), 40.
 Phototherapy (1902), 378.
 Physics, progress of (1900), 567; (1901), 528; (1902), 543.
 Physiology (1900), 576; (1901), 539; (1902), 557.
 Pickersgill, F. R., obit. (1900), 534.
 Pictographic and linear signs, Cnossus, Crete, illus. (1900), 29.
 Pierce, Henry M., obit. (1902), 465.
 Pike, Marshall S., obit. (1901), 458.
 Pillsbury, John S., obit. (1901), 458.
 Pingree, Hazen S., obit. (1901), 458.
 Pinto, A. A. da R. S., obit. (1900), 534.
 Piper, Alexander, obit. (1902), 465.
 Pitkin, Horace T., obit. (1900), 494.
 Pl y Margall, F., obit. (1901), 505.
 Plague, the (1900), 304; (1902), 378.
 Planets, minor (1902), 39.
 Platinum (1900), 354; (1902), 385.
 Platt, Franklin, obit. (1900), 494.
 Pole, William, obit. (1900), 534.
 Polk, Joseph B., obit. (1902), 465.
 Pollen, John H., obit. (1902), 511.
 Pollock, Robert, obit. (1901), 459.
 Ponsi, James, obit. (1901), 459.
 Port Arthur and Tallenwan (1901), 599.
 Porter, Fitz John, obit. and port. (1901), 459.
 Porter, John A., obit. (1900), 494.
 Porter, Samuel, obit. (1901), 459.
 Porter, Sarah, obit. (1900), 495.
 Porter, Thomas C., obit. (1901), 459.
 Portland, Ore. (1900), 553; (1901), 753.
 Porto Rico (1900), 587; measures in Congress, 164; economical reconstruction in, 587; (1901), 547; (1902), 208, 587.
 Portugal (1900), 589; (1901), 547; (1902), 589.
 Portuguese possessions (1901), 625.
 Poston, Charles D., obit. (1902), 465.
 Potter, Edward E., obit. (1902), 465.
 Potter, Eliphalet N., obit. (1901), 460.
 Powell, John W., obit. (1902), 466.
 Powell, William H., obit. (1901), 460.
 Power, Maurice J., obit. (1902), 467.
 Powllett, Catherine L. W., obit. (1901), 505.
 Pratt, Charles, obit. (1902), 467.
 Prentiss, Benjamin, obit. (1901), 460.
 Presbyterians (1900), 590; (1901), 550; (1902), 572.
 Presidential election (1900), 708.
 President, protection of the (1902), 203.
 Pretorius, M. W., obit. (1901), 505.
 Price, Charles W., obit. (1900), 495.
 Prime, F. E., obit. (1900), 495.
 Prince Edward Island (1900), 600; (1901), 559; (1902), 585; prohibition (1902), 587.
 Principle (1901), 550; (1902), 571.
 Printing, progress of (1901), 561; aluminographic, 569; from zinc, 570; trade organizations, 572.
 Prohibition crusade (1901), 700.
 Prohibition in Canada (1900), 76.
 Prohibitory law, Iowa (1902), 725.
 Propagation Society (1901), 18; (1902), 9.
 Protestant Episcopal Church in the United States (1900), 601; (1901), 572; (1902), 587.
 Providence, R. I. (1900), 610.
 Pryor, Luke E., obit. (1900), 495.
 Psalm-singers, conference of (1902), 585.
 Public lands (1901), 649; (1902), 206.
 Pulp-wood concessions (Ontario) (1902), 227.
 Purple, S. S., obit. (1900), 495.
 Putnam, Herbert, port. (1900), 333.
 Putnam house, the (1902), 706.
 Puttkamer, R. V., obit. (1900), 534.
 Pyetsoff, Mikhail V., obit. (1902), 511.
 Quarantine regulations, State (1902), 686.
 Quebec (1900), 608; (1901), 575; (1902), 590.
 Queen, John, obit. (1902), 467.
 Queensberry, Marquis of, obit. (1900), 535.
 Queensland (1900), 44; (1902), 49.
 Quezaltenango, Guatemala, ruined bull-ring, illus. (1902), 221; ruined residence, illus. (1902), 220.
 Rademacher, Joseph, obit. (1900), 495.
 Rafferty, William A., obit. (1902), 467.
 Railroads (1902), 246.
 Railway point, highest, illus. (1900), 558.
 Raleigh, Sir Walter, statue to (1901), 746.
 Ramadell, George A., obit. (1900), 495.
 Ramsey, John, obit. (1901), 460.
 Ranck, George W., obit. (1901), 460.
 Randall, Silas G., obit. (1902), 467.
 Ransom, Chauncey M., obit. (1901), 460.
 Rapa (1900), 243.
 Rapid transit, underground (1901), 390; (1902), 424.
 Rathbone, John F., obit. (1901), 461.
 Ratisbonne, L. F. G., obit. (1900), 535.
 Rats and the plague (1901), 354.
 Ravayae (1900), 243.
 Rawlinson, George, obit. (1902), 511.
 Rawson, Albert L., obit. (1902), 467.
 Read, Josiah M., obit. (1901), 461.
 Rearick, Peter A., obit. (1901), 461.
 Reciprocity with Cuba (1902), 203.
 Reed, George William, obit. (1900), 465.
 Reed, Roland L., obit. (1901), 461.
 Reed, Thomas B., obit. (1902), 467.
 Reed, Walter, obit. (1902), 468.
 Reeves, Sims, obit. (1900), 535.
 Reformed Churches (1900), 606; (1901), 578; (1902), 593.
 Reformed Episcopal Church (1900), 607.
 Reform League, Church (1900), 15.
 Reform Union, Wesleyan (1902), 402.
 Reid, James D., obit. (1901), 461.
 Reilly, Henry J., obit. (1900), 495.
 Reindeer, introduction of (1901), 13; station, illus., 15; (1902), 695.
 Religious statistics of the world (1901), 579.
 Renard (1902), 3.
 Renon, Emil J., obit. (1902), 511.
 Renshaw, Joseph B., obit. (1902), 468.
 Respiration (1901), 540.
 Réunion (1900), 242; (1902), 265.
 Reuss-Greiz (1902), 280.
 Reuss-Schleiz (1902), 280.
 Revels, Hiram R., obit. (1901), 462.
 Revenue-cutter service (1902), 207.
 Rexford, William M., obit. (1902), 468.
 Rheumatism (1902), 378.
 Rhode Island (1900), 607; (1901), 756; (1902), 792; new State House (1900), 610; (1901), 758.
 Rhodes, Cecil J., obit. and port. (1902), 512.
 Rhodesia (1900), 9; (1901), 606; (1902), 640.
 Rice (1902), 805.
 Rice, Dan, obit. (1900), 496.
 Rice, William H., obit. (1902), 468.
 Richardson, Abby S., obit. (1900), 469.
 Rickert, Heinrich, obit. (1902), 514.
 Riddle, Albert G., obit. (1902), 468.
 Ridpath, John C., obit. (1900), 499.
 Riggs, Elias, obit. (1901), 462.
 Rio de Oro (1901), 783.
 Ritualistic agitation (1900), 17.
 Roach, William N., obit. (1902), 468.
 Roads, good (1901), 765.
 Roberts, Alexander, obit. (1901), 505.
 Roberts-Austen, William C., obit. (1902), 514.
 Roberts, James B., obit. (1901), 462.
 Roberts, Lewis A., obit. (1901), 462.
 Robinson, Frederick, obit. (1901), 505.
 Robinson, Rowland E., obit. (1900), 496.
 Rockhill, W. W., port. (1902), 88.
 Rod-drawing machine, illus. (1901), 797.
 Roe, Francis A., obit. and port. (1901), 462.
 Rogers, Fairman, obit. (1900), 496.
 Rogers, Jacob S., obit. (1901), 463.
 Rogers, John R., obit. (1901), 464.
 Roman Catholic Church (1900), 611; (1901), 590; (1902), 596.
 Röntgen rays (1902), 554.
 Rood, Ogden N., obit. and port. (1902), 468.
 Roosevelt, Theodore, sketch and port. (1900), 619; (1901), 585; residence, 586; full-page port., frontispiece.
 Roper, Jesse M., obit. (1901), 464.
 Rothwell, Richard P., obit. (1901), 464.
 Roumania (1900), 621; (1901), 586; (1902), 601; Jewish question in, (1902), 608.
 Roumanians, crimes against (1900), 66.
 Round-table conference (1900), 20; (1901), 25.
 Rouss, Charles B., obit. (1902), 469.
 Rowland, Henry A., obit. and port. (1901), 464.
 Royal, Joseph, obit. (1902), 514.
 Royer, Clemence, obit. (1902), 515.
 Ruggles, James M., obit. (1901), 466.
 Rummel, Franz, obit. (1901), 506.
 Runkle, John D., obit. (1902), 469.
 Rural free delivery, Kansas (1902), 731.
 Ruskin, John, sketch and port. (1900), 623; early home, illus., 625.
 Russell, Charles, obit. (1900), 536.
 Russell, Henry, obit. (1900), 536.
 Russell, Sol Smith, obit. (1902), 469.

- Bumala (1900), 633; (1901), 589; (1902), 604. popular disturbances (1901), 596; agrarian disturbances in (1902), 613; labor agitation, 612; revolutionary movement, 610.
- Rute, Mme. Marie L. de S. S. R., obit. (1902), 515.
- Ryer, George W., obit. (1902), 470.
- Ryle, John C., obit. (1900), 536.
- Sabin, Dwight M., obit. (1902), 470.
- Sacrament, reservation of the (1900), 18.
- Sadtler, Benjamin, obit. (1901), 465.
- Safford, Truman H., obit. (1901), 465.
- Saint Amand, I. de, obit. (1900), 536.
- St. Croix (1902), 215.
- St. Helena (1900), 281; (1901), 290.
- St. John (1902), 215.
- St. Kitts Island (1902), 887.
- St. Lucia (1902), 887.
- St. Paul (1900), 242; (1902), 295.
- St. Pierre, city, illus. (1902), 218.
- St. Pierre Island (1902), 268.
- St. Thomas (1901), 550; (1902), 215, 371.
- St. Vincent (1902), 838.
- Saltman, Charles K., obit. (1901), 500.
- Sallsbury, Edward E., obit. (1901), 465.
- Sallsbury, Marquis, resignation of (1902), 318.
- Sallsbury, Nathan, obit. (1902), 470.
- Salvador (1900), 641; (1901), 600; (1902), 618.
- Salvation Army (1901), 600.
- Samford, William James, obit. (1901), 465.
- Samoa (1900), 225, 642; (1901), 601; (1902), 616; German Islands (1900), 442; (1901), 601.
- Samory, obit. (1900), 537.
- Sampson, Thomas, obit. (1901), 465.
- Sampson, William T., obit. and port. (1902), 470.
- Samuel, Saul, obit. (1900), 537.
- Sanclemente, M. A., obit. (1900), 537.
- Sanitary Conference, International (1902), 618.
- San Jacinto mountain (1900), 60.
- Santa Cruz (1902), 326.
- Santiago, battle of, diagram (1902), 474.
- Santo Domingo (1900), 648; (1901), 602; (1902), 621; revolution in, 621.
- Santos-Dumont, No. 6, illus. (1902), 4.
- Sargeant, Lewis, obit. (1902), 515.
- Sargent, Hannah, obit. (1900), 497.
- Sargent, John E., obit. (1900), 497.
- Sault Canal (1902), 749.
- Saunders, Frederick, obit. (1902), 477.
- Saunders, William, obit. (1900), 497.
- Savage, Ezra P., port. (1901), 727.
- Sawyer, Philetus, obit. (1900), 497.
- Saxe-Altenburg (1902), 280.
- Saxe-Coburg (1902), 280.
- Saxe-Coburg-Gotha, A., obit. (1900), 537.
- Saxe-Meinungen (1902), 280.
- Saxe-Weimar (1902), 280.
- Saxony (1902), 279.
- Sayre, Lewis A., obit. (1900), 497.
- Saybrook, Old (1901), 631.
- Scalp bounty (1900), 553; (1902), 780.
- Schafarik, A. V., obit. (1902), 515.
- Schamdorf, Sophus, obit. (1901), 477.
- Schaumburg-Lippe (1902), 280.
- Schenk, Auguste, obit. (1901), 508.
- Schenk, Leopold, obit. (1902), 515.
- Schnefflin, S. B., obit. (1900), 498.
- Schnadhorst, F. obit. (1900), 538.
- Schoeborn, August, obit. (1902), 475.
- Scholl, Aurelian, obit. (1902), 515.
- Schott, Charles A., obit. and port. (1901), 465.
- Schuetze, William H., obit. (1902), 475.
- Schwarburg-Rudolstadt (1902), 280.
- Schwarburg-Sonderhausen (1902), 280.
- Schwarskopf, J. K. von G. von, obit. (1901), 508.
- Sciences, National Academy of (1900), 396; (1901), 375; (1902), 410.
- Scotland, Church of (1902), 588.
- United Free Church in (1902), 588.
- Scott, George R. W., obit. (1902), 475.
- Scott, Julian, obit. (1901), 468.
- Scott, Robert K., obit. (1900), 498.
- Seaville, John F., obit. (1900), 498.
- Scribner, William M., obit. (1902), 475.
- Scudder, Horace E., obit. (1902), 475.
- Sealing (1901), 6; (1902), 603.
- Seamen, missions to (1900), 16.
- Seattle, transportation at (1902), 207.
- Secretions (1902), 560.
- Sedille, Paul, obit. (1900), 538.
- Sedgwick, Deborah G., obit. (1901), 467.
- Seibert, George C., obit. (1902), 476.
- Selfridge, Thomas O., obit. (1902), 476.
- Senators, quarrel of (1901), 761; (1902), 208, 798.
- Senegal (1901), 787.
- Seneca, special (1902), 564.
- Senussi, Sidi el Mahdi, obit. (1902), 518.
- Serum, Institute in Denmark (1902), 378.
- Serums, sale of (1902), 207.
- Serum, therapy (1902), 377.
- Servis (1900), 643; (1901), 602; (1902), 621.
- Seventh-Day Baptist Church (1901), 604.
- Severo (1902), 8.
- Sewall, Arthur, obit. (1900), 408.
- Seward, Theodore F., obit. (1902), 477.
- Sewell, William J., obit. (1901), 467.
- Seymour, Lewis Irving, obit. (1900), 498.
- Shakespeare, E. O., obit. (1900), 498.
- Shanks, John P. C., obit. (1901), 467.
- Sharpe, George H., obit. (1900), 467.
- Shaw, Albert D., obit. (1901), 467.
- Shaw, Thomas, obit. (1901), 467.
- Shearman, John A., obit. (1900), 467.
- Sheeleigh, M., obit. (1900), 499.
- Shepherd, Alexander R., obit. (1902), 478.
- Shepherd, Russell B., obit. (1901), 467.
- Sherman, John, sketch and port. (1900), 645.
- Ship-building, steel (1901), 382; (1902), 623.
- Ship subsidy bill (1902), 208.
- Shuttleworth, H. C., obit. (1900), 538.
- Slam (1902), 628; rebellion in, 627; treaty with France, 628.
- Slard, Montgomery, obit. (1900), 499.
- Sidgwick, Henry, obit. (1900), 538.
- Sidman, Arthur, obit. (1901), 467.
- Siemens, Georg von, obit. (1901), 508.
- Siemeradski, Henryk, obit. (1902), 516.
- Sierra Leone (1901), 790.
- Sigel, Franz, obit. and port. (1902), 478.
- Sill, John M. B., obit. (1901), 467.
- Silver (1900), 354; (1902), 385.
- Silvestre, Paul Armande, obit. (1901), 508.
- Simar, Hubertus, obit. (1902), 516.
- Simcox, Edith Jemima, obit. (1901), 507.
- Simcox, F. E., obit. (1900), 508.
- Simms, William T., obit. (1901), 468.
- Simpson, Maxwell, obit. (1902), 516.
- Simpson memorial (1902), 394.
- Simsbury, Conn. (1902), 706.
- Skene, A. J. C., obit. (1900), 500.
- Skinner, William, obit. (1902), 477.
- Slavekoff, M., obit. (1901), 507.
- Sleeping sickness, the (1902), 380.
- Smallpox (1902), 379.
- Smart, J. H., obit. (1900), 500.
- Smith, Beaumont, obit. (1901), 468.
- Smith, Charles H., obit. (1902), 477.
- Smith, Edmund W., obit. (1901), 507.
- Smith, George M., obit. (1901), 507.
- Smith, George V., obit. (1902), 518.
- Smith, James C., obit. (1900), 500.
- Smith, James G., obit. (1900), 500.
- Smith, James H., obit. (1901), 507.
- Smith, James H., obit. (1902), 477.
- Smith, John W., port. (1900), 348.
- Smokeless powder, illus. (1900), 188.
- Smyth, C. P., obit. (1900), 538.
- Smyth, Frederick, obit. (1900), 500.
- Sneed, John L. T., obit. (1901), 468.
- Solvely, William A., obit. (1901), 468.
- Snook, John B., obit. (1901), 468.
- Snow, Lorenzo, obit. (1901), 468.
- Society Islands (1900), 248.
- Soldiers' memorial, Indiana (1902), 722.
- Soldiers' monument, Washington (1902), 818.
- Solomon Islands (1900), 265; (1902), 291; British (1902), 826.
- Somaliand (1900), 241; (1901), 200; British (1902), 225; French (1902), 226; Italian (1902), 228.
- Sonntag, W. L., obit. (1900), 500.
- Soudan, the (1900), 193; (1902), 229.
- Sound (1901), 531; (1902), 547.
- South Africa (1901), 604; (1902), 633; anal campaign in, 629; Portuguese possessions in, 641.
- South Australia (1900), 44; (1902), 229.
- South Carolina (1900), 648; (1901), 750; (1902), 708; Interstate and West Indian Exposition, with illus. (1902), 642.
- South Dakota (1900), 652; (1901), 762; (1902), 799; caves in, 763.
- Southward, John, obit. (1902), 516.
- Southwest Africa, German (1901), 626; (1902), 642.
- Spain (1900), 654; (1901), 626; (1902), 645.
- Spalding, John F., obit. (1902), 477.
- Spear, James, obit. (1902), 477.
- Special senses (1901), 545.
- Spencer above Crystal Palace grounds, illus. (1902), 5.
- Spencer, Lily M., obit. and port. (1902), 477.
- Spencer, Stanley (1902), 5.
- Spicer-Jay, E. K., obit. (1901), 507.
- obit. (1902), 478.
- St. (1900), 500.
- St. (1901), 508.
- St. (1900), 500.
- St., obit. and port.
- St. C., obit. and
- St. H., obit. (1900), 501.
- Starbuck (1902), 328.
- Stark Arthur J., obit. (1902), 517.
- Starr, Eliza A., obit. (1901), 468.
- Stars, distances of the (1902), 37; showers (1902), 37; variable (1902), 40.
- State buildings, illus. (1901), 217.
- States, controversy between (1902), 683.

- Statue in Mexico, Chilpancingo, illus. (1902), 218.
 Statuette, ancient, illus. (1902), 22.
 Statuettes before a Zapote tomb, illus. (1900), 23.
 Steel (1902), 383.
 Steel cars, illus. (1900), 658.
 Steele, George M., obit. (1902), 479.
 Steinitz, W., obit. (1900), 501.
 Stembel, Roger M., obit. (1900), 501.
 Stephens, James, obit. (1901), 508.
 Stephens, William R. W., obit. (1902), 517.
 Stereotyping and electrotyping (1901), 566 *et seq.*
 Sterndale, Robert A., obit. (1902), 517.
 Sterne, Simon, obit. (1901), 468.
 Sterrett, James P., obit. (1901), 469.
 Stevens (1902), 7.
 Stevens, Benjamin F., obit. (1902), 479.
 Stevens, G. W., obit. (1900), 539.
 Stevenson, R. A. M., obit. (1900), 539.
 Stewart, D., obit. (1900), 539.
 Stickney, W. W., port. (1900), 735.
 Still, William, obit. (1902), 479.
 Stillé, Alfred, obit. (1900), 501.
 Stockley, Charles C., obit. (1901), 469.
 Stock quarantine, Colorado's (1902), 687.
 Stockton, Francis R., obit. and port. (1902), 479.
 Stockton, John P., obit. (1900), 501.
 Stoddard, Lorimer, obit. (1901), 469.
 Stoetzer, Wilhelm, obit. (1902), 480.
 Stoloff, Constantin, obit. (1901), 508.
 Stokes, John, obit. (1902), 517.
 Stokes, M. McN., obit. (1900), 539.
 Stokes, W., obit. (1900), 539.
 Stone heads from excavation in Mexico (1902), illus., 19.
 Stone, John M., obit. (1900), 502.
 Stone, Samuel J., obit. (1900), 539.
 Stony Point Park, New York (1902), 775.
 Storage dam at Assouan (1902), 230.
 Storrs, R. S., obit. and port. (1900), 502.
 Strachey, Edward, obit. (1901), 509.
 Strain (1902), 545.
 Straits Settlements (1900), 279; (1901), 299; (1902), 324.
 Strecker, Herman, obit. (1901), 469.
 Streeter, Alson J., obit. (1901), 469.
 Street-railway fare (1902), 686.
 Strike of coal-miners (1902), 648.
 Stromberg, John, obit. (1902), 480.
 Stryker, W. S., obit. (1900), 502.
 Stubbs, William, obit. (1901), 509.
 Studebaker, Clement, obit. (1901), 469.
 Student Federation, World's (1902), 843.
 Student Volunteer Missionary Movement (1902), 842.
 Stumm, K. F., von, obit. (1901), 509.
 Submarine boats (1902), 651.
 Substances, new (1901), 104; (1902), 101.
 Sudsburg, Joseph M., obit. (1901), 469.
 Suez Canal, the (1900), 193; (1902), 230.
 Sugar convention, the (1902), 71.
 Sullivan, Arthur S., obit. (1900), 540.
 Sullivan, Timothy, obit. (1900), 502.
 Sunday Rest, International Congress on (1900), 659.
 Sunday-School Convention, International (1902), 659.
 Sunderland, Byron, obit. (1901), 470.
 Supreme Court, United States (1900), 722; (1901), 661; (1902), 683.
 Surgery, bloodless (1902), 381.
 Susa, excavations at (1900), 29.
 Sutherland, Alexander, obit. (1902), 517.
 Sutton, Henry S., obit. (1901), 510.
 Suvaroff (1902), 328.
 Swayne, Wager, obit. (1902), 480.
 Swaziland (1902), 640.
 Sweden (1900), 680; (1901), 630; (1902), 680.
 Sweet, Alexander E., obit. (1901), 470.
 Swinton, John, obit. (1901), 470.
 Switzerland (1900), 664; (1901), 633; (1902), 662.
 Sydney, illus. (1901), 55.
 Symons, G. J., obit. (1900), 540.
 Syphilis, germ of (1902), 379.
 Szilagyl, Desider, obit. (1901), 510.
 Tacoma, transportation at (1902), 207.
 Tagalog, illus. (1900), 565.
 Talladega (1900), 12.
 Tangier, illus. (1902), 408.
 Tannehill, Frank, obit. (1900), 502.
 Tanner, Charles K. D., obit. (1901), 510.
 Tanner, John R., obit. (1901), 470.
 Tarbe des Sabons, E. J. L., obit. (1900), 540.
 Targe, Allain, obit. (1902), 517.
 Tariff, German (1902), 286.
 Tariff war with United States (1901), 595.
 Tarleton, Ernest, obit. (1900), 541.
 Tasker, S. P. M., obit. (1900), 502.
 Tasmania (1900), 45.
 Tate, Peter G., obit. (1901), 510.
 Tavares, Morton, obit. (1900), 502.
 Taxation, war-revenue, repealed (1902), 178.
 Taxes upon legacies (1902), 206.
 Tax laws, State (1902), 687.
 Tax legacy (1902), 684.
 Tax reduction (1901), 172.
 Tax transfer (1902), 684.
 Taylor, G. Y., obit. (1900), 503.
 Taylor, Isaac, obit. (1901), 510.
 Taylor, James E., obit. (1901), 470.
 Teagle, George O., obit. (1901), 510.
 Teck, Francis, obit. (1900), 541.
 Telegrams, privacy of (1902), 685.
 Telegraphs (1902), 676.
 Telegraphy, wireless (1902), 664.
 Telephones (1902), 677.
 Temperance movement (1900), 322.
 Temperature and pressure (1902), 548.
 Temple, Frederick, obit. and port. (1902), 518.
 Temple, Robert, obit. (1901), 470.
 Temple, Sir Richard, obit. (1902), 518.
 Tennessee (1900), 687; anti-cigarette law (1900), 670; (1901), 764; (1902), 801.
 Tennyson, Lord, port. (1902), 41.
 Terrell, Joseph M., port. (1902), 710.
 Texas (1900), 670; (1902), 803; floods (1901), 672; (1901), 765.
 Thasos, island of (1902), 665.
 Thayer, Joseph H., obit. and port. (1901), 470.
 Theosophists (1901), 635.
 Thermometry (1902), 547.
 Thoburn, Isabella, obit. (1901), 471.
 Thomas, John R., obit. (1901), 471.
 Thompson, D'Arcy W., obit. (1902), 519.
 Thompson, George W., obit. (1901), 471.
 Thompson, Hugh M., obit. (1902), 480.
 Thompson, Maurice, obit. (1901), 471.
 Thompson, R. W., obit. (1900), 503.
 Tiele Cornelius P., obit. (1902), 519.
 Tientsin, taking of (1900), 100; French quarter, illus. (1900), 101; evacuation of (1902), 114.
 Tilghman, Benjamin C., obit. (1901), 472.
 Tillman (1902), 205.
 Timberland frauds (1901), 725.
 Timor (1901), 550; (1902), 571.
 Timrod, Henry, monument (1901), 760.
 Tin (1900), 356, 556; (1902), 387.
 Tirebuck, W. E., obit. (1900), 541.
 Tissandier (1902), 3.
 Tissot, James, obit. and port. (1902), 519.
 Tisza, Koloman, obit. (1902), 519.
 Titanium (1902), 385.
 Tobago (1900), 775.
 Todd, Robert B., obit. (1901), 472.
 Togoland (1901), 792.
 Tojetti, Virgilio, obit. (1901), 472.
 Tokelau Islands (1902), 326.
 Tonga (1902), 326.
 Tonquin (1902), 267.
 Toole, J. K., port. (1901), 724.
 Toronto University (1901), 517.
 Torrey, Henry A. P., obit. and port. (1902), 480.
 Torsion (1902), 545.
 Tower, Zealous B., obit. (1900), 503.
 Townsend, Mary A., obit. (1901), 472.
 Toxins, sale of (1902), 207.
 Trade, statistics of (1902), 207.
 Traill, H. D., obit. (1900), 541.
 Transvaal (1900), 673; (1901), 608; (1902), 638.
 Treaties (1902), 206.
 Trenholm, William L., obit. (1901), 472.
 Trenton, battle of (1901), 733.
 Trinidad (1900), 775; (1901), 795; (1902), 838.
 Triple Alliance, the (1902), 55.
 Tuamotu Islands (1900), 243.
 Tubal (1900), 243.
 Tuberculosis (1901), 353; bovine and human (1902), 376.
 Tucker, Henry W., obit. (1902), 520.
 Tucker, William H., obit. (1901), 511.
 Tucker, William W., obit. (1901), 472.
 Tuer, A. W., obit. (1900), 541.
 Tunis (1900), 241; (1902), 264.
 Tunnels (1901), 391; (1902), 424.
 Turchin, John B., obit. (1901), 472.
 Turkey (1900), 686; (1901), 635; (1902), 664; political disturbances in (1902), 666.
 Turkes and Calcos Islands (1902), 837.
 Tuttle, Henry H., obit. (1901), 472.
 Tuttle, Joseph F., obit. (1901), 473.
 Tutulla (1901), 601.
 Tyler, Moses C., obit. (1900), 503.
 Tyler, Thomas, obit. (1902), 520.
 Typhoid fever (1902), 377.
 Uganda (1900), 188; (1902), 223.
 Uhl, Edwin F., obit. (1901), 473.
 Ulad Taher, battle of (1902), 410.
 Umatilla Reservation (1902), 207.
 Umberto, assassination of (1900), 314.
 Unitarians (1900), 688; (1901), 642; (1902), 667.
 United Brethren Church (1900), 690; (1901), 644.
 United Evangelical Church (1900), 690; (1902), 667.
 United States of America (1900), 690; (1901), 645; (1902), 668; finances of the (1900), 725; (1902), 681; pavilion, illus. (1900), 204; treaty with Prussia (1902), 684; treaty with Russia (1902), 684.
 Universalists (1900), 727; (1901), 779.
 Urso, Camilla, obit. (1902), 481.
 Uruguay (1900), 727; (1901), 780; (1902), 822.
 Utah (1900), 729; (1901), 769; (1902), 807; irrigation (1900), 731.
 Ute Reservation (1902), 206.
 Vacuum-tube phenomena (1902), 554.
 Valfrey, M., obit. (1900), 541.
 Van Lew, Elizabeth, obit. (1900), 503.
 Van Sant, S. R., port. (1900), 381.
 Van Santvoord, Cornelius, obit. (1901), 473.

- Van Vliet, Stewart, obit. (1901), 473.
 Vases, terra-cotta, illus. (1901), 29.
 Vaughan, William, obit. (1902), 520.
 Velocity (1902), 548.
 Venezuela (1900), 732; (1901), 782; (1902), 823; insurrection in (1902), 824; rebellion renewed (1902), 829; trouble with European powers (1902), 825.
 Verdi, Giuseppe, obit. and port. (1901), 511.
 Vermont (1900), 733; (1901), 771; (1902), 810.
 Very, Lydia L. A., obit. (1901), 473.
 Vibert, George, obit. (1902), 520.
 Vibration, stability of (1902), 547.
 Vicaire, L. G. C., obit. (1900), 541.
 Victor, Mrs. F. A., obit. (1902), 481.
 Victoria (1902), 328.
 Victoria, colony of (1900), 44; (1902), 49.
 Victoria, Empress Friedrich, obit. (1901), 512.
 Victoria, Queen (1900), 736; events of her reign, 739; obit. (1901), 512.
 Villard, Henry, obit. (1900), 503.
 Villaume, Karl von, obit. (1900), 542.
 Villebois, Mareull, obit. (1900), 542.
 Vincent, James, obit. (1900), 504.
 Virchow, Rudolf, obit. and port. (1902), 520.
 Virginia (1900), 754; (1901), 772; (1902), 812; political, 814.
 Virgin Islands (1902), 837.
 Viruses, sale of (1902), 207.
 Viscosity (1902), 546.
 Visual instruction (1900), 757.
 Volcanic eruptions (1902), 217.
 Volunteers of America (1901), 786.
 Vortex rings (1902), 547.
 Voting machines, 2 illus. (1900), 761.
 Wade, Jennie, monument to (1901), 697.
 Waite, Davis H., obit. (1901), 473.
 Wakefield, Mass. (1902), 745.
 Waldeck (1902), 280.
 Walker, James A., obit. (1901), 473.
 Wallace, Martin R. M., obit. (1902), 481.
 Wallace, Robert B., obit. (1900), 504.
 Wallace, William H., obit. (1901), 473.
 Wallis Archipelago (1902), 267.
 Walsh, William P., obit. (1902), 521.
 Walworth, Clarence A., obit. (1900), 504.
 War claims, Spanish (1902), 206.
 Ward, John E., obit. (1902), 481.
 Warden, David A., obit. (1902), 481.
 Ward, Lebbeus B., obit. (1901), 474.
 Ward, William G., obit. (1901), 474.
 Warner, Charles D., obit. and port. (1900), 504.
 Warner, Nell, obit. (1901), 474.
 Warren, George W., obit. (1902), 482.
 Warren, Orris H., obit. (1901), 474.
 Warr, G. C. W., obit. (1901), 513.
 Washington, State of (1900), 762; (1901), 774; (1902), 326, 815; Capitol (1900), 764; (1901), 775; constitutional amendment (1901), 775; geological survey (1901), 775; soldiers' monument (1901), 776.
 Watch Hill (1900), 610.
 Waterbury, Conn. (1902), 708.
 Waterman, Lewis E., obit. (1901), 474.
 Watkin, E. W., obit. (1901), 513.
 Watson, James M., obit. (1900), 505.
 Watters, Thomas, obit. (1901), 513.
 Watts, Alfred A., obit. (1901), 513.
 Wave motion (1902), 545.
 Weber, Max, obit. (1901), 474.
 Wei-Hai-Wei (1900), 279; (1902), 325.
 Welding process (1902), 390.
 Wells, H. H., obit. (1900), 505.
 Wenckebach, Carla, obit. (1902), 482.
 Wennerburg, G., obit. (1901), 513.
 Wernery, Henri, obit. (1902), 521.
 Wernle, Henry, obit. (1902), 482.
 West Africa (1900), 706; (1901), 786; (1902), 830.
 Westcott, B. F., obit. (1901), 514.
 Westcott, Robert F., obit. (1901), 474.
 Western Australia (1900), 45; (1902), 51.
 West Indian possessions of Denmark, sale of (1902), 215.
 West Indies (1900), 773; (1901), 793; (1902), 836; Danish (1902), 206.
 Westlake, William, obit. (1900), 505.
 West Virginia (1900), 776; (1901), 776; (1902), 818.
 West, William H., obit. (1902), 482.
 Whipple, Henry B., obit. (1900), 474.
 Whipple, William D., obit. (1902), 482.
 White, Albert B., port. (1900), 779.
 White, Frank (1900), 447.
 White, Greenough, obit. (1901), 475.
 Whitehead, William R., obit. (1902), 483.
 White pass, the, illus. (1901), 8; cutting grade in, illus. 9.
 White, Stephen M., obit. (1901), 475.
 Whitney, James L., port. (1900), 333.
 Whittle, Francis McN., obit. (1902), 483.
 Wigger, Winand M., obit. (1901), 475.
 Wigner, John T., obit. (1902), 521.
 Wild animals in Africa, preservation of (1900), 282.
 Wilde, O. F. O'F. W., obit. (1900), 542.
 Wild, H. von, obit. (1902), 521.
 Wildman, Rounseville, obit. (1901), 475.
 Willey, Waltman T., obit. (1900), 505.
 Williams, Alonzo, obit. (1901), 475.
 Williams, Frederick, obit. (1900), 542.
 Williams, George L., obit. (1900), 506.
 Williamson, James A., obit. (1902), 483.
 Williams, Robert, obit. (1901), 475.
 Williams, Stephen R., obit. (1901), 475.
 Williams, Thomas A., obit. (1900), 506.
 Willoughby, Digby, obit. (1901), 514.
 Wilmer, Richard H., obit. (1900), 506.
 Wilmington harbor (1900), 183.
 Wilson, G. W., obit. (1900), 506.
 Wilson, John W., obit. (1900), 506.
 Wilson, Joseph M., obit. (1902), 483.
 Wilson, Thomas, obit. (1901), 475.
 Wilson, W. L., obit. (1900), 506.
 Wilton, Elsie, obit. (1902), 483.
 Wiltshire, Thomas, obit. (1902), 522.
 Wimperis, E. M., obit. (1900), 542.
 Windward Islands in the Pacific (1900), 243; in West Indies, 774; (1901), 794; (1902), 838.
 Wing, J. N., obit. and port. (1900), 506.
 Wingard, H. S., obit. (1900), 507.
 Winner, Septimus, obit. (1902), 483.
 Wire-drawing, steel (1902), 384.
 Wireless telegraphy (1902), 840.
 Wire-making (1901), 796.
 Wisconsin (1900), 779; (1901), 777; (1902), 819; library of Historical Society, illus. (1900), 781.
 Wise, Isaac M., obit. (1900), 507.
 Withers, Frederick C., obit. (1901), 476.
 Wittenmyer, Annie, obit. (1900), 507.
 Wolcott, Roger, obit. (1900), 507.
 Women's Societies (1900), 53; (1902), 63.
 Woodgate, E. R. P., obit. (1900), 543.
 Woods, Eliza, obit. (1901), 476.
 Woods, William A., obit. (1901), 476.
 Woolf, B. E., obit. (1901), 476.
 Wool teams, illus. (1901), 58.
 Wright, Elias, obit. (1901), 476.
 Wright, G. R. N., obit. (1900), 543.
 Wurtemberg (1902), 279.
 Wyoming (1900), 783; (1901), 779; (1902), 821.
 Xavier, Henry, obit. (1901), 476.
 Yachting (1900), 784; (1901), 799; (1902), 841.
 Yale bicentennial (1901), 680.
 Yagui war (1902), 404.
 Yates, Richard, port. (1900), 296.
 Yeatman, James Irwin, obit. (1901), 476.
 Yellow-fever mosquito (1901), 348.
 Yeoman, George F., obit. (1902), 483.
 Yerkes Observatory, illus. (1901), 42; telescope, 43.
 Yonge, Charlotte M., obit. and port. (1901), 514.
 Young, Alfred, obit. (1900), 508.
 Young, Eliza B., obit. (1902), 484.
 Young, Harvey B., obit. (1901), 477.
 Young man's skull (prehistoric), illus. (1902), 24.
 Young Men's Christian Associations (1902), 842; buildings (1902), 207.
 Young People's Union (1902), 64.
 Young, William, obit. (1900), 543.
 Young Women's Christian Association (1902), 843.
 York, Convocation of (1901), 28.
 Youmans, W. J., obit. and port. (1901), 477.
 Yukon, territory of (1900), 786; (1901), 805; (1902), 843.
 Zanzibar, Sultan of, obit. (1902), 500.
 Zeller, Theodore, obit. and port. (1901), 477.
 Zeppelin, Count (1902), 4.
 Zimmerman, Adolph, obit. (1902), 484.
 Zinc (1900), 356; (1901) 359; (1902), 388.
 Zodiacal light (1902), 36.
 Zola, Emile, obit. and port. (1902), 522.

ALDERMAN LIBRARY

The return of this book is due on the date
indicated below

~~AUG 15 1898~~

7-15-83

DUE

Usually books are lent out for two weeks, but there are exceptions and the borrower should note carefully the date stamped above. Fines are charged for over-due books at the rate of five cents a day; for reserved books there are special rates and regulations. Books must be presented at the desk if renewal is desired.

L-1

XX 000 208 929